Next Date: 28/07/2023

NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

O.A. NO. 65 / 2019 (WZ)

BETWEEN

Ajay Bhosale & Ors. ..... **Applicant**

Versus

Union of India & Ors. ..... **Respondent**

COMPREHENSIVE AFFIDAVIT BY RESPONDENT NO. 11 - BRAMHACORP LTD.

Date :**28/07/2023**
Place :**Pune**

Filed by :

Raghunath B. Mahabal
रघुनाथ भालचंद्र महाबळ
B.E.(Mechanical), M.E.(Industrial Management) VJTI Mumbai,
Fellow of Institution of Engineers, Chartered Engineer
LL.M. (Environmental & Criminal Law), Arbitrator IIE, India
A-201/2/3, B-201/2/3, B-302, Chandravijay Society,
Mahatma Fule Road, Mulund East, Mumbai-400081.
+91-74-0011-6222 adv.rbmahabal@gmail.com

INDEX

Sr.	Particulars	Page
1.	Contact Details of Parties	04
2.	Abbreviations Used	08
3.	Dairy of Events	09
4.	Synopsis	10
5.	**Important Law Points Raised**	12
6.	**Memorandum of Application**	12
7.	**ANNEXURE – A 12/06/2023** EC Application by PP under MoEFCC OM 07/07/2021 for Violation matters	58
8.	**ANNEXURE – B 09/11/2021** Hon'ble NGT Order in OA 65/2019	68
9.	**ANNEXURE – C 17/05/2022** Application for ToR by PP	72
10.	**ANNEXURE – D 08/03/2023** Application for 'Consent to Establish'	714
11.	**ANNEXURE – E 10/03/2022** CA Certificate	725
12.	**ANNEXURE – F 02/02/2006** Plinth Completion Certificate	726
13.	**ANNEXURE – G 18/03/2019** SEIAA Maharashtra Approach Paper Assessment for EDA / EDC	729
14.	**ANNEXURE – H 27/01/2022** MPCB notice for Environmental Compensation for Rs. 26.83 Cr.	758

Sr.	Particulars	Page
15.	**ANNEXURE – I February 2016** CPCB guideline for Industrial Categorization	760
16.	**ANNEXURE – J 05/05/2004** Hon'ble SC order in Deepak Nitrite	813
17.	**ANNEXURE – K 27/09/2016** Hon'ble NGT Final Judgment in Goel Ganga Ltd.	820
18.	**ANNEXURE – L 08/01/2018** Hon'ble NGT Judgment in Goel Ganga Ltd in Appeal	854
19.	**ANNEXURE – M 10/08/2018** Hon'ble SC Judgment in Goel Ganga	874
20.	**ANNEXURE – N 09/12/2016** MoEFCC Notification to allow the LPA can grant the EC up to 1,50,000 sq.m	931
21.	**ANNEXURE – O 08/11/2017** Hon'ble NGT Order to set a side MOEFCC Notification 09/12/2016	942
22.	**ANNEXURE – P 29/07/1980** Hon'ble SC Judgment in Ratlam Case	995
23.	**ANNEXURE – Q** Citation for Ex Post Fact EC	1011
24.	**ANNEXURE – R February 2010** **EIA Guidance Manual for Building, Construction, Townships, and Area Development <u>WITH</u>** **June 2015** **NABET Scheme for Accreditation of EIA Consultant Organisation**	**1877-2257**

LIST OF PARTIES

BETWEEN

AJAY JAYVANTRAO BHOSALE **Applicant**
Age: Adult, Occupation: Self-employed, Nana Peth, Near Y.M.C. Club, Pune – 411011.
through :
Email : ajaybhosale2772@gmail.com
Phone : 9560466009

VERSUS

1. **UNION OF INDIA** **Respondents**
Ministry Of Environment and Forest Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi – 110001
through : Secretary
Email : secy-moef@nic.in
Phone :

2. **CHIEF SECRETARY,**
Government of Maharashtra, Annex Building, Mantralaya, Mumbai – 400032
through : Chief Secretary
Email : chiefsecretary@maharashtra.gov.in
Phone : 022-22886141

3. **THE PRINCIPAL SECRETARY, ENVIRONMENT DEPARTMENT.**
Government of Maharashtra, Room No. 217, 2nd Floor, Annex Building, Mantralaya, Mumbai - 400032
through : Principal Secretary
Email : pscc.env@maharashtra.gov.in
Phone : 022-22819517

4. STATE LEVEL ENIVRONMENT IMPACT ASSESSMENT AUTHORITY – MAHARASHTRA (SEIAA)
15th Floor, New Administrative Building, Mantralaya, Mumbai - 400032
through : Member Secretary
Email : secy-moef@nic.in
Phone : 022-22819517

5. STATE EXPERT APPRAISAL COMMITTEE (III)- MAHARASHTRA (SEAC-III)
15th Floor, New Administrative Building, Mantralaya, Mumbai - 400032
through : Member Secretary
Email : secy-moef@nic.in
Phone :

6. MAHARASHTRA POLLUTION CONTROL BOARD
Kalptaru Point, 3rd floor, Near Sion Circle, Opp. Cine Planet Cinema, Sion (E), Mumbai - 400022
through : Member Secretary
Email : ms@mpcb.gov.in
Phone : 022-24020781

7. MAHARASHTRA POLLUTION CONTROL BOARD
Jog Centre, 3rd floor, Mumbai-Pune Old Highway, Wakadewadi, Pune – 411003
through : Regional Officer
Email : ropune@mpcb.gov.in
Phone : 020-25811029

8. PUNE MUNICIPAL CORPORATION
Main Building, Shivaji Nagar,
Pune - 411005
through : Municipal Commissioner
Email : pmcmco@gmail.com
Phone : 020-25501000

9. BUILDING PERMISSION DEPARTMENT – PMC
Pune Municipal Corporation,
Shivaji Nagar, Pune – 411005
through : City Engineer
Email : rraut@punecorporation.org
Phone :

10. COLLECTOR OF PUNE
As Collector and President of
District Environment
Protection Committee- Pune,
Collector office, Bund Garden,
Pune - 411001
through :
Email : rdc.pune-mh@gov.in
Phone :

11 M/s. BRAMHACORP LIMITED
A Limited Company registered under Indian Company Act-1952 with (CIN) U70101PN2012PLC142705,
Having Registered office at
3, Queens Garden, Residency Club, Pune - 411001,
through : Directors
Email : admin@bramhacorp.in
Phone : 9561082146
11A. Ramkumar Bramhadutt Agrawal
11 B. Vinodkumar Bramhadutt Agrawal

ABBREVIATIONS

Short-form	Full-form
CC	Commencement Certificate
CCTV	Closed-Circuit Television
CGWA	Central Ground Water Authority
CIDCO	City and Industrial Development Corporation
CPCB	Central Pollution Control Board
DC Rules	Development Control Rules
DDA	Delhi Development Authority
EC	Environment Clearance
EDA	Environmental Damage Assessment
EIA	Environment Impact Assessment
EMP	Environmental Management Plan
EPA	Environmental Protection Act 1986
FSI	Floor space index
LED	Light-Emitting Diode
LPA	Local Planning Authority
MLD	Million Litres Per Day
MPCB	Maharashtra Pollution Control Board
MRTP Act	Maharashtra Regional and Town Planning Act 1966
NBC	National Building Code
NOC	No Objection Certificate
PMC	Pune Municipal Corporation
PP	**Project Proponent – Respondent No.11 – BramhaCorp Ltd.**
PVC	Polyvinyl Chloride
R.G.	Recreational Ground
SEAC	State Expert Appraisal Committee
SEIAA	State Environmental Impact Assessment Authority
SoP	Standard Operating Procedure
STP	Sewage Treatment Plant
TBUA	Total Built Up Area
TDR	Transfer of Development Rights
uPVC	Unplasticized Polyvinyl Chloride

DIARY OF EVENTS

Date (y-m-d)	Project development stages
2019-06-15	Notice from SEIAA - Proposed direction u/s 5 of the Environmental (P) Act, 1986 r.w. EIA notification – 2006 dated 14.09.2006.
2019-05-24	Notice/Complaint from Ajay Bhosale
2019-10-22	Hon'ble NGT orders constitution of Joint Committee
2019-12-10	Hon'ble NGT allows MPCB extended time to submit Joint Committee Report
2019-12-15	The Joint Committee visited the site
2020-01-04	Notice/Direction from RO, MPCB, Pune- u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31A of the Air (Prevention & Control of pollution Act, 1981.)
2022-05-17	ToR Application by PP
2023-04-20	ToR granted by SEAC-3
2023-06-12	**Application to EC as per OM 07/07/2021 and 28/01/2022**
2023-03-08	Application for 'Consent to Establish'

SYNOPSIS

1. **The important law points are listed at the beginning itself. The OA 65/2019 is filed on 19/08/2019**. Hon'ble Tribunal through the Daily Order dated **24/04/2023** had decided to hear the matter completely (limitation and merit) on the next hearing dated 28/07/2023. Therefore Respondent No. 11 (hereafter mentioned as a PP) makes this complete submission related to the merit and fact of the case.

2. PP denied all the allegations made by the applicant in this OA. PP has already submitted the say related to the limitation and preliminary objections to this original application on 24/10/2021 and 09/08/2022.

3. **The project (buildings A, B of 4 wings and C, D and E of 5 wings) started prior to EIA Notification on 14.09.2006.**

4. The PMC had sanctioned the layout on 30/06/2006 for **248 tenements** having an FSI area of **21,177.33 sq.m** whereas PP had constructed a total of **249 tenements** having an FSI area of **21,798.69 sq.m**.

5. **Project Buildings A, B, D & E were completed** in all respect, The Occupancy Certificate was granted to the project on **04/12/2009**. The flats in the premises were sold in the year **2005**. Society registration was done on **29/08/2011**. Subsequently, the possession was handed over to "Occupants" the Society in the year 2012. The total

construction cost of this project was Rs.15 Crore (Year 2009). **There was no challenge to this project construction done before Hon'ble Tribunal, till 19/08/2019.**

6. **The building C (of 5 wings) started on 15/07/2014** (CC/1169/14). **The 'total covered built-up construction area including FSI and non-FSI' (BUA) of the last building C building was 5630.22 sq.m**. As such, it did not need EC. As per the Applicant, the first cause of the action was on **21/06/2017** i.e., when PP received the revised sanction from the PMC for the additional construction area of 5880.16 sq.m. The next project and earlier project have nothing in common environmentally, except that they are on the same plot.

7. PP has implemented the Environmental Management Plan and Environmental Management Systems in the existing project. All the care of environmental issues at the time of the construction phase and operational phase were taken. This is without any compulsion OR prescription of law/rule, but voluntarily on its own.

8. There is no damage caused to the environment or pollution caused. The construction was done in accordance with the approved building plans from PMC as per the valid D.C. Rules under MRTP Act.

* * *

MOST RESPECTFULLY SUBMITTED

IMPORTANT LAW POINTS RAISED

1. The PP hereby raises the following important law points to be adjudicated and determined by the Hon'ble Tribunal. PP respectfully submits, argues and presses all these points and urges with folded hands that the speaking order be passed on all these important law points. These are integral part of pleadings, and please be treated accordingly.

A. Whether Goel Ganga Judgement, can be still valid when thereafter Violation Notification 14/03/2017 has given detailed methodology to assess pollution and EDC?

B. When Notification window expires allowing violation cases, whether the wisdom and methodology expires to determine EDC?

C. When Hon'ble Supreme Court has allowed consideration of post-facto EC, why there would be another non-notified method should be applied, when violation Notification had a procedure?

D. When MoEFCC OM 07/07/2021 and 28/01/2022 is in force giving detailed SoP is not yet set aside by NGT or any higher Court, whether Hon'ble Tribunal can lay down a different method?

E. When there is MoEFCC Notification giving logical, technical, scientific detailed procedure specifying as to how NABL

accredited Lab to take samples, NABET Accredited Consultant to do EIA as per EIA Manual, EMP, EDA, EDC, RP, CRAP, etc. is to be determined AND implemented, can Hon'ble Tribunal adjudicate based on the JCR determine the EDC, bypassing, circumventing and burying above procedure?

F. Whether 'polluter pays principle' can be applied without determining the pollution?

G. When CPCB Classification for Industries in 2012 and 2016 both state that there is air pollution only in construction phase and water pollution in operation phase AND no hazardous waste pollution, whether penalty under 'polluter pays principle' principle can be applied on the entire period?

H. When the word 'environment' includes water and air (pollution) whether penalty can be imposed once again by MPCB when EDC is already calculated and imposed by SEIAA?

I. When SEIAA and SEAC are the proper Authorities established u/s.3 of the EPA 1986 for dealing with EC as per EIA Notification 14/09/2006, whether JC appointed by Hon'ble Tribunal be "competent substitute" for this arrangement?

J. When post-facto EC is granted by SEIAA, the statutory Appeal on merit would exclusively come to Hon'ble Tribunal only. Whether Hon'ble Tribunal can adjudicate in matters pending before SEIAA, in advance thereby

frustrating the Appeal provision, having decided the issue already by Hon'ble Tribunal?

K. When Appeal lie before Hon'ble Tribunal against the EC granted by SEIAA, once Hon'ble Tribunal passes altogether different order, can the decision of SEIAA would be really independent on merit?

L. When the EDC is calculated by SEIAA and SEAC after following due scientific procedure is determined, whether Hon'ble Tribunal can impose additional penalty without there being any determination of additional damage to environment OR proper adjudication?

M. Whether Hon'ble Tribunal can enhance the EDC just to make it deterrent, to teach a lesson, make an example, when Hon'ble Tribunal is for resolution of dispute AND giving 'relief, compensation and restitution' to the aggrieved persons and restoration of environment?

N. Whether Hon'ble Tribunal shall impose EDC proportional to 'pollution, damage to environment, cost of restoration' OR impose exemplary heavy penalty without scientific evidence?

O. Whether the violation in respect of the part of the project completed before 5 years before, barred by limitation also can be reopened, when the project subsequently once again extends after 5 years, when there is no

recurring fresh cause of action, after the cause of action first arose?

2. I am Alka Mandar Rege, having Power of Attorney for **Respondent No. 11 M/s. BramhaCorp Limited**, as a **Project Proponent (PP)**, having its registered office at Residency Club, 3, Queen's Garden Road, Pune-411001, Maharashtra. (hereafter referred to as **PP**, as also referred to by Applicant in this OA). I have the knowledge of the facts and authority to file this affidavit, for and on behalf of the respondent, which I hereby do, on solemn affirmation and oath.

3. PP has already raised her concern regarding the limitation and preliminary objection regarding this OA by filing an affidavit in reply on 24/10/2021, 09/08/2022, and 03/03/2023. This affidavit in reply is filed by PP as per the direction of the Hon'ble Tribunal dated 24/04/2023 regarding hearing the matter completely i.e., Limitation and Merit. Therefore, PP filed this reply to produce the facts and present status of the project.

4. This reply is a reiteration of the previous submissions made by the PP Therefore previously discussed or submitted points are not covered in this reply to avoid repetition. But the previously submitted objections like a limitation, maintainability and preliminary objections on the plural cause, substantial questions related to Environment etc. are still alive and yet to decide.

5. PP says and submits that PP hereby denies all the allegations made by the applicant and nothing

shall be construed as accepted merely because it was not specifically denied by PP hereafter. Therefore, PP is not replied to each and every allegation made by the applicant. The main and important allegation in this OA is related to the violation of the 'Environment Clearance', 'Consent to Establish', and 'Consent to Operate' which are addressed by the PP.

6. PP submits that at the initial stage, EC was not applicable to this project as the project was not a new project after the publication of the EIA notification dated 14/09/2006. This project was the same old project as planned and approved on 30/06/2006 and Commencement Certificate was received on 21/09/2005. There were several amendments took place but that doesn't make it a new project.

7. PP states that the major part of this project (Buildings A, B, D & E) was completed in all respect and the Occupancy Certificate was granted to the project on 04/12/2009. Subsequently society registration in 2011 and handover in 2012.

8. All the changes were approved under MRTP Act and DC Rules, for the last building C, which also was started on 15/07/2014. The cause, if at all any, had arisen at that time and not in 2017.

9. PP says and submits that in the present case of last building C, there is no drastic change in the construction activities carried out without an EC or with an EC. This is mainly because there are no specific standards, features, or essential

requirements, issued for building and construction projects, as they are laid down for various other industries. SEAC/SEIAA basically checks for approved building plans, water supply sources, sewer line connection NOC of Corporation, the width of internal roads, NOC from various departments like NA form Revenue, Fire Department, access road, CGWA NOC (if applicable), adequacy of the pollution control measures, etc. All these things can be examined now also if those are being alleged as raising 'substantial questions related to the environment'.

10. PP submits that the first project was started away back in 2005 well before even when the first EIA Notification was not there. It was completed in all respect and the premises were sold; possession was handed over to the buyers. They have formed 285 their gated community and there is no control of the PP on it, as much as even the access to those premises/societies would be legally prohibited.

11. PP says and submits that the last building of the project started thereafter on 15.07.2014 (CC/1169/14). As explained, there was a time gap of 5 years, after the completion of earlier buildings. The last building was started only when it became commercially viable only after a change in rates of saleable spaces, and availability of floating FSI/TDR.

12. PP says and submits that it was not the expansion of the earlier project or modernization of the earlier project as it is in the case of any industry. It was part of the plan as shown and sanctioned in the layout on 30/06/2006. PP says and submits that

Clause 2(ii) and 2(iii) of the EIA Notification, from the reading of it, do not relate to buildings of one pre-sanctioned layout, constructed over a period of time. There was no limit on constructing the sanctioned layout plant.

13. The layout sanctioned on 30/06/2006 was for the FSI area of 21,177.33 sq.m, as against the actual FSI Area construction of 21,798.69 sq.m. Whereas the total built-up area for these buildings A, B, D & E was 33501.49 sq.m (Sanction dated 04/12/2009). There was a total of 248 tenements in the approved layout plan (as against the total of 249 tenements now, 1 tenement extra). **Whereas Plinth completion of buildings A, B, D, and E was of dates 02/02/2006, 20/03/2006, and 17/10/2006. Building Completion Certificates were issued for Buildings A, B, and E on 22/10/2007 and Building D on 05/10/2009 and 04/12/2009**. Earlier refuge areas are shown in one wing of each building, whereas now it is common between the wings. The aforesaid work was carried out strictly as per rules and regulations. The date of EIA Notification is 14th September 2006 contemplating Environmental Clearance. It is thus evident that Environmental Clearance was not attracted and therefore while according to sanction and approval, competent authority, PMC did not ask for the same.

14. As per CC-3954 dated 04/03/2014, Building No. C was constructed and the total built-up area of the C building is 11,510.38 sq.m. The building configuration of the C building was Lower

Parking + Parking +11 Floors & 55 flats. The Commencement Certificate of the last C building was issued on 15/07/2014.

15. PP says and submits that PP had already taken care of the EMP along with other features like powder-coated Al-sliding windows, vitrified tiles, CCTV, concealed copper wiring, PVC or uPVC piping, high-grade pottery for WC-wash basins, lift, fire-fighting system, fire-escape/evacuation area, water geyser, common gas piping, LED lights, solar panels, along with R.G., Tree plantation, Firefighting provisions, fire tender movement, excavation, parking requirement and provision for that, etc.

16. Further PP says and submits that for the safer side, PP had applied for the Environmental Clearance through the PARIVESH portal as per MoEFCC Office Memorandum dated 07/07/2021 and 28/01/2022 vide F. No. 22-21/2020-IA.III (E 138949). Whereas No one had directed PP to apply for EC. [Ax. A ■]

17. This fact was admitted by the PP in his submission before Hon'ble Tribunal. Hon'ble NGT through Daily Order dated 09/11/2022 has directed to SEIAA; [Ax. B ■]

> *"11:..... However, we also deem it appropriate that the SEIAA, before which the application dated 14/01/2022 for ex-post facto Environmental Clearance is pending should be directed to decide the same within a period of one month from today, particularly in this matter and direct accordingly."*

18. Accordingly, PP received the ToR in the 165th SEAC 3 meeting and 259th SEIAA meeting

dated 20/04/2023 for a total plot area is 17,433.10 sq.m, proposed FSI area of 21,798.69 sq.m, non-FSI area of 28,749.68 sq.m and the total built-up area is **50,548.37 sq.m** and this is the present constructed area as on date. [Ax. C ■]

19. Further after completing the study of all Environmental factors PP submitted the EIA report on 07/06/2023. Not only this, NABET Accredited consultant has also calculated the violation days which are **4442 days**. The amount calculated for the violation period for the remediation plan is Rs.1.975 Cr. & Cost of penalty is Rs. 51.3 Lakh. The violation period was calculated on the basis of two dates i.e., 20/11/2006 revised sanction and 18/01/2019 for occupancy.

20. On the basis of these violation days the evaluated cost of the remediation plan is Rs.1.975 Cr. & Cost of penalty is Rs. 51.3 Lakh. At present, this application for EC is under consideration and is yet to be heard by SEAC 3.

21. PP say and submits that PP has also applied for the Consent to Establish from the MPCB on 08.03.2023 for the area 50548.37 and capital investment of Rs. 27.33 Cr. This application is also in process. In this application, PP stated that PP has provided 70 KLD of STP, 34 no. of Vermicomposting pits, 2 no. of the recharge well, 2046 sq.m green belt area, Solar PV Panels, firefighting system for the project site. [Ax.D■]

22. PP has already submitted the applicability of the OM dated 07/07/2021 and 28/01/2022 in this

particular case. PP also establish the grounds for the consideration of the Environmental Clearance by the SEIAA on the above-mentioned OM and the violation notification in her last submission.

23. PP submits that the total project cost of the entire project including from A, B, C, D, and E is Rs. 27.33 Crore, which has TBUA 50548.37 sq.m [Flats 249], which is completed in totality as on date. It was started in year 02/02/2006 and completed in year 08/01/2019.

- Out of which TBUA 33501.49 sq.m (Buildings A, B, D, E – EXCEPT Building C) were completed and occupied from 04/12/2009 [Flats 194]. The cost of this portion of the project was Rs.15 Crore (Year 2009].
- The cost of the project up to 20,000 sq.m is Rs.10.81 Crore which was crossed/completed in year 2006.
- The cost of construction done above 20,000 sq.m is Rs.16.52 Crore from year 2006 to 2019 [Ax. E ■]

BUA Area (sq.m)	Cost Rs. (Crore)	Remark
50,548.37	27.33	Total proposed area
50,548.37	27.33	Constructed so far
20,000	10.81	Before violation
30,548.37	16.52	Balance proposed
50,548.37	27.33	Consent to Establish

24. PP had applied for 'Consent to Establish' (CE) on 08/03/2023 and has not received the same

yet. The CTE is applied for TBUA of 50548.37 sq.m. The cost of the **total** project mentioned in it was Rs. 27.33 Crore. At present there is no EC and no CTE or CTO for the project. Both EC and CTE are under process.

25. PP submits that A & B (4 wings each), D, and E (5 wings each) buildings were completed. These buildings were already sold to bonafide buyers and these are occupied since 2009. The Society of the buyers/residents is formed as “occupant” and the total possession of the land, building, along with related amenities is handed over to the bonafide “occupant”, the Society. The Society is now taking care of the operation and maintenance of all mechanical, electrical, and civil maintenance of the property and amenities provided with it, such as lift, pump house, solar heating/power, internal and common lighting, DG set, STP, Vermin composting pits etc. They are paying taxes and charges to the LPA.

26. PP has reported that the construction work started in the year 2005 & was completed in the year 2009.

27. PP has obtained the first plinth check certificate for buildings A, B, D, and E were issued on dates 02/02/2006, 20/03/2006, and 17/10/2006 respectively. which is as per the layout sanctioned plan vide no. CC/2342/05 dated 21/9/2005 and CC/3387/05 dated 30/12/2005 with TBUA of 28,653.05 sq.m granted by PMC.

28. PP has completed A, B D & E buildings

having the configuration of Lower Parking + Parking + 11 floors. PP has handed over the occupancy to the flat owners. PP stopped the construction thereafter in 2009. There is absolutely no construction going on at the site from that date till today for over the last 5 years (i.e., 04/03/2014). PP has proposed to construct an additional 1 number of buildings (i.e., Building No. C) having proposed BUA of 11,510.38 sq.m which does not require EC. [Ax. F ■]

29. PP submits that construction doesn't violate any other construction-related laws under MRTP and DC Rules. It has not encroached on any public space or amenity causing inconvenience to society.

30. PP submits that it is residential project is in strict compliance with other laws. The plans sanctioned by the LPA, as per MRTP Act and DC Rules framed thereunder, are by following National Building Code (NBC). All the environmental features as per NBC and conditions of the sanctioned plan are implemented, irrespective of whether EC and Consent were granted and these conditions were contained in it.

31. PP submits that There is no violation happened so far. But for the safer side, PP applied for the EC as per the Om dated 07/07/2021 and 28/01/2022. The violation application has been submitted on the following counts,

i. EC not obtained when proposed construction was planned beyond 20,000 sq.m 'total

covered built-up construction area including FSI and non-FSI' (TBUA)

ii. Construction has crossed beyond 20,000 sq.m on date 14/9/2006 and now is 50548.37 sq.m.

iii. 'Consent to Establish' not obtained before starting the work

iv. 'Consent to Operate' was not obtained before granting the occupation

32. PP submit that as guided in the Violation Notification 14/03/2017, the following steps have been already taken.

i. Proposed project was checked for compliance with LPA DC Rules

ii. The project is otherwise sustainable and compliant with other laws

iii. Terms of Reference (ToR) were granted for the EIA Study

iv. Environmental Impact Assessment Report is in process through NABET accredited consultants by deploying Field Area Experts (FAE) and Environmental Coordinator for EIA Study, as per EIA Manual published by MoEFCC

v. Environment Management Plan (EMP) is prepared and implemented

vi. Environment Damage Assessment (EDA) Report was prepared with identification and quantification of damage to the environment

vii. Remediation Plan (RP) has been prepared

viii. Community and Resource Augmentation Plan (CRAP) has been prepared

ix. The cost towards all above has been calculated and needs to submit to SEAC for appraisal

33. This cost may be finally approved by SEIAA after confirmation. The Environment Damages may be calculated by approach paper by SEIAA with their expertise team as done in violation cases previously. [Ax. G ■]

34. PP submits that the present project is a fit case for consideration and grant of EC as per the Om dated 07/07/2021 and 28/01/2022. The MoEFCC OM 07/07/2021 and 21/08/2022 have allowed post facto EC based on the same methodology for consideration of violation cases. No irreversible damage and harm have been caused to the environment. The continuation of the project and the completed project is sustainable to the surrounding environment.

35. **PP submits that there is no provision for EDC in Water / Air Act.** Methodology evolved by CPCB in a specific matter of OA 593 of Paryavaran Suraksha, categorically specifies situations in which compensation can be imposed. These situations are non-existent in the present case. As such that formula can't be applied here.

36. MPCB has Notified in the Gazette of the 'Enforcement Policy' on the calculation of

penalty/compensation for violation of consent conditions, in 2019. The same was laid down before Hon'ble Tribunal. Hence, in the cases where EDC is calculated in keeping with the 2017 Notification, MPCB can assess damage only for specific violations of consent conditions and cannot apply the methodology of Paryavaran Suraksha. Therefore, imposed Environmental compensation of Rs. 26.83 Cr. is invalid and not as per the law. **PP demands that SEIAA should record their findings on merit on this point, as an Authority. [Ax. H ■]**

37. As per the EIA Notification and also the Violation Notification 14/03/2017, SEIAA is the Authority for consideration and grant of EC. The procedure laid down in the Notification and OM dated 07/07/2021 and 28/01/2022 are the supporting provisions for the same notification.

38. MPCB is the authority for Water/Air Act. However, "environment" is the generic term. The definition of the term "environment" INCLUDES water and air. MPCB can collect the penal charges as per their Circular 12/07/2022. There is no damage to the environment twice, OR separately under Environment Act and so also under the Water/Air Act, which is sub-set of generic word "environment".

39. EDC can't be imposed again by MPCB for untreated sewage and air pollution, based on some empirical formula, which has neither scientific basis nor legal sanctity. **The CPCB also has not issued directions to other SPCBs u/s. 18(1)(b) of the**

water/Air Act. This can't be done again, when "environment" also has considered EDA caused by untreated sewage and air pollution. This will be imposing double cost for the same head and shall amount to double jeopardy.

40. The CPCB in February 2016 has categorized various industries for the purpose of grant of Consent. It includes this activity/project at *"Sr.No.21(Old 8) Building and construction project more than 20,000 sq.m built up area".* CPCB has recorded in Remarks, that for such kind of projects, *"1. In the pre-construction stage, it is mainly air polluting due to generation of dust (PM) emissions. 2. After construction, it is mainly water polluting. If the discharge is more than 100 KLD, it will be having the normalized score of 75 and be categorized as Red."* **[Ax. I ■]**

41. PP submitted that barriers were erected all around the construction site and water was sprayed on unpaved areas/internal roads during the construction phase to control air pollution. RMC was used so there was no loose open stock of sand, gravel, or cement and hence air pollution from that.

42. PP submitted that STP of 70 kld capacity was constructed and it was operative till the project was handed over to the occupier. PP further submits that the treated sewage is connected to PMC sewer lines. PMC charges Sewerage Tax, in the bills issued to flat owners. The sewage is treated collectively in Koregaon 130 MLD STP provided for the entire area. The PMC has the 'Consent to Operate' from the MPCB for the entire city. The STP of the PMC is also

supervised by MPCB. Consent Fees are paid by PMC to MPCB for this purpose. Over and above this, samples of STP collected by MPCB are analysed in their own laboratory and the cost of which also is paid by the PMC. The treated water from STP, as per the standards laid down under EPA and 'Consent to Operate', is returned to the river, as per the agreement with Irrigation Department. This water is used by the villages downstream, for their irrigation needs and utilization for other purposes. As such this doesn't give rise to 'substantial question related to environment'.

43. PP submits that during EC application under the violation category, there are various components of EDA that are considered, identified, and quantified, field samples have been taken, and these samples were analysed in MoEFCC Recognized Environmental Laboratory, EIA and EDA have been prepared based on that. This has been deliberated before SEAC which is the Expert Committee appointed under the Notification and delegated/assigned with this specific mandate. It is supposed to assess the other reports also as stipulated and prepared by the NABET Accredited Experts.

44. PP submits that EDC has been calculated after considering that the EMP was already implemented at the site. PP submits that to invoke the **'polluter pays principle'**, there has to be identified, quantified, and assessed pollution caused resulting in damage to the environment AND hence the cost towards the Remediation Plan. This

has been upheld and emphasized by Hon'ble Supreme Court in the Deepak Nitrite case. [Ax. J ■]

45. PP submits that when the actual scientific assessment is done, as stipulated in the Violation Notification 14/03/2017 and so also in MoEFCC OM 07/07/2021, it leaves no other way for the SEAC and SEIAA to compute the EDC in any other way than the prescribed scientific method. Such a scientific technical approach, based on actual field data collection, can't be buried and substituted by some random empirical formula. It is incorrect, unscientific, wrong in totality, and can't stand any test of even logic in the present case. Merely because such an erroneous formula was used and applied in several other cases, doesn't make it a Law, Rule, and the least scientific basis.

46. The 'polluter pays principle' was evolved and applied in the Bichchri Case and Vellore Citizen case, where there was hard work by scientists on-site, in identification, sampling, analysis, quantification of the pollution, its effect on the environment, cost of remediation was worked out AND only then it was fastened on the PP/Industries as and by way of the principle of strict and absolute responsibility.

47. PP, therefore, submits that SEAC-3 and SEIAA should consider all these submissions before them on merit and record their findings based on all the reports and documents submitted before them.

48. PP requests that the Hon'ble SEAC/SEIAA appraise the EDA, EDC and cost towards other

stipulated measures. PP requests that SEAC/SEIAA should record these submissions and its speaking comments on it. SEAC/SEIAA show the break-up of EDC accepted including that towards water/air pollution, if any which was not remedied,

GOEL GANGA JUDGEMENTS (OA, REVIEW, SC APPEAL)

49. The project was granted EC on 04/08/2008 to construct 12 buildings with stilt, basement plus 11 floors vertically for 552 flats, 50 shops and 34 offices. The total plot area is 79,100 sq.m while the total built-up area is to 57,658.42 sq.m. **The OA 184/2015(WZ) was filed in the year 2015**. The final NGT Judgement is dated 27/09/2016. [Ax. K ■]

■ **All these proceedings are prior to MoEFCC Violation Notification 14/03/20217. This Notification formally and legally laid down complete step-by-step logical, scientific, and technical wisdom to deal with any violation cases.**

50. PP submits that at the time of the Goel Ganga NGT matter till the date of Judgement, there was a total absence of a legal framework to formally assess the pollution, damage to the environment, and cost of its remediation. Therefore, the cost imposed by NGT was 10% or actual whichever is lower. This 10% was on an ad-hoc / ad-valorem basis but without adjudication on merit and actual Environmental Damage Assessment (EDA) and corresponding cost towards Remediation Plan.

51. PP submits that from the various projects/activity approved by SEAC/SEIAA-Maharashtra in the past, the cost of the EMP is working out to be 3 to 5% of the project cost. This data was not submitted during the hearing by any of the respondents.

52. The NGT Review Application No. 35/2016(WZ) was filed by Tanaji Gambhire which was disposed of by Judgement 08/01/2018 without any favourable order. It was raising various issues including Carbon Footprint and CO_2 emissions. [Ax. L ■]

53. Hon'ble Supreme Court considered Civil Appeal No. 10854/2016 and decided it by Judgement on 10/08/2018, JJ Madan Lokur, Deepak Gupta. [(2018) 18 Supreme Court Cases 257: 2018 SCC Online SC 930)] [Ax. M ■]

APPEAL BEFORE SUPREME COURT U/S.22 TO BE HEARD AS CPC S.100 APPEAL (ONLY ON LAW POINT)

54. The Appeal to the Hon'ble Supreme Court against the order of the Hon'ble National Green Tribunal will be heard as an appeal as per s.100 of 'Code of Civil Procedure 1908' (CPC). i.e., Hon'ble Supreme Court will hear it as an appeal on a law point. Apex Court will not open, go into facts of the case, or merit

> *22. Appeal to Supreme Court:- Any person aggrieved by any award, decision or order of the tribunal, may file an appear to the Supreme Court, within ninety days from the date of communication*

of the award, decision or order of Tribunal, to him, on any one or more of the grounds specified in section 100 of the Code of Civil Procedure, 1908 (5 of 1908):

55. The Hon'ble National Green Tribunal is armed with 'Hon'ble Expert Member' along with 'Hon'ble Judicial Member' in the ratio 1:1. It emphasises the need of exhaustive and intrusive adjudication on the technical submissions on merit and facts of the case; and not merely the adjudication on the legal points. In fact, in the appeal before Hon'ble Supreme Court, the legal adjudication can be entertained and gone into, but not the technical issues on facts and merit.

56. Therefore, PP urges and prays with folded hands that technical submissions shall be gone into detail and in-depth with speaking orders after adjudication.

57. Hon'ble Supreme Court in various orders have emphasised the need of 'adjudication' by the Hon'ble Tribunal. Apex court has also said that such adjudication can't be outsourced to any other Expert Committee, which can only be a fact-finding committee.

- 'Project Proponent' urges with folded hand that the recommendations by SEAC and approval by SEIAA shall be recorded with speaking Minutes of Meeting. PP submits that the detailed appraisal by SEAC and approval by SEIAA, by recording all the submissions before them is absolutely **essential so as to ensure that all aspects related to**

environment have been laid before the SEAC, considered and dealt with application of mind, discussed, deliberated, clarification are sought and given by PP that are taken on record. The EC is recommended by SEAC and approval is granted by SEIAA in strict compliance of the Notification and in the interest of Environment.

DETERMINATION OF POLLUTION, DAMAGE TO ENVIRONMENT, COST OF REMEDIATION, RESTORATION OF ENVIRONMENT

58. PP submits that EDC was adequately dealt with by MoEFCC by evolving the detailed logical, scientific, and technical procedure in the Violation Notification 14/03/2017.

59. In the matter of the Vellore Citizen case OR Bicchri case, the CPCB and State PCB had deputed a team of scientists to the field. The samples of pollutants and pollution caused were collected. Those were analysed in the environmental laboratory. The scientists of the CPCB, SPCB and NEERI-CSIR deliberated on the scientific and technical solution for the treatment of the pollution done and the cost of remediation towards it. This cost was decided to be recovered from the industries responsible, by fastening the strict and absolute liability on them.

60. These ingredients of determination of pollution, assessment of its effect on the environment, and cost of restoration are totally absent in the ad-hoc ad-valorem simple mathematical formula derived by CPCB in OA 593 Paryavaran Surksha matter. There is no provision for the measurement of pollution, damage to the environment, remediation plan and cost of remediation.

MOEFCC VIOLATION NOTIFICATION 14/03/2017 (WINDOW VALIDITY PERIOD EXTENDED UP TO 14/04/2018)

61. PP submits that wherever it was environmentally sustainable to allow the grant of post facto EC, rather than demolishing the project/activity in violation, there was need for a formal procedure for such regularization.

62. PP submits that there were cases of violation as per the EIA Notification 14/09/2006. The Notification is delegated piece of legislation and not an Article in the Constitution, Act OR Rule approved by Parliament. As such to balance between environment, sustainability and a wider view so as to avoid the national waste of resources, the violation was to be dealt with penal consequences.

63. PP submits that this proper scientific methodology was described in detail, and embedded in the MoEFCC Violation Notification 14/03/2017. This procedural wisdom also stands on a higher legal pedestal and is coming straight from the MoEFCC.

64. MoEFCC Notification is a logical, scientific and technical step-by-step procedure and implementation of a methodology for EDA and EDC, based on an 'Environmental Impact Assessment Study', 'Remediation Plan', 'Environment Management Plan', 'Community & Resource Augmentation Plan'. **This is independent AND in addition to the legal penal provisions as provided in the 'Environment (Protection) Act 1986'.**

65. The 'Environment (Protection) Act 1986' already has the stringent penal provision u/s.15 to be read with s. 16, 17 and 19.

> *15. Penalty for contravention of the provisions of the Act and the rules, orders and directions:*
>
> *1) Whoever fails to comply with or contravenes any of the provisions of this Act, or the rules made or orders or directions issued thereunder, shall, in respect of each such failure or contravention, be punishable with imprisonment for a term which may extend to five years or with fine which may extend to one lakh rupees, or with both, and in case the failure or contravention continues, with additional fine which may extend to five thousand rupees for every day during which such failure or contravention continues after the conviction for the first such failure or contravention.*
>
> *(2) If the failure or contravention referred to in sub-section (1) continues beyond a period of one year after the date of conviction, the offender shall be punishable with imprisonment for a term which may extend to seven years.*

66. PP submits that the above is the provision of the Act. If this is less OR insufficient OR there is any lacuna in its implementation, then the Act needs

to be remedied. It will not be fair to somehow devise an extra-legal mechanism to punish the errant PP to the satisfaction of the public, Applicants, NGO or even authorities like SEAC/SEIAA / Tribunals OR Courts. This is the same as lynching in the name of environment OR teaching a lesson by extra-legal means.

67. The detailed logical, scientific and technical steps to be followed in violation cases were as follows.

i. Examine the project/activity as to whether it complies with basic laws such as MRTP – DC Rules, without encroaching on any public space, amenity etc.

ii. Whether the project/activity is sustainable

iii. 'Environmental Impact Assessment Study' through QCI-NABET Accredited Consultant

iv. As per QCI-NABET Scheme 2.0 (now 3.0)

v. EIA Study to be done as per EIA Manual Published by MoEFCC

vi. EIA to be supervised under 'EIA Coordinator' [NABET gives essential minimum requirement, qualifications, experience, maturity]

vii. Field Study to be done by respective 'Field Area Expert' for various aspects related to project/activity 'Building and Construction Project' [Water Pollution, Municipal Solid Waste, Land Use, Air Pollution, Noise, Ecology

& Biodiversity, Socio-Economics, Hydrography, Soil Conservation]

viii. Samples of environmental settings, recipient environmental bodies, and pollution are to be taken by the MoEFCC Recognized Environmental Laboratory which is NABL, ISO 9001, 14001, 18001 accredited

ix. Environmental Management of aspects of pollution (wastewater/sewage, air, noise, solid waste)

x. Environmental Management Plan of aspects of sustainability and betterment of the environment such as conservation of topsoil, excavation, refilling, storm water drains, use of solar power for electricity or heating, gardening/tree plantation, open spaces, internal roads, ventilation of basements, location of utilities, recreational ground/ open space/ playground, DG power for back-up, etc.

xi. The 'Environmental Damage Assessment' (EDA) was to be done on the basis of such studies.

xii. 'Remediation Plan' is to be worked out for the damage done to the environment

xiii. 'Environmental Damage Cost' to be worked out as per EDA and RP so as to restore the environment to its original state

xiv. Apart from this, a 'Community & Resource Augmentation Plan' was required to be done to compensate the society

xv. This cost was to be presented before SEAC by NABET Accredited Consultant and the PP along with information filed on the PARIVESH Portal, Form 1, 1A, Consolidated Statement, Power Point Presentation, detailed drawings and plans, other studies (as may be asked during appraisal) such as Wind Analysis, Shadow Analysis, Traffic Management and Evacuation Plan, etc.

xvi. Appraisal to be done by SEAC for the sustainability of the project/activity and EDC

xvii. Consideration and approval by SEIAA to the findings and recommendations of SEAC

xviii. The amount so worked out towards the EDC to be deposited in the form of a 'Bank Guarantee (BG)

xix. The execution to be done with the approval of the Collector / Commissioner of the LPA

xx. After submission of the Report, the BG to be released

68. Definition of Environment is done in the 'National Green Tribunal Act 2010' and so also the 'Environment (Protection) Act 1986'. It includes water, air and as such the 'Consent to Establish' and 'Consent to Operate' issued by MPCB under Water/Air Acts and violation if any is already covered under the generic word/terminology 'environment'. There can't any separate computation of EDC, the penalty for water/air pollution when the

determination is comprehensively done under the head 'environment'.

> *2(c) "environment" includes water, air and land and the inter relationship, which exists among and between water, air and land and human-beings, other living creatures, plants, micro-organism and property;*

69. PP submits that once the EDC is imposed for the damage to the "environment", then there can't be a separate penalty for damage due to water/air pollution, which is categorically, specifically and legally covered under "environment".

MOEFCC OFFICE MEMORANDUM (OM) 07/07/2021 AND 28/01/2022

70. PP submits that all the steps that were incorporated in the Violation Notification of 14/03/2017, are logical, scientific and technical. **The window period for the application might have expired, as an amnesty scheme, but the thoughtful 'wisdom' thoughtfully expressed by MoEFCC, in the above Violation Notification of 14/03/2017, has not expired. That shall remain valid forever.**

71. PP submits that MoEFCC revived this scientific approach again, after directions of the Hon'ble Supreme Court and Hon'ble Tribunal, as mentioned in the Office Memorandum 07/07/2021. MoEFCC emphasized following it and its implementation by follow-up OM dated 28/01/2022. This shows that in the eyes of the MoEFCC, the wisdom is still valid, and relevant and should be

relied upon in the cases of violation. The OM has laid down the same old valid procedure which is the executive function of MoEFCC.

72. PP submits that none of the OM has been stayed in Maharashtra and is very much operative. These OM are nothing but the re-iteration of the logical, scientific, and technical procedure laid down in the Violation Notification 14/03/2017. There is no better approach for the grant of post facto EC is the deserving cases by the imposition of EDC. CPCB Guidelines or formula derived in OA 593 Paryavaran Suraksha matter, bypassing this entire scientific procedure, has no sanctity, technical or scientific validity and is anyway on an inferior pedestal as against the MoEFCC's Notification and OM.

MOEFCC (AMENDMENT) NOTIFICATION 09/12/2016 GIVING POWERS FOR 'ENVIRONMENTAL CLEARANCE' TO 'LOCAL PLANNING AUTHORITY' (LPA)

73. PP submits that this Notification on 09/12/2016 had delegated the power for grant of EC to the LPA, through the Committee to be formed by them. [Ax. N ■] It has listed all facets and aspects of the environment in various sub-heads which are dealt with and considered in the EIA Notification 14/09/2006. These environmental aspects are; Topography and Natural drainage, Water Conservation Rainwater Harvesting and Ground Water Recharge, Waste Management, Energy, Air Quality and Noise, Green Cover, Topsoil preservation and reuse, and Transport. Out of this, only water,

solid waste and air/noise are the issues related to "pollution". The rest are all issues related to environmental sustainability and management.

74. This Notification was set aside by the Hon'ble National Green Tribunal, in part only to that extent. [Ax. O ■]

75. However, this Notification that amended the EIA Notification 14/09/2006, also had the provision as given below, which has not been set aside. This amendment is still valid and in force; and has not been set aside by any Tribunal OR Court.

> *"No Consent to Establish and Operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 will be required from the State Pollution Control Boards for residential buildings up to 1,50,000 square meters.";*

76. **The Notification of the MoEFCC dated 09/12/2016 stands on a higher legal pedestal and the most current one after the issuance of the CPCB Classification of Industries in February 2016**, requiring Consent for building construction projects. This negates the requirement of 'Consent to Establish' OR 'Consent to Operate' for residential buildings up to 1,50,000 sq.m.

HIGH COURT OF DELHI JUDGEMENT OF THE BENCH 23/01/2012

77. PP submits that the Hon'ble High Court of Delhi in two concurrent Judgements finally pronounced on 23/01/2012 that residential buildings are not industry, operation or process and hence

don't attract the requirement of 'Consent to Establish' OR 'Consent to Operate' under Water / Air Acts.

CLASSIFICATION OF INDUSTRIES BY CPCB ON 29/02/2016 FOR THE REQUIREMENT OF 'CONSENT TO ESTABLISH' AND 'CONSENT TO OPERATE'

78. Subsequent to this, CPCB classified the industries in 25/06/2012 and then again in February 2016. The building and construction industry/project/activity is listed at Sr. No. (New/old) 21/8.

79. In the table and remarks, it mentions as follows. It shows that there is no hazardous waste pollution from this industry. The air pollution is only in the construction phase. The water pollution is only during the operation phase. [Ax. J ■]

Table G-3: Final List of Orange Category of Industrial Sectors

Final Sl. No.	Original S. No	Industry Sector	W1	W2	W	A1	A2	A	H	W+A+H	Revised Category	Remarks
21.	8	Building and construction project more than 20,000 sq.m built up area	20	-	**20**	20	-	**20**	-	**50**	O-O	1. In the pre-construction stage, it is mainly air polluting due to generation of dust (PM) emissions. 2. After construction, it is mainly water-polluting. If the discharge is more than 100 KLD, it will be having the normalized score of 75 and be categorized as Red.

80. To reconcile the Judgement of the Constitutional Court like the Hon'ble High Court of Delhi, in which CPCB also was the party through 'Pollution Control Committee', classification of industries published by CPCB and MoEFCC (Amendment) Notification 09/12/2016, it needs to be construed and inferred that **Residential projects shall not need 'Consent to Establish' OR 'Consent to Operate' for an area up to 1,50,000 sq.m.**

PROJECTS WITHIN LPA AREA

81. PP submits that Corporations, Nagar Parishad and LPA are granted 'Consent to Establish' and 'Consent to Operate' by MPCB. They are required to provide municipal services including collection of sewerage, treatment of sewage and garbage disposal (municipal solid waste). Clean water is supplied by LPA. As per Supreme Court in ***Municipal Council, Ratlam vs. Vardhichand***, these are the facilities that must be provided by the LPA as the bounden duty. 'Environment (Protection) Act 1986' and EIA Notification 14/09/2006 have not diluted this requirement OR have shifted this onus from LPA to 'Project Proponent'. [Ax. P ■]

82. PP submits that irrespective of the EMP prepared and implemented by PP, the residents of the society are required to pay twice for the Capital Cost of EMP and the recurring cost of EMP. No discount is given to residents of the project/activity that are covered under EIA Notification 14/09/2006 and/or have implemented their own EMP. Even when (treated/untreated) sewage is let out through the

common sewerage system, the generated sewage is treated in the city STP before discharging to the river and mother nature. As such there is no harm to the environment.

83. The PP/Residents are paying for the capital cost (as development charge) and sewerage charge/tax each month. The only disadvantage OR burden to the environment is that sewage treated on-site could have been recycled and reused at least to the extent of 33% for secondary use and flushing etc. In the absence of such STP, residents are paying for buying fresh water, as others do. In any case, there is no pollution caused to the environment, as sewage is still treated.

84. PP submits that the **aspects like Wastewater/sewage, air, and noise are defined and related to and under head "pollution". There are standards under EPA and Water/Air Acts**. All, other aspects are related to environmental betterment and sustainability. There are no benchmarks, or standards for that under EPA. Municipal solid waste also can be segregated and treated on-site but can't be used within the site. It has to be finally disposed of to the MSW-TSDF site.

RECURRING, CONTINUING CAUSE OF ACTION

85. The limitation clause/proviso in the s.14 and 15 gives protection to the PP and so also the bonafide buyers, from harassment and perpetual risk. The buyers buy flats, banks give loans and instalments of repayment start. There has to be

legitimate expectancy and certainty to all the stakeholders while reopening of the cases if the past. The limitation proviso just does grant this protection.

86. The limitation would be triggered right from the date when the cause of action first arises. **The artificially created causes for action are not supported by this proviso**.

87. Merely because the demolition is sought in the application, the period of limitation will not be extended to 5 years. It will still remain to be six months. Hon'ble Tribunal has clarified in the NGT WZ Bench Lakhan Musafir matter Judgement that there has to be a '**substantial question related to environment**' adjudicated and established before seeking 'relief, compensation, restitution' and consequential reliefs based on the cause of action. The relief sought has to be consequential, i.e., giving 'relief, compensation, restitution'.

> *14(3) No application for adjudication of dispute under this section shall be entertained by the Tribunal unless it is made within a period of six months from the date on which the cause of action for such dispute first arose:*

88. Ongoing industry can be termed as the recurring cause of action, as it lets out pollution every day. The residential project completed is not a 'recurring cause of action' which gives rise to a fresh cause of action qua such fresh repetition. Even if it is pleaded as a continuing cause of action, the clear-cut terminology in proviso s.14(3) and so also in 15(3), will trigger the counting of the limitation period from the '***date on which the cause of***

action for such dispute first arose'.

89. PP submits that the ***Forward Foundation judgement*** of the Hon'ble National Green Tribunal South Zone Bench referred by the applicant is not binding on the Western Zone Bench. The facts of the case in the Forward Foundation case are entirely different and not applicable in this case. In that case construction was done in the lake /wetland which is not the case here. The construction done is fully compliant with the MRTP – DC Rules of LPA. [2015-01-27_SCC NGT PB 222-2014 Forward Foundation Vs State of Karnataka].

'SUBSTANTIAL QUESTION RELATED TO ENVIRONMENT' AND PROHIBITION ON RAISING PLURAL CAUSES UNDER NGT RULE 14

90. PP submits that 'substantial question related to environment' has been specifically defined in the 'National Green Tribunal Act 2010' under definition.

> *(m) "substantial question relating to environment" shall include an instance where, -*
>
> *(i) there is a direct violation of a specific statutory environment obligation by a person by which, -*
>
> *(A) the community at large other than an individual or group of individuals is affected or likely to be affected by the environmental consequences; or*
>
> *(B) the gravity of damage to the environment or property is substantial; or*
>
> *(C) the damage to public health is broadly measurable;*

(ii) the environmental consequences relate to a specific activity or a point source of pollution;

91. PP submits that only one substantial cause can be raised in one application and appeal.

POLLUTION IS DEFINED IN 'WATER (PREVENTION AND CONTROL OF POLLUTION) ACT 1974'

92. The following terms are defined in the 'Water (Prevention and Control of Pollution) Act 1974'.

2. Definitions. - In this Act, unless the context otherwise requires,

[(d) "occupier", in relation to any factory or premises, means the person who has control over the affairs of the factory or the premises, and includes, in relation to any substance, the person in possession of the substance;]

(dd) "outlet", includes any conduit pipe or channel, open or closed, carrying sewage or trade effluent or any other holding arrangement which causes, or is likely to cause, pollution;]

(e) "pollution" means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms;

(f) "prescribed" means prescribed by rules made under this Act by the Central Government or, as the case may be, the State Government;

(g) "sewage effluent" means effluent from any sewerage system: or sewage disposal works and includes sullage from open drains;

(gg) "sewer" means any conduit pipe or channel, open or dosed, carrying sewage or trade effluent;

93. The 'Consent to Operate' will have to be applied and obtained by the 'occupier'.

94. The environmental facilities provided are to be operated and maintained by the 'occupier'. The cost towards the same is to be borne by the 'occupier', as they pay for water, electricity, lift, housekeeping, gardening, security, garbage cleaning, etc.

95. There is provision for MPCB u/s.30 to do the certain works and recover cost of the same. Powers are given to MPCB u/s. 32. Emergency measures in case of pollution of stream or well. None of them were exercised by MPCB. **But there is no power** available **to MPCB to impose the penalty and recover the 'Environmental Damage Cost'.**

30. Power of State Board to carry out certain works,- [(1) Where ~this Act, any conditions have been imposed on any person while granting consent under section 25 or section 26 and such conditions require such person to execute any work in connection therewith and such work has not been executed within such time as may be specified in this behalf, the State Board may serve on the person concerned a notice requiring him within such time - (not being less than thirty days) as may be specified in the notice to execute the work specified therein.] [46. Substituted by Act 53of1988, S. 14, for sub-S. (1).]

(2) If the person concerned fails to execute the work as required in the notice referred to in sub-section (1), then, after the expiration of the time specified in the said notice, the State Board may itself execute or cause to be executed such work

(3) All expenses incurred by the State Board for the execution of the aforesaid work; together with interest, at such rate as the State Government may, by order, fix, from the date when a demand for the expenses is made until it is paid, may be recovered by that Board from the person concerned, as arrears of land revenue, or of public demand.

96. PP submits that this is to be recovered from the 'occupier' if the facilities are not being operated by the 'occupier'. When the possession is given and taken by the residents of the society, then it is for them to maintain, operate, and pay for these services including any legal obligations as an 'occupier'. **These powers are not available to 'Project Proponent'**. **Even then, as a gesture of goodwill, PP has given STP. The same is being operated and maintained by the occupier Society. The new OWC has been given as of now without waiting for Society to repair OR pay. PP has sent the Invoice to the occupier, with the hope that they shall pay it**.

97. The pollution is defined in the act. The 'polluter pays principle', if at all is applicable, shall operate against the occupier for an act of commission or omission; and not the 'Project Proponent'. PP is not the polluter in the operation phase, of the occupied buildings.

98. It is not the stipulation of the EIA

Notification 14/09/2006 OR any of the environmental acts/rules, OR condition of the 'Environmental Clearance' OR 'Consent to Operate' that the 'Project Proponent' shall forever operate and pay for the cost of treatment. **As per provisions of the Act, this responsibility is with the occupant**. The owner of the land OR 'Project Proponent' doesn't become responsible, merely because the conveyance of the land right is not done under the transfer of property act. The full working possession of the residential buildings entitles the residents to stay and enjoy the property with the bounden duty to bear its corresponding upkeep and maintenance.

99. **After handing over of the property, physical possession, to the buyers and occupants, the 'Project Proponent' will be trespasser to the premises**. PP can't even enter the premises and as such there is no question of EMP to be implemented by PP, post handing over of the possession of the property to the bona fide buyers/residents or the society.

'AIR (PREVENTION AND CONTROL OF POLLUTION) ACT 1981'

100. The following terminologies are defined in the Air Act. It has clearly defined air pollutants, air pollution, emission and occupier of the premises.

> *2. Definitions:- In this Act, unless the context otherwise requires,-*
>
> *(a) "air pollutant" means any solid, liquid or gaseous substance 3[(including noise)] present in the atmosphere in such concentration as may be or tend*

to be injurious to human beings or other living creatures or plants or property or environment;

(b) "air pollution" means the presence in the atmosphere of any air pollutant;

(j) "emission" means any solid or liquid or gaseous substance coming out of any chimney, duct or flue or any other outlet;

(m) "occupier", in relation to any factory or premises, means the person who has control over the affairs of the factory or the premises, and includes, in relation to any substance, the person in possession of the substance; [5. Substituted by Act 47 of 1987, S. 2, for q.(m) (w.e.f. 1-4-1988)]

Any meaning OR arrangement contrary to the provisions of the Act are redundant as there is no estoppel against the law.

101. **After handing over of the property, physical possession, to the buyers and occupants, the 'Project Proponent' will be a trespasser to the premises**. PP can't even enter the premises and as such there is no question of EMP to be implemented by PP post handing over of the possession of the property to the bona fide buyers/residents or the society.

'POLLUTER PAYS PRINCIPLE'

102. This was evolved in Vellore Citizens and Bichchri case. This right principle is applied wrongly most of the time, for lynching the 'Project Proponent' without even identifying the pollutant, quantifying, determining, assessing pollution done, its effect on environment, damage due to that to the environment, remediation plan, and its cost for restoration of the environment. The 'polluter pays

principle' is not a penal provision under EPA or Water or Air Act.

103. The 'polluter pays principle' is for fastening the strict and absolute responsibility on the polluter to recover the cost of restoration of the environment, if and when the pollution is done.

104. In absence of this determination, 'Project Proponent' can't be applied to penalise the 'Project Proponent' OR impose the punishment OR heavy fine just because Applicant / NGO / Board is not satisfied with the penalty and procedure laid down under the EPA, Water & Air Acts.

POST-FACTO EC – DESERVING CASE

105. PP submits that the Hon'ble Supreme Court in various cases has said that post-facto EC can be considered for project/activity, in exceptional cases. e.g., Sai Baba, Electro steel, [Ax. Q ■]

106. Residential project is a regulated activity as per EIA Notification 14/09/2006 under Category 8(a) and 8(b). It is a highly required activity to provide and fulfil fundamental requirements of the citizens, i.e., shelter. Central and State Government is encouraging and promoting residential activity by giving loan and subsidy. It is also promoting this through agencies like SRA, MAHADA, CIDCO, DDA and LIG, MIG, HIG, and EWS schemes. **As such residential projects are very much needed for the country.** What needs to be ensured is the sustainability of large-scale projects at one place.

i.e., those that are above 20,000 sq.m.

107. Residential activity by itself if deserving welcome project/activity. It can be allowed to be retained when it is found otherwise compliant with LPA regulations and is otherwise sustainable from an environmental angle.

108. PP submits that destroying the already constructed project is not going to serve any purpose of the environment. The resources used in construction after demolition will be a national waste. This will further add to pollution and solid waste. As such otherwise sustainable and legally compliant projects as per LPA are the deserving projects for regularization.

EVERYONE WILL GO FOR POST-FACTO EC IF MOEFCC'S OM 07/07/2021 AND 28/01/2022 IS ALLOWED TO BE IMPLEMENTED

109. PP submits that just because post-facto EC is allowed, each PP will not go for it, as a matter of choice or alternative option. PP shall be facing criminal action and risk of going to jail, apart from the penalty.

110. By circumventing the EC requirement, PP is being saddled with extra expenses towards the 'Environmental Impact Assessment Study', 'Remediation Plan', and 'Community & Resource Augmentation Plan', apart from criminal cases against all Director/s and concerned Officials of the company.

111. **PP submits that the provision of regularization is there in many Acts and Rules, with a provision of penalty**. This is decided by the legislature by providing a penalty, and procedure for imposing punishment. Whatever is provided by the Parliament and legislature will be interpreted and enforced by the Authorities, Boards, Tribunals and Courts. **Just because there is a large-scale violation OR PP is taking recourse to this option, dispute-resolving Tribunals can't take it upon to themselves make a law or rule OR lynching in the name of environment to create fear amongst PP**. That would be amounting to creating eco-terrorism against sustainably retainable projects.

112. PP submits that the 'Project Proponent' promoting large schemes can't be saddled with undue EMP, costs and penalties so much so that they would be deterred from developing largescale well-planned residential projects with amenities like Club House, Swimming Pool, Gymnasium, medical centre, garden, play-ground, tree plantation, etc. which were otherwise being planned and provided by LPA. PP in that case will go for projects that are <20,000 sq.m that need no EMP and recurring costs associated with it. AND as an outcome of that,

113. **PP submits that the capital and recurring costs of all above amenities and EMP are finally imposed on the bonafide buyers of the residential premises.** These are common citizens of India, who deserve the quality and right to quality life guaranteed under Article 14 and 21.

Citizens would be deprived of development and in-house facilities if such eco-terrorism increases.

114. PP submits that the huge capital and recurring costs associated with EMP will be applicable only for the citizens of India staying in complexes above >20,000 sq.m. They would be paying double/twice for the same services being enjoyed through LPA, just because they are staying in projects above 20,000 sq.m area. Those who actually pay higher (including for their amenities which are free to other residents) can't be compelled to pay twice, and use the recycled somewhat inferior dirty water for flushing and gardening. Whereas those who don't do any good to the environment will totally escape the cost of EMP, simply because they stay in projects <20,000 sq.m in size. This discrimination is not what is envisaged through EIA Notification 14/09/2006; and is rather opposed by Article 14 and 21 of the Constitution of India.

115. The submissions are made in detail so that nothing is left to verbal communication. All issues are documented and recorded. As the matter is pending before the Hon'ble National Green Tribunal, the entire set of documents and records are placed before SEAC and SEIAA along with the application for EC. So that nothing is left unnoticed and unrecorded. These same submissions shall be also shared and placed before Hon'ble Tribunal as well.

116. PP submits that they have complied with all the requirements of Violation Notification 14/03/2017, OM dated 07/07/2021 and OM dated

28/01/2022. As PP has applied as per the valid provision of MOEFCC for EX POST FACTO EC, they are legally entitled for the post facto EC after strict compliance with the requirements of Notification.

117. **PP submits and urges with folded hands** that PP made a submission of these facts before SEIAA and SEAC 3 by making an application through the PARIVESH Portal. PP also received the ToR for the same. Let the Committee and Authority study the facts and do the appraisal on the basis of the merit of the case.

118. **PP hereby undertakes to follow all terms and conditions of the 'Environmental Clearance' granted, deposit the Bank Guarantee, implement the 'Environment Management Plan', 'Remediation Plan', 'Community & Resource Augmentation Plan' and submit the compliance report. Only after that the 'Bank Guarantee' may be released.**

119. On the basis of the above submission PP urge that Hon'ble Tribunal should hear the matter first on the grounds of the limitation and maintainability of this original application and then check the merit of the application. Also, PP urge that this application falls under the OM dated 07/07/2021 and 28/01/2022 therefore this needs to be studied and apprised by SEIAA Maharashtra only and not by Hon'ble NGT.

AND for this act of kindness, respondent as duty bound shall ever pray.

NOTARY JAGANNATH GOPINATH GHUGE REG. NO. 838 THROUGHT INDIA COMMISSION VALID TILL 20/07/2025 GOVERNMENT OF INDIA

Place: **Pune**
Date: **28/07/2023**

DEPONENT
Respondent No. 11

AFFIDAVIT AND VERIFICATION

I Alka Mandar Rege, age about 66 years, resident of the Residency Club, Queen's Garden Road, Camp, Pune 411001 do hereby state that **I have submitted this Affidavit on solemn affirmation and oath**.

I have verified that the facts are true to my personal knowledge. I have not suppressed any material fact known to me and relevant to this matter. Translation of it has been explained to me in brief in a language that I can understand.

Noted & Registered at Sr.No. A8676/2023

Place: **Pune**
Date: **28/07/2023**

DEPONENT
Respondent No. 11

Identified by & before me:

Advocate _____

BEFORE ME

JAGANNATH G. GHUGE
NOTARY
GOVT. OF INDIA

28 JUL 2023

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL

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Ax.A

APPENDIX I

(See Paragraph-6)

CATEGORY - B

Note : If space provided against any parameter is inadequate,Kindly upload supporting document under 'Additional Attachments if any' at the last part of the Form1. Please note that all such Annexures must be part of single pdf document.

(I)Basic Informations

S.No.	Item	Details
	Whether proposal involved violation of EIA notification	Yes
	Weather Consent to Establishment Obtained	No
	Upload copy of CTE	NA
1.	Name of the Project	Residential Project “Bramha Exuberance” at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune
	Proposal No	SIA/MH/MIS/76973/2022
2.	Project Sector	INFRA-2
3.	Location of the project	Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District-Pune, State-Maharashtra
4.	Shape of the project land	Block (Polygon)
	Uploaded GPS file	Annexure-GPS file
	Uploaded copy of survey of India Toposheet	Annexure-Survey of india toposheet
5.	Brief summary of project	Annexure-Brief summary of project
6.	State of the project	Maharashtra

Details of State of the project

S.no	State Name	District Name	Tehsil Name
(1.)	Maharashtra	Pune	Haveli
(2.)	Maharashtra	Pune	Haveli

7.	Town / Village	Kondhwa Khurd
8.	Plot/Survey/Khasra No.	S.No.13, H.No.1, 2 & 3, Kondhwa Khurd, Haveli, Pune
9.	S. No. in the schedule	8(a) Building and Construction projects
10.	Proposed capacity/area/length/tonnage to be handled/command area/lease area/number or wells to be drilled	50548.37 ha.
11.	New/Expansion/Modernization	New
12.	Category of project	B
13.	Does it attract the general condition? If yes, please specify	No
14.	Is there any court order to consider your project under 'A' Category if	Yes Annexure-Uploaded court order to consider your project under 'A' Category
15.	Does it attract the specific condition?	No

16.	Is there any litigation pending against the project?	Yes
	Attach court order(s) given in this regard	Annexure-Uploaded Attach court order(s) given in this regard
17.	Nearest railway station along with distance in kms.	Pune Railway Station, 8.1 km
18.	Nearest airport along with distance in kms	Pune International Airport, 14.8 km
19.	Nearest Town/City/District Headquarters along with distance in kms	Office of district collector , 7.7 km
20.	Distance of the project from nearest Habitation	4.6 , 4.6 km
21.	Details of alternative sites examined shown on a toposheet	No
22.	Whether part of interlinked projects?	No
23.	Whether the proposal involves approval/clearance under the Forest (Conservation)Act,1980?	No
24.	Whether the proposal involves approval/clearance under the wildlife (Protection)Act,1972?	No
25.	Whether the proposal involves approval/clearance under the C.R.Z notification,2011?	No
26.	Whether there is any Government Order/Policy relevent/relating to the site?	No
27.	Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up?	Yes
	(a)Name of the Court	NGT
	(b)Name of the Sub court	NGT Western Zone
	(c) Case No.	Original Application No. 65/2019 (WZ)
	(d) Orders/directions of the court, if any and relevance with the proposed project.	Attached as annexure
28.	Project Cost(in Lac.)	2733
30.	Whether the proposed project/activity located in notified Industrial area(Yes/No)	No

Activity

1 Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

S.No	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	Development was carried in line with the topography & without disturbing natural drainage pattern.

1975

			Proposed project has been approved by PMC.
1.2	Clearance of existing land, vegetation and buildings?	Yes	Residential project consisting of Wing A, B,C D & E have already been constructed.
1.3	Creation of new land uses?	Yes	Residential project has been constructed on the project site.
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	Pre-construction investigation was carried out as per relevant standards
1.5	Construction works?	Yes	Residential project consisting of Wing A, B,C D & E have already been constructed.
1.6	Demolition works?	No	No demolition work was required.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	Temporary sheds were provided for workers.
1.8	Above ground buildings, structures or earthworks including linear structures,cut and fill or excavations and fill or excavations	Yes	The excavated material was used within site for land filling
1.9	Underground works including mining or tunneling?	No	No underground works including mining / Tunnelling was required.
1.10	Reclamation works?	No	Not Applicable
1.11	Dredging?	No	Not Applicable
1.12	Offshore structures?	No	Not Applicable
1.13	Production and manufacturing processes?	No	Not Applicable
1.14	Facilities for storage of goods or materials?	No	This is a residential project.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Solid Waste: The municipal solid waste is segregated on site. The biodegradable waste is treated in Vermicomposting pits and the non-biodegradable waste is handed over to the local body. Sewage: STP has been provided to treat the sewage generation.
1.16	Facilities for long term housing of operational workers?	No	No, there is no facilities for long term housing of operational workers. This is a residential project.
1.17	New road, rail or sea traffic during construction or operation?	No	The movements of vehicles carrying construction material to and from the site was through the existing road only.
1.18	New road, rail, air water borne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	Existing road was used for the transport purpose.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	There was no diversion or closure of the existing transport routes and infrastructure.
1.20	New or diverted transmission lines or pipelines?	No	No new or diverted transmission lines or pipelines.
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Not Applicable

1.22	Stream crossings?	No	Not Applicable
1.23	Abstraction or transfers of water from ground or surface waters?	No	Not Applicable
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	The existing drainage system was upgraded by providing proper storm water and sewer network.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Construction phase: There was temporary movement of personnel, machines and materials during construction phase. The impact on the surroundings was negligible. Post construction: There is regular movement of vehicles and personnel in the operational phase.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not Applicable
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	There was no impact on the Environment, appropriate measure to minimize the effects due to construction activity were taken.
1.28	Influx of people to an area in either temporarily or permanently?	Yes	This being a residential project, there will be influx of occupants.
1.29	Introduction of alien species?	No	There won't be any introduction of alien species.
1.30	Loss of native species or genetic diversity?	No	No threat of species loss will occur.
1.31	Any other actions?	No	No other action with reference to construction.

2 Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	The land has been used for construction of Residential project.
2.2	Water (expected source & competing users) unit: KLD	Yes	1. Fresh water-123 m3/day 2. Recycled water (Flushing)- 62 m3/day 3. Recycled water (Gardening)- 17 m3/day 4. Recycled water (Vehicle Washing) 4 m3/day 5. Excess treated water- 72 m3/day 6. Total water requirement- 185 m3/day
2.3	Minerals (MT)	No	Since this is a residential project, there was no use of major minerals for construction.
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	Yes	Materials procured from local authorized dealer.
2.5	Forests and timber (source – MT)	Yes	Only door frames. Certified wood was used.
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT),energy (MW)	Yes	Source of power supply: Maharashtra State Electricity

1977

			Distribution Company Ltd. (MSEDCL) Power requirement: During operation phase: I) Max. demand load: 1,135 kW II) Connected load: 1,419 kW
2.7	Any other natural resources (use appropriate standard units)	No	No other natural resources used.

3 Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies	No	No hazardous material was used for construction
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	No such activity was carried out which will change or affect occurrence of vectors.
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	Proposed project has positively affected the welfare of people by providing state of art infrastructure. The project had provided job opportunities to skilled and unskilled local people.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.	No	People did not get affected by project, as project has provided good infrastructure to the people in operation phase. All necessary Environmental Management practices will be followed in true spirit.
3.5	Any other causes	No	Not Applicable.

4 Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	Not Applicable.
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Total solid waste -699kg/day 1.Bio-degradable waste-419 kg/day 2.Non-Biodegradable waste + Inert waste-280 kg/day 3.STP sludge-1.7nKg/day Dry waste is handed over to authorized vendor for further processing. Wet waste is treated in Vermicomposting pits.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	No	No hazardous waste is generated.
4.4	Other industrial process wastes	No	Not Applicable.

4.5	Surplus product	No	Not Applicable.
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Dried sludge used as manure for plantation & gardening purposes inside the premises.
4.7	Construction or demolition wastes	Yes	Construction waste was used for road and as filling material for levelling and road, pathway construction.
4.8	Redundant machinery or equipment	No	No redundant machinery or equipment were used at project site.
4.9	Contaminated soils or other materials	No	No contamination of soil.
4.10	Agricultural wastes	No	Not applicable
4.11	Other solid wastes	No	No any other solid waste generated at project site.

5 Release of pollutants or any hazardous, toxic or noxious substances to air(Kg/hr)

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Vehicular movement and DG set is sources of air pollution. D.G Set is used only in case of Power Failure.
5.2	Emissions from production processes	No	Not Applicable
5.3	Emissions from materials handling including storage or transport	No	Not Applicable
5.4	Emissions from construction activities including plant and equipment	Yes	Dust emissions occurred during excavation and earthwork. Proper care was taken to reduce dust emission.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust was generated during transport and handling of material.
5.6	Emissions from incineration of waste	No	No incineration of waste was carried out at site.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	No burning of waste was carried out at site.
5.8	Emissions from any other sources	No	None as this project is a Residential project.

6 Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Construction phase: The significant source of noise pollution was the

1979

			machinery used for construction and vehicular movement. Operation phase: During operation phase the only source of noise is operation of vehicular traffic and DG sets however, DG set is operated during power failure only.
6.2	From industrial or similar processes	No	Not Applicable.
6.3	From construction or demolition	Yes	The construction activities included the noise generating activities i.e. Excavation activities etc., Concreting and mixing, Heavy vehicle movement, Operation of D.G sets. Precautions were taken to control noise pollution i.e. High noise generating activities were carried out during day time only, workers working near high noise machinery were provided with ear muffs/ear plugs, Acoustic enclosure for DG Set were provided.
6.4	From blasting or piling	No	No blasting activities were carried out.
6.5	From construction or operational traffic	Yes	During construction phase: Precautions were taken to reduce the impacts of the vehicular movement such as vehicular trips were not in peak traffic hours during the construction phase. During operation phase: The vehicular parking is restricted only in the adequate parking area provided, which helps in reducing noise pollution due to traffic congestion. Adequate tree plantation done also helps to reduce the noise level and enhance air quality
6.6	From lighting or cooling systems	Yes	Noise generation from DG sets.
6.7	From any other sources	No	Not Applicable

7 Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	Not Applicable
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	The sewage generated is treated in STP. The treated sewage from STP is utilized for gardening, vehicle washing etc. thus there is impact on the surface / ground water.
7.3	By deposition of pollutants emitted to air into the land or into water	No	No risk of contamination due to pollutants in air or water.
7.4	From any other sources	No	Not Applicable
7.5	Is there a risk of long term build up of pollutants in the	No	Not Applicable

64

	environment from these sources?		

8 Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	No production of hazardous substances is involved. This is a residential project.
8.2	From any other causes	No	Not Applicable
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	The project falls under seismic zone-III as per IS1893 (Part-1):2002. The structural design shall be accordingly performed. Hence, no risk due to natural hazards is envisaged

9 Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: ◦ Supporting infrastructure (roads, power supply,waste or waste water treatment, etc.) ◦ housing development ◦ extractive industries ◦ supply industries ◦ Other	Yes	The project provided a well-designed area for the new occupants with supporting infrastructure like RWH, STP etc.
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not Applicable
9.3	Set a precedent for later developments	No	Not Applicable
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Proposed project land will be used for residential purpose and will not have major effects on environment.

(III) Environmental Sensitivity

S.No	Areas	Name/Identity	Aerial distance (within 15km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or	No	Nil in 15 km Radius of the project site.

1981

	other related value		
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	Mutha River: 6.67 km Mula Mutha River: 7.49 km Jambulwadi Lake: 7 km Katraj Snake Park Lake: 4 km Katraj Lake: 4.76 km Pisoli Lake: 5.53 km Pashan Lake: 12.93 Khadakwasla Lake: 13.80 km
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	Nil in 15 km Radius of the project site.
4	Inland, coastal, marine or underground waters	Yes	Mutha River: 6.67 km Mula Mutha River: 7.49 km Jambulwadi Lake: 7 km Katraj Snake Park Lake: 4 km Katraj Lake: 4.76 km Pisoli Lake: 5.53 km Pashan Lake: 12.93 Khadakwasla Lake: 13.80 km
5	State, National boundaries	No	Nil in 15 km Radius of the project site.
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	Nil in 15 km Radius of the project site.
7	Defence installations	Yes	Viman Nagar: 10.34 km
8	Densely populated or built-up area	Yes	Fully urbanized area.
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Yes	Hospital 1. Sana Hospital: 550 m 2. Lifeline Hospital: 440 km 3. Omkar Hospital: 2.78 km 4. Adarsh Hospital: 2.45 km School 1. Iqra English School: 2.21 km 2. Maruti Badhe Memorial School: 2.77 km 3. Sinhgad City School:3.27 km 4. Creative English Medium School: 2.63 Worship place 1. Sai Temple: 1.63 km 2. ISKCON NVCC: 3.40 km 3. Good Shepherd Church of India: 3.23 km
10	Areas containing important, high quality or scarce resources. (ground water resources,surface resources,forestry,agriculture,fisheries,tourism,minerals)	Yes	Mutha River: 6.67 km Mula Mutha River: 7.49 km Jambulwadi Lake: 7 km Katraj Snake Park Lake: 4 km Katraj Lake: 4.76 km Pisoli Lake: 5.53 km Pashan Lake: 12.93 Khadakwasla Lake: 13.80 km
11	Areas already subjected to pollution or environmental damage.(those where existing legal environmental standards are exceeded)	Yes	Bhairavnath Lake is 0.3 km away from proposed project site.
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No	Nil in 15 km Radius of the project site.

(IV) PROPOSED TERMS OF REFERENCE FOR EIA STUDIES

1	**Uploaded Proposed TOR File**	Annexure-TOR file
2	**Uploaded scanned copy of covering letter**	Annexure-scanned copy of covering letter
3	**Uploaded Pre-Feasibility report(PFR)**	Annexure-PFR

66

4	**Uploaded additional attachments(only single pdf file)**	Annexure-Additional attachments

(V) Undertaking

The aforesaid application and documents furnished here with are true to my knowledge

V. (i)	Name	BRAMHACORP LIMITED
	Designation	DGM- Design & Development
	Company	BRAMHACORP LIMITED
	Address	The Residency Club, 3 Queen's Garden Road, Camp, Pune -411001

Essential Details Sought

S. No.	EDS Sought Date	EDS Sought	Letter
NO Record			

Additional Details Sought

S. No.	ADS Sought Date	ADS Sought	Letter
NO Record			

Transferred Details(Category A To B)

S. No.	Category A(Proposal No)	Category B(Proposal No)	Transferred Date	Reason	Letter
NO Record					

Ax.B

Item No.05 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

(By Video Conferencing)

Original Application No. 65/2019(WZ) with
I.A. No. 102/2019(WZ)

Mr. Ajay Jayvantrao Bhosale

.....Applicant

Versus

Union of India Through Secretary & Ors.

....Respondent(s)

Date of hearing: 09.11.2022

CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER

Applicants	:	Mr. Nitin Lonkar, Advocate
Respondents	:	Mr. Rahul Garg, Advocate for R- 1, 8 & 9 Mr. Aniruddha Kulkarni, Advocate for R- 4 Ms. Mansi Joishi, Advocate for R- 6 & 7 Mr. R. B. Mahabal, Advocate for R- 11 Mr. Saket Mone, Advocate for R-13

ORDER

1. From the side of Applicant, Learned counsel Mr. Nitin Lonkar has appeared.

2. From the side of Respondent No. 1/ MoEF&CC, Learned counsel Mr. Rahul Garg has appeared and apprised us that reply- affidavit has already been filed.

3. From the side of Respondent No.4 / SEIAA, learned counsel Mr. Aniruddha Kulkarni has appeared.

4. From the side of Respondent Nos. 6 & 7/ MPCB, learned counsel Ms. Mansi Joishi has appeared.

5. From the side of Respondent No.11/ Project Proponent, Learned counsel Mr. R. B. Mahabal has appeared and apprised us that he has

moved an application before Respondent No. 4/SEIAA dated 14th May, 2022, seeking *ex-post facto* environmental clearance under the Office Memorandum dated 07/07/2021 under the violation category which is pending. In the said application it has been clarified by them that the construction of the project with FSI area of 14,805.95 Sq. Mtrs. was started which comprised of five residential buildings. 248 flats were constructed in 2005 as per the sanction plan dated 14.9.2005. The work was completed in the year 2009 and the occupancy certificate was granted to the project on 4.12.2009. The society registration was done on 29.8.2011 and the possession of the flats and buildings were handed over to the buyers' residents' society in the year 2012. At the time of the construction in the year 2005, there was no EC Notification. Thereafter also, the FSI area was considered as the deciding factor for the requirement of EC which was less than 20.000 Sq. Mtrs i.e. 14,805.95 Sq.Mtrs. (till the last building plan revision in the year 2005). The total cost of the buildings which is now the deciding factor was clarified in the MoEF&CC Notification dated 04/04/20211. The total cost of the buildings A,B,D and E was Rs. 15 crore. The earlier sanctioned plan of the year 2005 had all the buildings A, B, C, D, and E. But Project Proponent did not construct building C as it was not economically viable. After 12 years from the starting of the project and 8 years after completion of the first project and 6 years after handing over of the earlier project from the buyers, in the year 2017, now the Project Proponent has decided to construct Building No. C, with its total built – up construction area of 7,420.18 Sq. Mtrs. by changes in one residential building C of 55 flats vide sanction dated 21.06.2017. It is stated to be cause of action in the present case. The plan for this building 'C' was submitted in the year 2014 and the commencement certificate was issued on 15/07/2014.

6. Further, It is submitted that earlier the project did not need EC as the project had started prior to EC Notification and the FSI was less

than 20,000 Sq. Mtrs. The Project Proponent thought that regarding earlier buildings, the project was completed in all respects and the possession was given to the buyers' society. As such the construction of building No. 'C' would be a new project. Hence, the same would be treated separately, as there is nothing in common, as the utilization of the earlier assets were handed over along-with the buildings to the earlier buyers. The building 'C' was also shown in the old sanctioned layout of the project dated 14.09.2005, If the same is treated as part of the pre-sanctioned old project, then it would not require the EC as the project was old and not new. Now the matter is pending before the SEIAA for consideration. Therefore, it is urged by learned counsel Mr. R. B. Mahabal that this matter may be taken after the application is decided by the SEIAA as same would facilitate this Tribunal to reach correct conclusion in the present case.

7. He further urged that in case this Tribunal wants to proceed with the hearing, he would pray that ground of limitation be taken into consideration first, because in any case the present original application is extremely time barred and needs to be dismissed on that count.

8. From the side of the applicant, the contention of the learned counsel for the Project Proponent is vehemently opposed saying that the total area of the survey number on which project was proposed is 17433.10 Sq. Mtrs. and that all the buildings A,B,C and D were proposed to be constructed on the said land/ survey number. Therefore, there could be no separation with respect to construction of buildings 'C'.

9. The learned counsel for the Project Proponent has admitted the violation to have been done because of which only, he has approached for grant of *ex-post facto* Environmental Clearance.

10. He further vehemently argued that this matter should be decided in totality at the earliest because if the Tribunal provides an opportunity to the Project Proponent to have his application moved before SEIAA decided first, that would mean that any such Project Proponent would

start indulging in violations and would start moving applications under violation clause before the SEIAA and would keep the matter pending for indefinite period.

11. We are of the opinion that the project was started in the year 2005 and the major portion of construction was completed long back and thereafter in the year 2017, this matter has been brought before us, therefore, it would be appropriate to deal with the limitation issue first as has been pressed by the learned counsel for the Project Proponent. However, we also deem it appropriate that the SEIAA, before which the application dated 14/01/2022 for *ex-post facto* Environmental Clearance is pending should be directed to decide the same within a period of one month from today, particularly in this matter and direct accordingly.

12. Learned counsel for the Applicant has submitted his additional rejoinder affidavit dated 8/11/2022 and the copy of the same has been provided to the other parties. Therefore, if any affidavit in rebuttal is required to be filed by them, it be filed within a period of two weeks.

13. Put up this matter on 10th January, 2023.

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

November 9, 2022.
Original Application No. 65/2019(WZ) with
I. A. No. 102/2019
S. J.

Index for Annexure-C

Sr.	Date	Particulars	Page
1.	2022.05.14	Covering Letter	2-4
2.	2022.05.17	ToR Application	5-14
3.	2022.05.17	Acknowledgement Slip for TOR	15
4.	2022.05.17	Gmail - Acceptance Letter for TOR Application (SEIAA)	16
5.		Consolidated Statement	17-20
6.	2022.07.21	ToR Presentation for the 147th SEAC-III meeting, Sr. no.36	21-43
7.	2022.07.21	Minutes of the 147th SEAC-III meeting	44-49
8.	2022.08.17	ToR Presentation for the 248th SEIAA meeting, Sr. no.66	
9.	2022.08.17	Minutes of the 248th SEIAA meeting	50-54
10.	2022.08.18	Received corrected minutes of the 147th SEAC-III meeting	55-59
11.	2022.09.22	ToR Presentation for the 152nd SEAC-III meeting, Sr. no.23	
12.	2022.09.22	Minutes of the 152nd SEAC-III meeting	60-65
13.	2023.03.08	ToR Presentation for the 165th SEAC-III meeting, Sr. no.14	66-89
14.	2023.03.08	Minutes of the 165th SEAC-III meeting-Recommend the proposal to SEIAA for grant of ToR	90-104
15.	2023.04.19	ToR Presentation for the 259th SEIAA meeting, Sr. no.44	105-133
16.	2023.04.19	Minutes of the 259th SEIAA meeting-Granted ToR as per recommendation of SEAC	134-146
17.	2023.04.20	ToR letter received	147-160
18.	2023.06.12	Filled Application for EC Form-1(Part-C)	161-164
19.		Environmental Impact Assessment report	165-641
20.	2023.06.12	Acceptance Letter for EC Application (SEIAA) (EIA)	642

BRAMHACORP
LIMITED

14th May, 2022

To,
The Member Secretary,
State Environment Impact Assessment Authority,
Environment Department, Govt. of Maharashtra
15th floor, New Administrative Building,
Mantralaya, Mumbai-400032

Subject: **Application for Environment Clearance as per OM 07.07.2021 and OM 28.01.2022 under EIA Notification 14.09.2006, following the procedures laid down in above and Violation Notification 14.03.2017**

Project: **Bramha Corp Ltd.**
Residential project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Village - Kondhwa Khurd, Taluka - Haveli, District - Pune, Maharashtra.

Sir/Madam,

1. We, Bramha Corp Limited, are applying for Environment Clearance for the Residential project "Bramha Exuberance" at S.No.13, H.No.1, 2 & 3, Village - Kondhwa Khurd, Taluka - Haveli, District - Pune, Maharashtra.

2. We had started the construction of the project with FSI area of **14,805.95 m².** It comprises 5 residential buildings, 248 flats in 2005 as per the Sanctioned plan No. DPO5191/VI/39 dated 14.09.2005. The work was completed in the year 2009. The Occupancy Certificate was granted to the project on 04.12.2009. Society registration was done on 29.08.2011 and the possession of the flats and buildings was handed over to the buyers' residents' society in the year 2012.

3. At the time of the construction in the year 2005, there was no EC Notification, Thereafter also, the FSI area was considered as the deciding factor for the requirement of Environment clearance, which was less than 20,000 m² i.e. 14,805.95 m² (till the last building plan revision in the year 2005) The term 'total covered built-up construction area' which is now a deciding factor was clarified in the MoEF&CC OM dated 04.04.2011. The TOTAL cost of the Bldgs. No. A B D and E was Rs.15 Crore. The ready

deciding factor was clarified in the MoEF&CC OM dated 04.04.2011. The TOTAL cost of the Bldgs. No. A B D and E was Rs.15 Crore. The ready reckoner price in the year 2005 was Rs. 18,17,500/m^2 and in the year 2009 was Rs.38,85,000/m^2.

4. The earlier sanctioned plan of the year 2005 had all buildings A, B, C, D, and E. But we did not construct building C. **It was not economically viable** as the selling cost was not permitting buying the TDR from the open market.

5. After 12 years from starting the project AND 8 years after completion of the first project AND 6 years after handing over of the earlier project to the buyers, in the year 2017, we decided to construct Building No. C, with its 'total covered built-up construction area' of 7,420.18 m^2 by changes in 1 residential building C of 55 flats vide sanction no. CC/0819/17 dated 21.06.2017.

6. The plan for this building C was submitted in the year 2014, and Commencement Certificate was issued on 15.07.2014.

7. PROPOSITION NO.1: The earlier project did not need EC as the project had started prior to EC Notification and the FSI was <20,000m^2. PP thought that the earlier buildings, the project was complete in all respect, OC is obtained and possession was given to buyers' society. As such this will be a new project. Hence these two projects (buildings) are to be treated separately, separated by a period of over five years. There is nothing in common, as far as utilization of the earlier assets handed over along with buildings to earlier buyers.

8. PROPOSITION NO.2: This building C was also shown in the old, sanctioned layout of the project dated 14.09.2005. If this is treated as part of the pre-sanctioned OLD PROJECT, then it won't require the EC as the project was OLD and not NEW as per Clause 2(i).

BRAMHACORP
LIMITED

9. Therefore, even the local Planning Authority did not ask the EC from approving the plans till they granted the OC. The TOTAL cost of the Bldg. No. C was Rs.12.33 Crore. The ready reckoner price in the year 2005 was Rs. 18,17,500/m^2 and in the year 2014 was Rs. 99,64,800/m^2.

10. Now the matter has been filed in the NGT OA 65/2019. Hence PP decided to apply under the violation category in accordance with the Office Memorandum dated **07.07.2021** issued by the Ministry of Environment, Forest and Climate Change (MoEFCC), New Delhi vide F. No.22-21/2022.IA.III which prescribes Standard Operation Procedure for Identification and Handling of Violation Cases under EIA Notification 2006.

11. This application is also supported by MoEFCC's Office Memorandum dated 28.01.2022 vide F. No. 22-21/2020-IA.III (E 138949).

12. We have submitted duly filled Form 1 & 1A with the building plans that are approved as per the DC Rules, constructed and granted the OC. This shows that the project is in compliance with the DC Rules.

13. We would therefore request you to consider our application for Environment Clearance for above said project and expedite the process.

Thanking you,
Yours faithfully,
For Bramha Corp Ltd.

Jadeja Shah

Authorized Signatory

Enclosures: Form 1 & 1A & Conceptual plan

1991

ToR Application

APPENDIX I

(See Paragraph-6)

CATEGORY - B

Note : If space provided against any parameter is inadequate,Kindly upload supporting document under 'Additional Attachments if any' at the last part of the Form1. Please note that all such Annexures must be part of single pdf document.

(I)Basic Informations

S.No.	Item	Details
	Whether proposal involved violation of EIA notification	Yes
	Weather Consent to Establishment Obtained	No
	Upload copy of CTE	NA
1.	Name of the Project	Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune
	Proposal No	SIA/MH/MIS/76973/2022
2.	Project Sector	INFRA-2
3.	Location of the project	Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District-Pune, State-Maharashtra
4.	Shape of the project land	Block (Polygon)
	Uploaded GPS file	Annexure-GPS file
	Uploaded copy of survey of India Toposheet	Annexure-Survey of india toposheet
5.	Brief summary of project	Annexure-Brief summary of project
6.	State of the project	Maharashtra

Details of State of the project

S.no	State Name	District Name	Tehsil Name
(1.)	Maharashtra	Pune	Haveli
(2.)	Maharashtra	Pune	Haveli

7.	Town / Village	Kondhwa Khurd
8.	Plot/Survey/Khasra No.	S.No.13, H.No.1, 2 & 3, Kondhwa Khurd, Haveli, Pune
9.	S. No. in the schedule	8(a) Building and Construction projects
10.	Proposed capacity/area/length/tonnage to be handled/command area/lease area/number or wells to be drilled	50548.37 ha.
11.	New/Expansion/Modernization	New
12.	Category of project	B
13.	Does it attract the general condition? If yes, please specify	No
14.	Is there any court order to consider your project under 'A' Category if	Yes Annexure-Uploaded court order to consider your project under 'A' Category
15.	Does it attract the specific condition?	No

16.	Is there any litigation pending against the project?	Yes
	Attach court order(s) given in this regard	Annexure-Uploaded Attach court order(s) given in this regard
17.	Nearest railway station along with distance in kms.	Pune Railway Station, 8.1 km
18.	Nearest airport along with distance in kms	Pune International Airport, 14.8 km
19.	Nearest Town/City/District Headquarters along with distance in kms	Office of district collector , 7.7 km
20.	Distance of the project from nearest Habitation	4.6 , 4.6 km
21.	Details of alternative sites examined shown on a toposheet	No
22.	Whether part of interlinked projects?	No
23.	Whether the proposal involves approval/clearance under the Forest (Conservation)Act,1980?	No
24.	Whether the proposal involves approval/clearance under the wildlife (Protection)Act,1972?	No
25.	Whether the proposal involves approval/clearance under the C.R.Z notification,2011?	No
26.	Whether there is any Government Order/Policy relevent/relating to the site?	No
27.	Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up?	Yes
	(a)Name of the Court	NGT
	(b)Name of the Sub court	NGT Western Zone
	(c) Case No.	Original Application No. 65/2019 (WZ)
	(d) Orders/directions of the court, if any and relevance with the proposed project.	Attached as annexure
28.	Project Cost(in Lac.)	2733
30.	Whether the proposed project/activity located in notified Industrial area(Yes/No)	No

Activity

1 Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

S.No	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	No	Development was carried in line with the topography & without disturbing natural drainage pattern.

1993

			Proposed project has been approved by PMC.
1.2	Clearance of existing land, vegetation and buildings?	Yes	Residential project consisting of Wing A, B,C D & E have already been constructed.
1.3	Creation of new land uses?	Yes	Residential project has been constructed on the project site.
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	Pre-construction investigation was carried out as per relevant standards
1.5	Construction works?	Yes	Residential project consisting of Wing A, B,C D & E have already been constructed.
1.6	Demolition works?	No	No demolition work was required.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	Temporary sheds were provided for workers.
1.8	Above ground buildings, structures or earthworks including linear structures,cut and fill or excavations and fill or excavations	Yes	The excavated material was used within site for land filling
1.9	Underground works including mining or tunneling?	No	No underground works including mining / Tunnelling was required.
1.10	Reclamation works?	No	Not Applicable
1.11	Dredging?	No	Not Applicable
1.12	Offshore structures?	No	Not Applicable
1.13	Production and manufacturing processes?	No	Not Applicable
1.14	Facilities for storage of goods or materials?	No	This is a residential project.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Solid Waste: The municipal solid waste is segregated on site. The biodegradable waste is treated in Vermicomposting pits and the non-biodegradable waste is handed over to the local body. Sewage: STP has been provided to treat the sewage generation.
1.16	Facilities for long term housing of operational workers?	No	No, there is no facilities for long term housing of operational workers. This is a residential project.
1.17	New road, rail or sea traffic during construction or operation?	No	The movements of vehicles carrying construction material to and from the site was through the existing road only.
1.18	New road, rail, air water borne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	Existing road was used for the transport purpose.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	There was no diversion or closure of the existing transport routes and infrastructure.
1.20	New or diverted transmission lines or pipelines?	No	No new or diverted transmission lines or pipelines.
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Not Applicable

78

1.22	Stream crossings?	No	Not Applicable
1.23	Abstraction or transfers of water from ground or surface waters?	No	Not Applicable
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	The existing drainage system was upgraded by providing proper storm water and sewer network.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Construction phase: There was temporary movement of personnel, machines and materials during construction phase. The impact on the surroundings was negligible. Post construction: There is regular movement of vehicles and personnel in the operational phase.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not Applicable
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	There was no impact on the Environment, appropriate measure to minimize the effects due to construction activity were taken.
1.28	Influx of people to an area in either temporarily or permanently?	Yes	This being a residential project, there will be influx of occupants.
1.29	Introduction of alien species?	No	There won't be any introduction of alien species.
1.30	Loss of native species or genetic diversity?	No	No threat of species loss will occur.
1.31	Any other actions?	No	No other action with reference to construction.

2 Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	The land has been used for construction of Residential project.
2.2	Water (expected source & competing users) unit: KLD	Yes	1. Fresh water-123 m3/day 2. Recycled water (Flushing)- 62 m3/day 3. Recycled water (Gardening)- 17 m3/day 4. Recycled water (Vehicle Washing) 4 m3/day 5. Excess treated water- 72 m3/day 6. Total water requirement- 185 m3/day
2.3	Minerals (MT)	No	Since this is a residential project, there was no use of major minerals for construction.
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	Yes	Materials procured from local authorized dealer.
2.5	Forests and timber (source – MT)	Yes	Only door frames. Certified wood was used.
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT),energy (MW)	Yes	Source of power supply: Maharashtra State Electricity

1995

			Distribution Company Ltd. (MSEDCL) Power requirement: During operation phase: I) Max. demand load: 1,135 kW II) Connected load: 1,419 kW
2.7	Any other natural resources (use appropriate standard units)	No	No other natural resources used.

3 Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies	No	No hazardous material was used for construction
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	No such activity was carried out which will change or affect occurrence of vectors.
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	Proposed project has positively affected the welfare of people by providing state of art infrastructure. The project had provided job opportunities to skilled and unskilled local people.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.	No	People did not get affected by project, as project has provided good infrastructure to the people in operation phase. All necessary Environmental Management practices will be followed in true spirit.
3.5	Any other causes	No	Not Applicable.

4 Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	Not Applicable.
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Total solid waste -699kg/day 1.Bio-degradable waste-419 kg/day 2.Non-Biodegradable waste + Inert waste-280 kg/day 3.STP sludge-1.7nKg/day Dry waste is handed over to authorized vendor for further processing. Wet waste is treated in Vermicomposting pits.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	No	No hazardous waste is generated.
4.4	Other industrial process wastes	No	Not Applicable.

4.5	Surplus product	No	Not Applicable.
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Dried sludge used as manure for plantation & gardening purposes inside the premises.
4.7	Construction or demolition wastes	Yes	Construction waste was used for road and as filling material for levelling and road, pathway construction.
4.8	Redundant machinery or equipment	No	No redundant machinery or equipment were used at project site.
4.9	Contaminated soils or other materials	No	No contamination of soil.
4.10	Agricultural wastes	No	Not applicable
4.11	Other solid wastes	No	No any other solid waste generated at project site.

5 Release of pollutants or any hazardous, toxic or noxious substances to air(Kg/hr)

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Vehicular movement and DG set is sources of air pollution. D.G Set is used only in case of Power Failure.
5.2	Emissions from production processes	No	Not Applicable
5.3	Emissions from materials handling including storage or transport	No	Not Applicable
5.4	Emissions from construction activities including plant and equipment	Yes	Dust emissions occurred during excavation and earthwork. Proper care was taken to reduce dust emission.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust was generated during transport and handling of material.
5.6	Emissions from incineration of waste	No	No incineration of waste was carried out at site.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	No burning of waste was carried out at site.
5.8	Emissions from any other sources	No	None as this project is a Residential project.

6 Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Construction phase: The significant source of noise pollution was the

1997

			machinery used for construction and vehicular movement. Operation phase: During operation phase the only source of noise is operation of vehicular traffic and DG sets however, DG set is operated during power failure only.
6.2	From industrial or similar processes	No	Not Applicable.
6.3	From construction or demolition	Yes	The construction activities included the noise generating activities i.e. Excavation activities etc., Concreting and mixing, Heavy vehicle movement, Operation of D.G sets. Precautions were taken to control noise pollution i.e. High noise generating activities were carried out during day time only, workers working near high noise machinery were provided with ear muffs/ear plugs, Acoustic enclosure for DG Set were provided.
6.4	From blasting or piling	No	No blasting activities were carried out.
6.5	From construction or operational traffic	Yes	During construction phase: Precautions were taken to reduce the impacts of the vehicular movement such as vehicular trips were not in peak traffic hours during the construction phase. During operation phase: The vehicular parking is restricted only in the adequate parking area provided, which helps in reducing noise pollution due to traffic congestion. Adequate tree plantation done also helps to reduce the noise level and enhance air quality
6.6	From lighting or cooling systems	Yes	Noise generation from DG sets.
6.7	From any other sources	No	Not Applicable

7 Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	Not Applicable
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	The sewage generated is treated in STP. The treated sewage from STP is utilized for gardening, vehicle washing etc. thus there is impact on the surface / ground water.
7.3	By deposition of pollutants emitted to air into the land or into water	No	No risk of contamination due to pollutants in air or water.
7.4	From any other sources	No	Not Applicable
7.5	Is there a risk of long term build up of pollutants in the	No	Not Applicable

82

	environment from these sources?		

8 Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	No production of hazardous substances is involved. This is a residential project.
8.2	From any other causes	No	Not Applicable
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	The project falls under seismic zone-III as per IS1893 (Part-1):2002. The structural design shall be accordingly performed. Hence, no risk due to natural hazards is envisaged

9 Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: ◦ Supporting infrastructure (roads, power supply,waste or waste water treatment, etc.) ◦ housing development ◦ extractive industries ◦ supply industries ◦ Other	Yes	The project provided a well-designed area for the new occupants with supporting infrastructure like RWH, STP etc.
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not Applicable
9.3	Set a precedent for later developments	No	Not Applicable
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Proposed project land will be used for residential purpose and will not have major effects on environment.

(III) Environmental Sensitivity

S.No	Areas	Name/Identity	Aerial distance (within 15km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or	No	Nil in 15 km Radius of the project site.

	other related value		
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	Mutha River: 6.67 km Mula Mutha River: 7.49 km Jambulwadi Lake: 7 km Katraj Snake Park Lake: 4 km Katraj Lake: 4.76 km Pisoli Lake: 5.53 km Pashan Lake: 12.93 Khadakwasla Lake: 13.80 km
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	Nil in 15 km Radius of the project site.
4	Inland, coastal, marine or underground waters	Yes	Mutha River: 6.67 km Mula Mutha River: 7.49 km Jambulwadi Lake: 7 km Katraj Snake Park Lake: 4 km Katraj Lake: 4.76 km Pisoli Lake: 5.53 km Pashan Lake: 12.93 Khadakwasla Lake: 13.80 km
5	State, National boundaries	No	Nil in 15 km Radius of the project site.
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	Nil in 15 km Radius of the project site.
7	Defence installations	Yes	Viman Nagar: 10.34 km
8	Densely populated or built-up area	Yes	Fully urbanized area.
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Yes	Hospital 1. Sana Hospital: 550 m 2. Lifeline Hospital: 440 km 3. Omkar Hospital: 2.78 km 4. Adarsh Hospital: 2.45 km School 1. Iqra English School: 2.21 km 2. Maruti Badhe Memorial School: 2.77 km 3. Sinhgad City School:3.27 km 4. Creative English Medium School: 2.63 Worship place 1. Sai Temple: 1.63 km 2. ISKCON NVCC: 3.40 km 3. Good Shepherd Church of India: 3.23 km
10	Areas containing important, high quality or scarce resources. (ground water resources,surface resources,forestry,agriculture,fisheries,tourism,minerals)	Yes	Mutha River: 6.67 km Mula Mutha River: 7.49 km Jambulwadi Lake: 7 km Katraj Snake Park Lake: 4 km Katraj Lake: 4.76 km Pisoli Lake: 5.53 km Pashan Lake: 12.93 Khadakwasla Lake: 13.80 km
11	Areas already subjected to pollution or environmental damage.(those where existing legal environmental standards are exceeded)	Yes	Bhairavnath Lake is 0.3 km away from proposed project site.
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No	Nil in 15 km Radius of the project site.

(IV) PROPOSED TERMS OF REFERENCE FOR EIA STUDIES

1	**Uploaded Proposed TOR File**	Annexure-TOR file
2	**Uploaded scanned copy of covering letter**	Annexure-scanned copy of covering letter
3	**Uploaded Pre-Feasibility report(PFR)**	Annexure-PFR

4	**Uploaded additional attachments(only single pdf file)**	Annexure-Additional attachments

2000

(V) Undertaking

The aforesaid application and documents furnished here with are true to my knowledge

V. (i)	Name	BRAMHACORP LIMITED
	Designation	DGM- Design & Development
	Company	BRAMHACORP LIMITED
	Address	The Residency Club, 3 Queen's Garden Road, Camp, Pune -411001

Essential Details Sought

S. No.	EDS Sought Date	EDS Sought	Letter
NO Record			

Additional Details Sought

S. No.	ADS Sought Date	ADS Sought	Letter
NO Record			

Transferred Details(Category A To B)

S. No.	Category A(Proposal No)	Category B(Proposal No)	Transferred Date	Reason	Letter
NO Record					

85

Acknowledgement Slip for TOR

This is to acknowledge that the proposal has been successfully uploaded on the portal. The proposal shall be examined by MS of SEIAA to ensure that required information has been submitted. An email will be sent for seeking additional information , if any, within 5 working days. Once verified, an acceptance letter shall be issued to the project proponent .

Following should be mentioned in further correspondence

1. Proposal No.	:	SIA/MH/MIS/76973/2022
2. Category of the Proposal	:	INFRA-2
3. Project/Activity applied for	:	8(a) Building and Construction projects
4. Name of the proposal	:	Residential Project “Bramha Exuberance” at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune
5. Date of submission for TOR	:	17 May 2022

6. Name of the Project proponent along with contact details

a) Name of the proponent	: BRAMHACORP LIMITED
b) Mobile No.	: 9096112225
c) State	: Maharashtra
d) District	: Pune
e) Pincode	: 411001

2002

Gmail - Acceptance Letter for TOR Application (SEIAA)

Gmail

Sachin Shah <mahabal.thane153@gmail.com>

Acceptance Letter for TOR Application(SEIAA)

1 message

dattatray.bhalerao@nic.in <dattatray.bhalerao@nic.in> Tue, May 17, 2022 at 3:57 PM
To: mahabal.thane153@gmail.com
Cc: monitoring-ec@nic.in, psec.env-1@maharashtra.gov.in

Acceptance Letter for TOR application

F.No.- SIA/MH/MIS/76973/2022

State Environment Impact Assessment Authority

Maharashtra

dattatray.bhalerao@nic.in

Dated: 17 May 2022

To,

BRAMHACORP LIMITED

, Pune

Maharashtra , 411001

Subject : Residential Project “Bramha Exuberance” at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune

Sir,

This has reference to your proposal No. SIA/MH/MIS/76973/2022 dated 17 May 2022 regarding grant of TORs for the above mentioned proposal.

2. This is to acknowledge that the soft copies of EIA/EMP/other reports along with the proceedings of Public Hearing (if applicable to the instant project) have been uploaded on Parivesh Portal.

Yours Sincerely

SEIAA, Maharashtra

Note: ***This is an automatically generated email, please do not reply***

Consolidated Statement for SIA/MH/MIS/76973/2022

1	Proposal Number	**SIA/MH/MIS/76973/2022**
2	Name of Project	Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra by Bramha Corp Ltd.
3	Project Category	8(a) B2 Category
4	Type of Institution	Private
5	Name of Project Proponent	Name: Mr. Sachin Shah Regd. Office address: The Residency Club, 3 Queen's Garden Road, Pune Maharashtra 411001 Contact number: 020-41423333 Email ID: ec@bramhacorp.in
6	Consultant	Mahabal Enviro Engineers Pvt. Ltd.
7	Applied for	Environmental Clearance
8	Details of previous EC	NA
9	Location of project	Sr. No.13, H. No. 1, 2, & 3 of Village- Kondhwa Khurd, Taluka- Haveli, Pune, Maharashtra
10	Latitude and Longitude	18°28'31.22"N, 73°53'42.44"E
11	Total Plot area (m^2)	17,433.10 m^2
12	Deductions (m^2)	2,833.35 m^2
13	Net Plot Area (m^2)	14,599.75 m^2
14	Proposed FSI Area (m^2)	21,798.69 m^2
15	Proposed Non-FSI Area (m^2)	28,749.68 m^2
16	Proposed Total BUA area (m^2)	50,548.37 m^2
17	TBUA (m^2) approved by Planning Authority till date	14,805.95 m^2 (FSI area) as per Sanctioned plan No. DPO5191/VI/39 dated 14.09.2005 & 50,548.37 m^2 as per sanction no. CC/0819/17 dated 21.06.2017.
18	Total ground coverage (m^2) & %	3,007.70 m^2 (20 %) of total net plot area
19	Total project cost (Rs.)	Rs. 27.33 Crore
20	CER as per MoEF & CC Circular dated 01.05.2018	Not applicable
21	Details of Building Configuration	

Sr.	Building Name	Configuration	Height (m)
1	A Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
2	B Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
3	C Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
4.	D Building	Lower Basement parking, Below podium parking,	34.90

				podium parking, 1st – 11th floor, terrace	
		5.	E Building	Below podium parking, podium parking, 1st – 11th floor, terrace – 54 tenements	34.90
22	Total number of tenements/shops/offices	Tenements: 249 Nos.			
	Number of expected residents / users	Total Population: 1,432 Nos.			
23	**Water Budget**				
				Dry Season	**Wet Season**
	Freshwater (in m^3/day)			123 m^3/day	123 m^3/day
	Recycled water (Flushing)			62 m^3/day	62 m^3/day
	Recycled water (Gardening)			17 m^3/day	9 m^3/day
	Swimming pool			NA	NA
	Total water requirement			185 m^3/day	185 m^3/day
	Wastewater generation			173 m^3/day	173 m^3/day
24	**Water Storage Capacity for Firefighting**				
	Firefighting (Underground water tank)	50 m^3			
	Firefighting (Overhead water tank)	50 m^3			
24	**Source of water**	Pune Municipal Corporation			
25	**Rain Water Harvesting (RWH)**				
	i) Level of the groundwater table	Groundwater table: 5 m to 6 m below ground level			
	ii) Size and no of RWH tank(s) and Quantity	NA			
	iii) Quantity and size of recharge pits	Total 2 no. of Borewell (1 no. of Borewell: Size 3'x3'x4.5")			
	iv) Details of UGT tanks if any:	Domestic UG domestic tank capacity: 377 m^3, Domestic UG Fire tank capacity: 50 m^3,			
26	**Sewage and wastewater Demand**	i) Sewage generation in KLD	173 m^3/day		
		ii) STP technology	MBBR		
		iii) No. and Capacity of STP	1 no. x 70 m^3/day Existing		
27	**Solid Waste Management during Construction phase**: 0 kg/day				
28	**Solid Waste Management during operation Phase**:				

Type	**Quantity (kg/day)**	**Treatment/disposal**
Total waste generation	699 kg/day	
Wet waste	419 kg/day	Through Organic Waste Converter. Generated manure used for gardening.
Dry waste	280 kg/day	Handed over to the authorized recycling agency
Hazardous waste	NA	NA
Biomedical waste	NA	NA

	STP sludge (dry)	1.7 kg/day	Used as manure
	E-waste	NA	NA

29 **Green Belt Development**

Total RG area	2,045.85 m^2
Existing trees on plot	392
Number of trees to be planted	NA
No of trees to be retained	NA
Number of trees to be transplanted/cut	NA

30 **Power requirement**

Source of power supply	MSEDCL
During Construction Phase (Demand Load)	NA
During Operation phase (Connected Load)	1,419 kW
During Operation phase (Demand Load)	1,135 kW
Transformer	1 nos. X 82.5 kVA
DG set	1 nos. X 82.5 kVA
Fuel Used	Diesel

31 **Details of Energy saving**

Energy Conservation Measures	**Quantity**
Energy-saving due to use of solar PV panels	5 %
Energy-saving due to CFL Lamp	NA
Energy-saving due to LED Lamp	NA
Energy-saving due to Electronic Ballast	NA
Energy savings due to VFD	NA
Overall energy saving	20%

32 **Environmental Management plan budget during Construction phase**

Component	**Parameter**	**Cost (Rs. In Lakhs)**
Air Environment	Water for dust suppression	8.0
	Water utilization for tree planted along with the plot boundary	1.0
	Vehicle maintenance, washing area, tyre cleaning	0.5
	Safety net	0.5
Water Environment	Site sanitation, Toilets, STP, safe drinking water	1.0
	Environment Monitoring	0.5
	Stormwater management	0.5
Socio-Economics Environment	Disinfection at site	1.0
Health & Safety	Health check-ups for workers, first aid kit	1.0
Noise Environment	Site fencing & noise barrier	1.0
	Traffic management	0.5
Training and awareness	Safety personal protective equipment & training programs	1.0
Total		**16.5**

33 **Environmental Management plan budget during Operation phase**

	Sr.	Component	Details	Capital cost (Rs. In Lakh)	O&M cost (Rs. In Lakh/year)
	1.	Storm water management	Laying of storm & Sewer line up to final disposal point	11.00	0.90
	2.	Sewage Treatment Plant	1 no. of STP having capacity 70 m^3/day existing & 110 m^3/day to be proposed	80.25	2.6
	3.	Rain Water Harvesting	1 no. of Borewell	1.90	0.5
	4.	Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	3.00	0.4
	5.	Landscape development	Tree Plantation	17.26	1.5
	6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	25.00	2.6
	7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	5.00	0.5
	8.	Firefighting system	Installation and operation of Fire Fighting system	14.50	1.7
	9.	Disaster Management		23.10	9.5
		Total		**181.01**	**20.2**

34	**Traffic Management:**	**Type**	**Required as per DCR**	**Actual Provided**	**Area per parking (m^2)**
		4 -wheeler	140 nos.	214nos.	2,675
		2 -wheeler	388 nos.	411 nos.	1,233
		Total			**4,458**
35	Details of Court cases / litigations w.r.t. the project and project location if any.	Yes Court case details- NGT Western zone bench at Pune – Case no.65/2019			

Terms of Reference (ToR)
Presentation to
State Expert Appraisal Committee-III
For
BramhaCorp Ltd

Proposed Residential Project

"Bramha Exuberance"

at

Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra

Consultant

Mahabal Enviro Engineers Pvt. Ltd.
Pollution monitoring, Engineers & Contractors in Environmental Management

Accreditation No.: QCI/NABET/ENV/ACO/22/2405
Re-Accreditation dated 24.06.2021 valid up 23.09.2022
147th SEAC-III Meeting, Item No.36, Date: 21.07.2022

Proposal no. SIA/MH/MIS/76973/2022

Project Summary

- "Bramha Exburence" is a residential project at sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BramhaCorp Ltd.
- We had started the construction of the project with 'FSI area of 14,805.95 m^2. It comprises of 5 residential buildings, 248 flats in 2005 as per the Sanctioned plan No. DPO5191/VI/39 dated 14.09.2005. The work was completed in the year 2009. The Occupancy Certificate was granted to the project on 04.12.2009. Society registration was done on 29.08.2011 and the possession of the flats and buildings was handed over to the buyers' residents' society in the year 2012.
- At the time of the construction in the year 2005, there was no EC Notification, Thereafter also, the FSI area was considered as the deciding factor for the requirement of Environment clearance, which was less than 20,000 m^2 i.e.14,805.95 m^2 (till the last building plan revision in year 2005)
- The earlier sanctioned plan of year 2005 had all buildings A, B, C, D and E. But we did not construct building C. **It was not economically viable** as the selling cost was not permitting buying the TDR from the open market.
- After 12 years from starting the project AND 8 years after completion of the first project AND 6 years after handing over of the earlier project to the buyers, in the year 2017, we decided to construct Building No. C, with its 'total covered built-up construction area' of 6500 m^2 by changes in 1 residential building C of 55 flats with B+G+F+11 floors vide sanction no. CC/0819/17 dated 21.06.2017.

63

2005

Project Summary Cont.

- The plan for this building C was submitted in the year 2014, and Commencement Certificate was issued on 15.07.2014.
- The earlier we unaware about project need EC as the project had started prior to EC Notification 2006 and the FSI was <20,000m^2. We thought that the earlier buildings, Building A, B, D & E were complete in all respect, OC was obtained on 04.12.2009 and possession was given to buyers' society. As such this will be a new Building C. Hence these two projects (buildings A, B, D,E & proposed C) are to be treated separately, separated by a period of over five years. There is nothing in common, as far as utilization of the earlier assets handed over along with buildings to earlier buyers.
- **Now the matter has been filed in the NGT OA 65/2019**. Hence We decided to apply under the violation category in accordance with the Office Memorandum dated **07.07.2021** issued by the Ministry of Environment, Forest and Climate Change (MoEFCC), New Delhi vide F. No.22-21/2022.IA.III
- This application is also supported by MoEF&CC's Office Memorandum dated 28.01.2022 vide F. No. 22-21/2020-IA.III (E 138949).
- We have applied for environmental clearance for the total construction area of 50,548.37 m^2 vide proposal no. SIA/MH/MIS/76973/2022 dated 17.02.2022.
- Project is accessible by 20 m wide DP Road.

Brief information

Sr.	Details	Information
1.1	Name of the project	“Bramha Exberance” - Residential Project by BrmhaCorp ltd
1.2	Screening category	8(a) category “Townships and Area Development projects”
1.3	Location details	Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, TalukaHaveli, District-Pune, State-Maharashtra
1.4	Project cost	**Rs.27.33 Crore**
1.5	Name, contact and email ID of the project proponent	**Bramha Corp Ltd.** Mr. Sachin Shah Telephone No.: 02041423333, Mobile No. 82639788/9325066422 E-mail: ec@bramhacorp.in Address: The Residency Club, 3 Queen’s Garden Road, Camp, Pune-411001
1.6	Name, contact and email ID of Environmental consultant	**Mahabal Enviro Engineers Pvt. Ltd.** Plot F-7, Road 21, MIDC Wagle Estate, Thane West - 400604 (022) 25823154, mahabal.thane@gmail.com
1.7	QCI Accreditation status	QCI/NABET/ENV/ACO/21/1967
1.8	Accreditation for the category	EIA consultant for sectors 1, 2, 4, 8, 9, 21, 22, 27, 31, 32, 33, 38 and 39
1.9	Ownership and land use in DP	Land use in DP-Residential
1.10	Any court case, litigation, if any	Yes, Case no NGT OA 65/2019

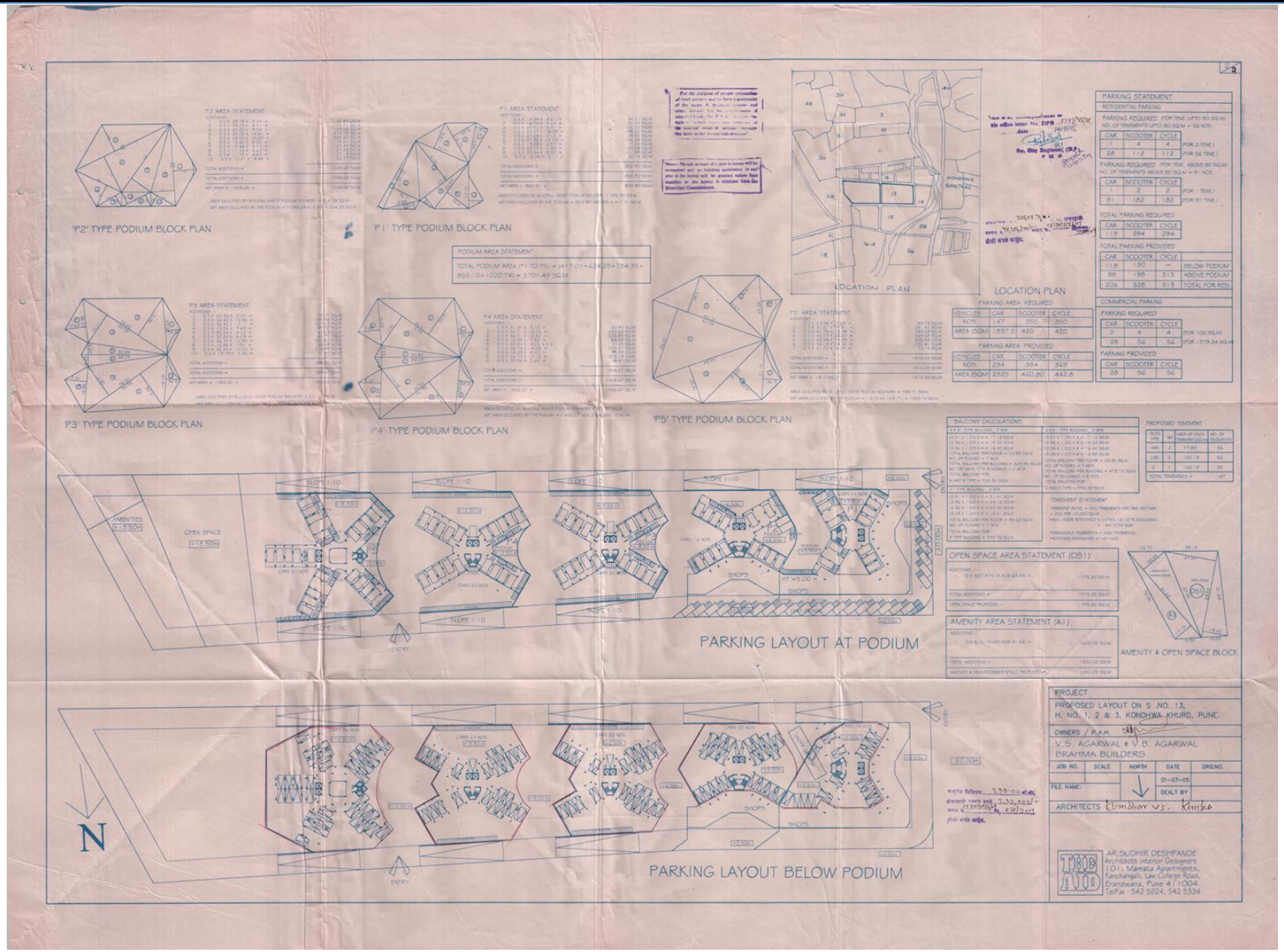
95

Google image

Latitude	18°28’30.41"N
Longitude	73°53’43.23"E

2011

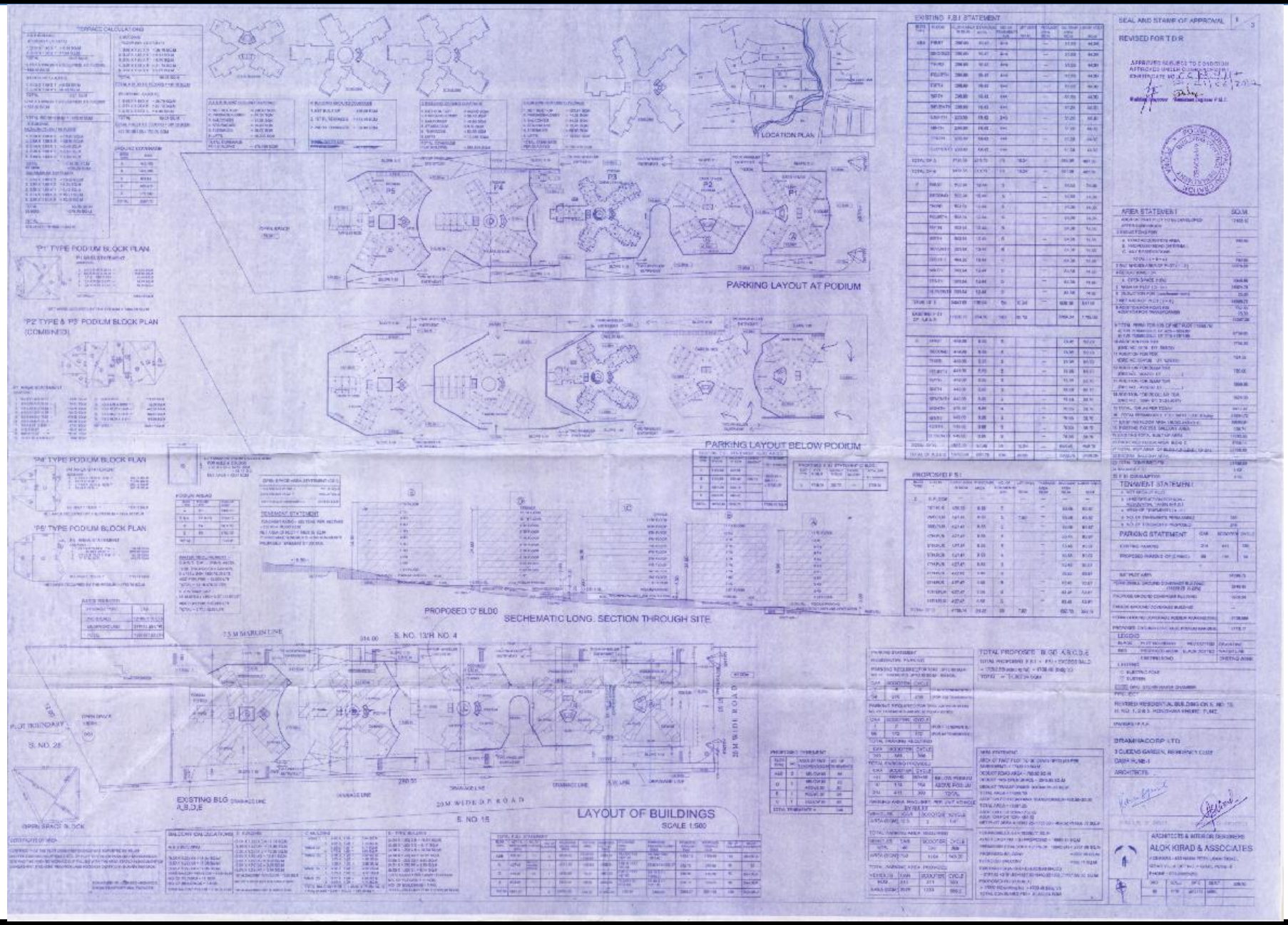
Sanctioned plan_2005



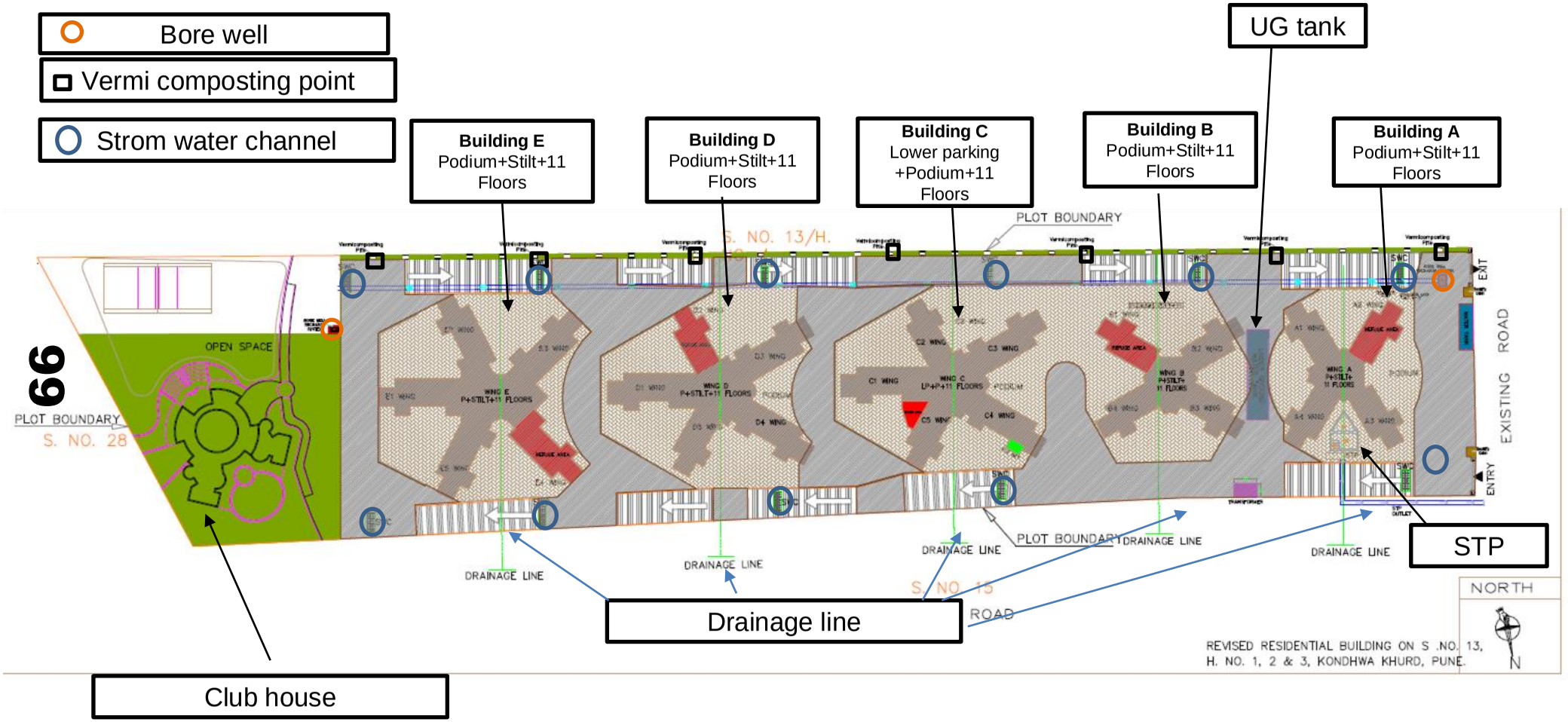
97

2011

Sanctioned plan_2017



Master layout



Area statement

Description	Area (m^2)
Plot area	17,433.10
Deductions	2,833.35
Net plot area	14,599.75
Total proposed F.S.I area	21,798.69
Total Non F.S.I. area	28,749.68
Total construction area	50,548.37

FSI & Non FSI area statement

Sr.	Particulars	Building A	Building B	Building C	Building D	Building E	Total
1	**FSI**	3191.55	3191.55	4706.14	4867.09	5443.65	21399.98
2	**Excess balcony**					398.71	398.71
3	**Staircase**	213.73	213.73	94.38	97.46	136.84	756.14
4	**Lift area**	10.24	10.24	7.82	10.24	10.24	48.78
5	**Balcony area**	564.08	564.08	692.78	846.45	928.18	3595.57
6	**Lobby area**	487.30	487.30	922.57	645.70	817.96	3360.83
7	**Terrace area**		1199.46	970.89	418.09	703.25	3291.69
8	**Refuge area**	73.25	73.25	25.60	72.57	99.69	344.36
9	**Podium area**	1464.70		3023.17	1474.18	1763.76	7725.81
10	**Lift M. room**	--	--	--	--	--	--
11	**Built up Area of residential buildings**						40921.87
12	**Area of club house**						310.06
13	**Area of Transformer room**						20
14	**Area of undergrounds tanks**						100
16	**Area of Security cabin**						25
17	**Area of Parking below podium**						7197.37
18	**Terrace (11th floor of each building)- A=296.80+B=296.80+C=427.47+D=449.06+E=503.94**						1974.07
	Total built up area of the project						**50548.37**

Building Configuration

Building Type	Configuration	Tenements (nos.)	Population (nos.)	Height (m)	Status
A	Podium + Stilt + 11 Floors	43	215	34.90	Completed
B	Podium + Stilt + 11 Floors	43	215	34.90	Completed
C	Lower Parking + Podium + 11 Floors	55	308	34.90	Completed
D	Podium+ Stilt + 11 Floors	54	302	34.90	Completed
E	Podium + Stilt + 11 Floors	54	324	34.90	Completed
	Total	**249**	**1,432 (1364+86 visitors)**		

101

201

Salient features of project Cont.

Sr.	Description	Details	Unit
1	Project name	“Bramha Exuberance"	-
2	EIA category	8 (a)	-
3	Plot area	17,433.10	m^2
4	Deductions	2,833.35	m^2
5	Net plot area	14,599.75	m^2
6	Proposed FSI area	21,798.69	m^2
7	Non FSI area	28,749.68	m^2
8	**Total built up area**	**50,548.37**	m^2
9	Project cost	27.33	Rs. Crore
10	Total No. of Tenements	249	Nos.
11	Total population	1,432	Nos.
12	Total water requirement	185	m^3/day
15	Fresh water requirement	123	m^3/day
16	Flushing water requirement	62	m^3/day
17	Sewage generation	173	m^3/day

Salient features of project Cont.

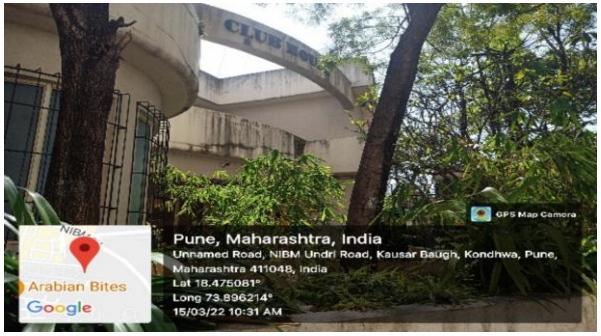
Sr.	Description	Details	Unit
18	STP capacity	1 no. x 70 m^3/day Existing Additional 115 m^3/day to be proposed	m^3/day
19	Total solid waste generation	699	kg/day
20	Bio-degradable waste	419	kg/day
21	Non Bio-degradable and Inert Waste	280	kg/day
25	STP dry sludge	1	kg/day
26	RWH Pits	2	Nos.
27	Parking area	4,458	m^2
28	Two Wheeler	214	No.
29	Four Wheeler	411	No.
30	RG area	2,045.82	m^2
31	No. of trees	392	No.
32	Connected Load	1,419	kW
33	Maximum Demand	1,135	kVA
34	DG set number & capacity details	1 no x 82.5	No. x kVA
35	EMP construction phase	16.5	Rs. Lakh/year
	EMP Capital cost during operation phase	181.01	Rs.Lakh
	EMP O & M cost during operation phase	20.2	Rs. Lakh/year

103

201

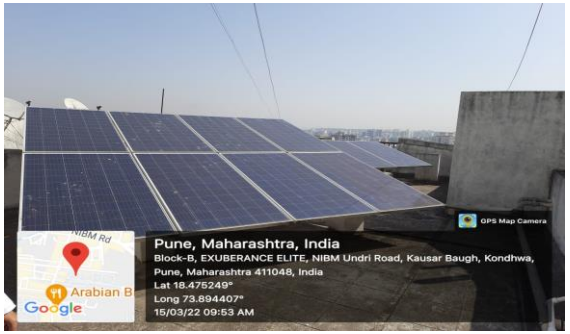
Site Photographs

104



Site photographs

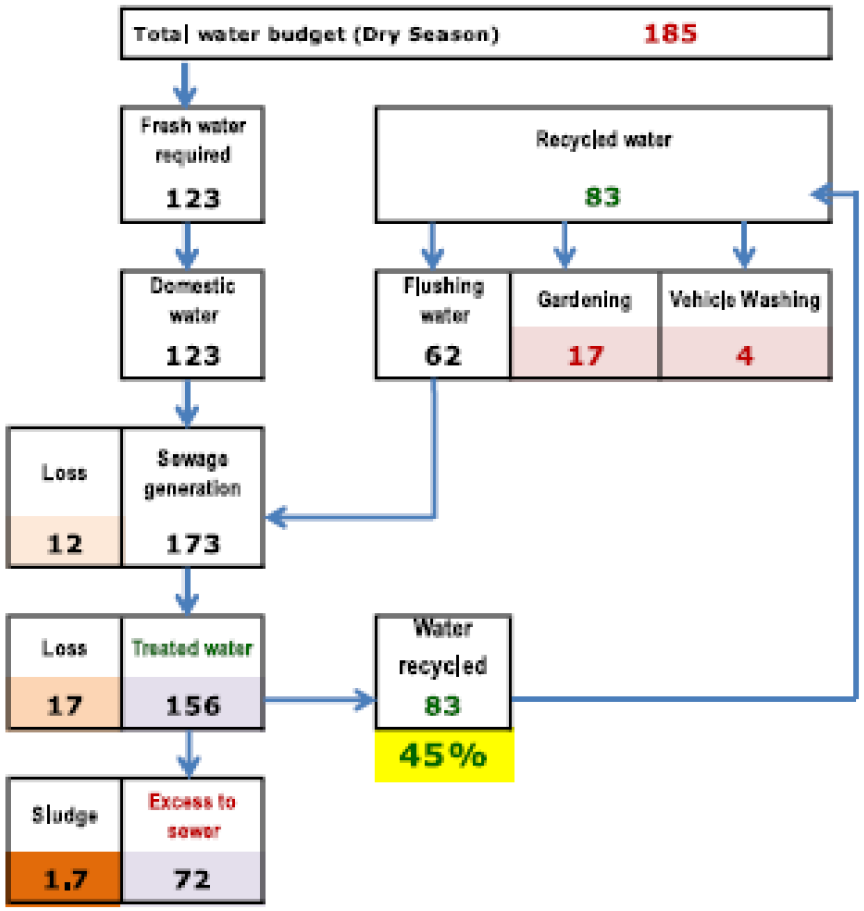
105



202

Water utilization details

Unit in m³/day



	Dry Season	Wet Season
Total water budget	**185**	185
Fresh water requirement	**123**	123
Domestic water	**123**	123
Flushing water	**62**	62
Gardening	**17**	9
Losses (total) & sludge	**31**	31
Sewage generation	**173**	173
Treated water	**156**	156
Water recycled	**83**	75
Excess to sewer	**72**	81
% recycled	**45**	40

Rounded off to Integer values

EIA study

- We will prepare the EIA report as per the EIA guidance manual by Administrative Staff College of India, Hyderabad, February 2010 and Standard terms of reference Mannual issued by MoEFCC, April 2015 and the additional ToR will be granted by the SEAC-III.
- Damage Assessment report will be prepared as per MoEFCC Notification dated 28th January 2022 and the approach paper published by environment department Maharashtra.

Chapter	Content
1	Introduction
2	Project Description
3	Description of the Environment
4	Anticipated Environmental impacts & mitigation measures
5	Alternative technologies
6	Environmental Monitoring Program
7	Additional studies
8	Project Benefits
9	Environment management plan (EMP)
10	Summary & conclusions
11	Assessment of Ecological (Environmental) Damage Report including Remediation & Natural and Community Resources Augmentation Plan
12	Disclosure of Consultant engaged

107

Gmail Sachin Shah <mahabal.thane153@gmail.com>

Acceptance Letter for TOR Application(SEIAA)

1 message

dattatray.bhalerao@nic.in <dattatray.bhalerao@nic.in> Tue, May 17, 2022 at 3:57 PM
To: mahabal.thane153@gmail.com
Cc: monitoring-ec@nic.in, psec.env-1@maharashtra.gov.in

Acceptance Letter for TOR application

F.No.- SIA/MH/MIS/76973/2022

State Environment Impact Assessment Authority

Maharashtra

dattatray.bhalerao@nic.in

Dated: 17 May 2022

To,

BRAMHACORP LIMITED

, Pune

Maharashtra , 411001

Subject : Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune

Sir,

This has reference to your proposal No. SIA/MH/MIS/76973/2022 dated 17 May 2022 regarding grant of TORs for the above mentioned proposal.

2. This is to acknowledge that the soft copies of EIA/EMP/other reports along with the proceedings of Public Hearing (if applicable to the instant project) have been uploaded on Parivesh Portal.

Yours Sincerely

SEIAA, Maharashtra

Note: ***This is an automatically generated email, please do not reply***

202

Standard Terms of Reference_ April 2015 Cont.

23

1) Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images.
2) Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/ villages and present status of such activities.
3) Examine baseline environmental quality along with projected incremental load due to the project.
4) Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.
5) Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area.
6) Submit the details of the trees to be felled for the project.
7) Submit the present land use and permission required for any conversion such as forest, agriculture etc.
8) Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
9) Ground water classification as per the Central Ground Water Authority.
10) Examine the details of Source of water, water requirement, use of treated waste water and prepare a water balance chart.
11) Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water. Examine details.
12) Examine soil characteristics and depth of ground water table for rainwater harvesting

108

13) Examine details of solid waste generation treatment and its disposal.

14) Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption.

15) DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.

16) Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.

17) A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.

18) Examine the details of transport of materials for construction which should include source and availability.

19) Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.

20) Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.

21) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given

22) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out

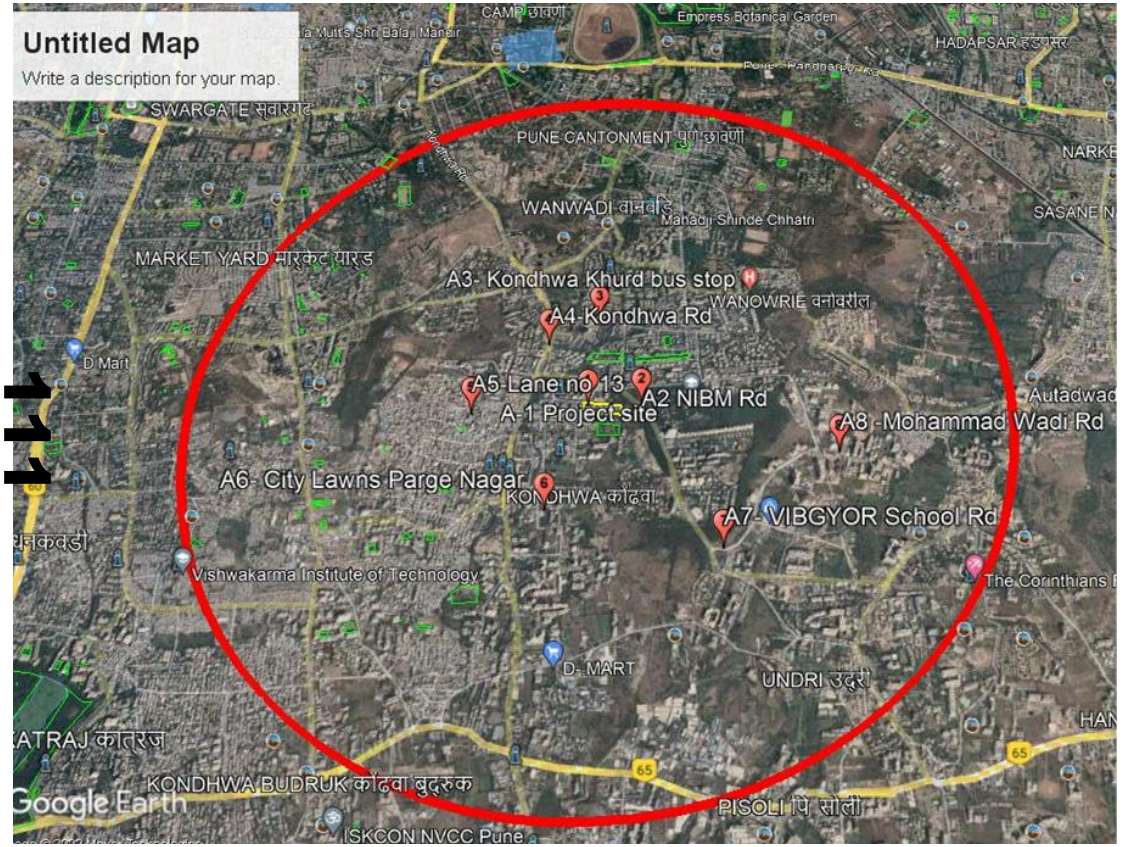
23) Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "http://moef.nic.in/Manual/Townships".

Additional studies for ToR

- Traffic study
- Carbon footprint report
- Environment Status Report
- Biodiversity Index
- Air quality modelling study
- Treatability study of Existing STP & OWC
- Renewable energy saving details
- Storm water management
- Swept path analysis

Baseline Environmental Monitoring Locations

Wind Direction- North- South



Sr.	Environmental Attribute	Sampling location
1	Meteorology	Indian Meteorological Department, Pune
2	**Sampling at eight locations (in 3 km study area)**	
	A1, N1, S1	Project Site
	A2, N2, S2	NIBM Road
	A3, N3, S3	Kondhwa Khurd Bus stop
	A4, N4, S4	Kondhwa Road
	A5, N5, S5	Lane no 13
	A6, N6, S6	City Lawns Parge Nagar
	A7, N6, S6	VIBGYOR Highschool Road
	A8, N8, S8	Mohmmad wadi road
	Surface water	
	SW1	Katraj Lake
	SW2	Autadewadi lake
	SW3	Mutha river
	SW4	Peshve park lake
4	Ground water	
	GW1	Bore Well water (Project site Area)
5	Geology and Geohydrology	Generally, in 10 km study area
6	Land use pattern	Generally, in 10 km study area
7	Ecology	Primary data collection at site
8	Socio-economic and demography	Generally, in 10 km study area through Pune city Census data of year 2011

Baseline Environmental Monitoring Locations

Aspect	Mode of Data collection	No. of Sampling Locations	Frequency	Parameter
Meteorology	Primary data	-	13 consecutive weeks	Temperature, Humidity, Wind speed, Wind direction and Rainfall
Ambient Air Quality	Field studies	8 locations	13 consecutive weeks	PM_{10}, $PM_{2.5}$ Sulphur Dioxide (SO_2) Nitrogen Oxide (NO_x) Carbon Monoxide (CO)
Noise	Field studies	8 Locations	Once	Hourly equivalent noise level during day time and Night time
Soil	Field studies	8 Location	Once	pH, Electrical Conductivity Sodium, Nitrogen, Phosphate, Potassium, Organic Matter, Cation Exchange Capacity (meq/100 gm), Particle Size Analysis , Permeability, Water holding capacity, Porosity

Baseline Environmental Monitoring Locations

Aspect	Mode of Data collection	No. of Sampling Locations	Frequency	Parameter
Ground Water Quality	Field studies	1 Location	Once	Physical, chemical and bacteriological parameters, as per Environment Protection Rules/IS 10500 as applicable, shall be analyzed
Surface water Quality	Field studies	4 Location	Once	Physical, chemical and bacteriological parameters, as per Environment Protection Rules/IS 10500 as applicable, shall be analyzed
Land use pattern	Field visit and usage of latest satellite image		--	Already a developed urban cluster
Terrestrial Ecology	Field studies & Literature review		--	Inventory of major floral & faunal species
Socio-economic environment	Census 2011, Secondary Sources		--	Demography, caste profile, literacy rate, occupational profile

2029

Thank You

114

PP requested to withdraw the application. Committee noted & accepted the same, hence application is forwarded to SEIAA with the recommendation that PP may be allowed to withdraw the project.

****

36.	**P-36**	SIA/MH/MIS/76973/2022	Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune by BRAMHACORP LIMITED

Representative of PP was present during the meeting along with environmental consultant M/s. Mahabal Enviro Engineers Pvt. Ltd.

It is noted that, the PP has submitted the application for prior Environment clearance under violation category. PP stated that, the project for total plot area of 8,950 m2, FSI area of 20,024.42 m2, Non FSI area of 12,401.58 m2 and total BUA of 32,426 m2.

Brief information of the proposal is as below:

1	Proposal Number	**SIA/MH/MIS/269906/2022**
2	Name of Project	Expansion in Environment Clearance of Proposed development of residential and commercial project "Apple Regency" at Sr. No.138/2B/2/3/4/5, S.No. 174/B/2/3/4/5(P) at village Dhayari, Taluka Haveli, District Pune, Maharashtra by M/s Sri Sidhievinayak Associates
3	Project Category	8(a) B2 Category
4	Type of Institution	Private
5	Name of Project Proponent	Name: Mr. Rahul Paygude Regd. Office address: M/s Sri Sidhievinayak Associates. Sr. No. 138/174, Apple Regency, Sinhagad Road, Dhayari, Pune Contact number: - Email ID: srisidhievinayakassociates@gmail.com
6	Consultant	Mahabal Enviro Engineers Pvt. Ltd.
7	Applied for	Environmental Clearance
8	Details of previous EC	We have received Environment Clearance from Government of Maharashtra vide File no. SEIAA-EC-0000001546 dated 28.05.2019.
9	Location of project	Sr. No.138/2B/2/3/4/5, S. No. 174/B/2/3/4/5(P) at village Dhayari, Taluka Haveli, District Pune, Maharashtra
10	Latitude and Longitude	Latitude 18°27'23.46" N Longitude 73°48'8.32" E
11	Total Plot area (m^2)	8,950 m^2

12	Deductions (m^2)	2,491.82 m^2
13	Net Plot Area (m^2)	6,458.18 m^2
14	Proposed FSI Area (m^2)	20,024.42 m^2
15	Proposed Non-FSI Area (m^2)	12,401.58 m^2
16	Proposed Total BUA area (m^2)	32,426 m^2
17	TBUA (m^2) approved by Planning Authority till date	32,426 m^2 Building approval plan received from Pune Municipal Corporation vide no. CC/0675/21 dated 23.06.2021
18	Total ground coverage (m^2) & %	2389.46 m^2 (37%) of total net plot area
19	Total project cost (Rs.)	Rs.72.39 Crore
20	CER as per MoEF & CC circular dated 01/05/2018	

CER Activity	Details of CER activity and Place of Implementation	Name/address of implementing agency	Total Amount (Rs.)	Duration
___	___	___	___	___
___	___	___	___	___
Total			___/-	

21	Details of Building Configuration	**Sr.**	**Building Name**	**Configuration** / **Height (m)**
			A Wing	Basement Parking+L.G+U.G+13th Floor — 44.15
			B Wing	Basement Parking+L.G+U.G+13th Floor — 44.15
			MHADA B Wing	3rd to 10th Floor — 23.20
			Club House	G+1 — 7.30
22	Total number of tenements/shops/offices	No. of tenement: 202 nos. No. of shops: 67 nos.		
23	**Total Water Requirement**			

		Dry Season	Wet Season
	Freshwater (in m^3/day)	101 m^3/day	101 m^3/day
	Recycled water (Flushing)	57 m^3/day	57 m^3/day
	Recycled water (Gardening)	8 m^3/day	4 m^3/day
	Total water requirement	154 m^3/day	150 m^3/day
	Wastewater generation	144 m^3/day	144 m^3/day
24	**Water Storage Capacity for Firefighting**		
	Firefighting (Underground water tank)	150 m^3	

	Firefighting (Overhead water tank)	40 m^3
25	**Source of water**	_____
26	**Rain Water Harvesting (RWH)**	
	i) Level of the groundwater table	Groundwater table: Pre-Monsoon-12 to 15m BGL Post Monsoon-5 to 6m
	ii) Size and no of RWH tank(s) and Quantity	NA
	iii) Quantity and size of recharge pits	2 nos. of recharge pit Size 2 m x1 m x2 m
	iv) Details of UGT tanks if any:	Domestic UG tank capacity: 340 m^3 Flushing UG tank capacity: 75 m^3 Fire UG tank capacity: 190 m^3
27	**Sewage and wastewater Demand**	i) Sewage generation in KLD: 153 m^3/day ii) STP technology: MBBR iii) No. and Capacity of STP: 1 no. x 160 m^3/day
28	**Solid Waste Management during Construction phase**: 20 kg/day	
29	**Solid Waste Management during operation Phase:**	

Type	**Quantity (kg/day)**	**Treatment/disposal**
Total waste generation	611 kg/day	
Wet waste	367 kg/day	Through Organic Waste Converter. Generated manure will be used for gardening.
Dry waste	245 kg/day	Handed over to the authorized recycling agency
STP sludge (dry)	1 kg/day	will be used as manure

30 Green Belt Development

Total RG area	760 m^2
Existing trees on plot	62 nos.
Number of trees to be planted	95 nos.
No of trees to be retained	Nil
Number of trees to be transplanted/cut	Nil

31 Power requirement

Source of power supply	MSEDCL
During Construction Phase (Demand Load)	20 kW
During Operation phase (Connected Load)	1360 kW
During Operation phase (Demand Load)	350 kVA
Transformer	1 no. x 630 kVA, 1 nos. x 315 kV
DG set	1 nos. X 45 kVA
Fuel Used	Diesel

32 **Details of Energy saving**

Energy Conservation Measures	Quantity
Energy-saving due renewable energy	5 %
Overall energy saving	20 %

33 **Environmental Management plan budget during Construction phase**

Parameter	Description & Criteria	Estimation	Cost (Rs. In Lakh)
Water for dust suppression	During the construction phase, water will be required for sprinkling for suppression of dust and for construction purpose.	1 Water tanker/ day for 10 months	2
Site sanitation	Toilet facility provided for labours	10 No. of Toilets	4
Environment Monitoring	Ambient air, drinking water, noise and soil testing on monthly basis.	Monitoring of Air, Noise, Soil and water and wastewater through MoEF Approved lab	2
Disinfection	Cleaning and maintaining the site	Daily Housekeeping, Annual Health Checkup, Quarterly Disinfection	1
Health Check up	Weekly health checkup at site and medicines.	PPE and Safety equipment's	1
Total			**10**

34 **Environmental Management plan budget during Operation phase**

Sr.	Component	Details	Capital cost (Rs. In Lakh)	O&M cost (Rs. In Lacs/year)
Sewage Treatment plant	1 no. of STP having Capacity 160 m^3/day	MBBR STP technology	50	8
Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	OWC installation, Maintenance & handling of Biodegradable garbage, segregation of waste	18	2
Landscape	Tree Plantation & Landscaping	Tree plantation & landscape area to be	14	1

			developed		
	Environment Monitoring	Monitoring & analysis of Air, Noise, water analysis	Regular monitoring will be scheduled every half yearly.	MoEF approved Laboratory	5
	Energy Conservation	Solar street lighting	Solar system	5	1
	Rain Water Harvesting	2 no. of recharge pits	Construction & installation	2	1
	Laying of Storm & Sewer line up to final disposal point	Laying of Storm & Sewer line up to final disposal point	Construction & Maintenance	5	1
	Total			**94**	**19**

35	**Traffic Management:**	**Type**	**Required as per DCR**	**Actual Provided**	**Area per parking (m^2)**
		4 -wheeler	204 nos.	204 nos.	2,550 (For 4-wheeler- 12.5 m^2)
		2 -wheeler	698 nos.	698 nos.	1,396 (For 2-wheeler- 2 m^2)
		Cycle	141 nos.	141 nos.	
36	Details of Court cases / litigations w.r.t. the project and project location if any.	No			

Deliberations:-

PP stated that, they had started the construction of the project with 'FSI area of 14,805.95 m2. PP informed that, the project comprises of 5 residential buildings, 248 flats in 2005 as per the Sanctioned plan No. DPO5191/VI/39 dated14.09.2005. PP further informed that, the work was completed in the year 2009 and the Occupancy Certificate was also obtained to the project vide letter dated 04.12.2009. PP informed that, the Society registration was done on 29.08.2011 and the possession of the flats and buildings was handed over to the buyers' residents' society in the year 2012. PP informed that, the earlier sanctioned plan had all buildings A, B, C, D and E but they did not construct building C as it was not

economically viable. PP stated that, at the time of the construction in the year 2005, there was no EC Notification and also the FSI area was considered as the deciding factor for the requirement of Environment clearance, which was less than 20,000 m2 i.e.14,805.95 m2 (till the last building plan revision in year 2005)

PP further stated that, after 12 years in the year 2017, they decided to construct Building No. C, with its 'total covered built-up construction area' of 6500 m2 by changes in 1 residential building C of 55 flats with B+G+F+11 floors. PP informed that, they were earlier unaware about project need EC as the project had started prior to EC Notification2006 and the FSI was more than 20,000m2

PP informed that, the matter has been filed in the NGT OA 65/2019, hence they have decided to apply under the violation category in accordance with the Office Memorandum dated07.07.2021 issued by the Ministry of Environment, Forest and Climate Change (MoEFCC). The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(b) B1.

The office memorandum dated 28.01.2022 mentions SOP in clause no 10 and sub clause no (i) mentions that " ***without prejudice to any other consequences, action to be initiated under section 15 read with section 19 of the Environment (Protection) Act, 1986 against all Violations.***

It is not clear that who will initiate the action under section 15 read with section 19 of Environment (Protection) act 1986. In violation cases the committee feels that proper procedure shall be laid down based on the of OM issued by MoEFCC. However Step 3 mentions about appraisal under EIA notification, 2006, the sub clause B (i) mentions about procedure of TOR to be issued in Violation cases.

Decision-

Considering above the application is submitted for further guidance in violation cases

****

37.	**P-37**	SIA/MH/MIS/271375/2022	Proposed Commercial building at Sr. No. 272/3 (P) + 277/28(P) + 277/30 (P) + 278/8C + 278/8D + 278/8E at Baner , Pune by DELTA ESTATES LLP

Minutes of 248th (Day-1) Part -C meeting of SEIAA held on 17th August, 2022

Item no. 66

Proposal No.:- SIA/MH/MIS/76973/2022 **Type of Project: ToR**

Subject- Environment Clearance of Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune by BRAMHACORP LIMITED

Project Details-

Representative of PP was present during the meeting along with environmental consultant M/s. Mahabal Enviro Engineers Pvt. Ltd.

Brief information of the proposal is as below:

1	Proposal Number	**SIA/MH/MIS/269906/2022**	
2	Name of Project	Expansion in Environment Clearance of Proposed development of residential and commercial project "Apple Regency" at Sr. No.138/2B/2/3/4/5, S.No. 174/B/2/3/4/5(P) at village Dhayari, Taluka Haveli, District Pune, Maharashtra by M/s Sri Sidhievinayak Associates	
3	Project Category	8(a) B2 Category	
4	Type of Institution	Private	
5	Name of Project Proponent	Name	Mr. Rahul Paygude
		Regd. Office address	M/s Sri Sidhievinayak Associates. Sr. No. 138/174, Apple Regency, Sinhagad Road, Dhayari, Pune
		Contact number	-
		Email ID	srisidhievinayakassociates@gmail.com
6	Consultant	Mahabal Enviro Engineers Pvt. Ltd.	
7	Applied for	Environmental Clearance	
8	Details of previous EC	We have received Environment Clearance from Government of Maharashtra vide File no. SEIAA-EC-0000001546 dated 28.05.2019.	
9	Location of project	Sr. No.138/2B/2/3/4/5, S. No. 174/B/2/3/4/5(P) at village Dhayari, Taluka Haveli, District Pune, Maharashtra	
10	Latitude and Longitude	Latitude 18°27'23.46" N Longitude 73°48'8.32" E	
11	Total Plot area (m^2)	8,950 m^2	
12	Deductions (m^2)	2,491.82 m^2	
13	Net Plot Area (m^2)	6,458.18 m^2	
14	Proposed FSI Area (m^2)	20,024.42 m^2	
15	Proposed Non-FSI Area (m^2)	12,401.58 m^2	
16	Proposed Total BUA ar (m^2)	32,426 m^2	
17	TBUA (m^2) approved Planning Authority till date	32,426 m^2 Building approval plan received from Pune Municipal Corporation vide no. CC/0675/21 dated 23.06.2021	
18	Total ground coverage (m^2) %	2389.46 m^2 (37%) of total net plot area	
19	Total project cost (Rs.)	Rs.72.39 Crore	
20	CER as per MoEF & CC circular dated 01/05/2018		

CER Activity	Details of CER activity and Place of Implementation	Name/address of implementing agency	Total Amount (Rs.)	Duration

Member Secretary

Chairman

	Total			/-

21	Details of Building Configuration	**Sr.**	**Building Name**	**Configuration**	**Height (m)**
			A Wing	Basement Parking+L.G+U.G+13th Floor	44.15
			B Wing	Basement Parking+L.G+U.G+13th Floor	44.15
			MHADA B Wing	3rd to 10th Floor	23.20
			Club House	G+1	7.30
22	Total number of tenements/shops/offices	No. of tenement: 202 nos. No. of shops: 67 nos.			
23	**Total Water Requirement**				
			Dry Season		**Wet Season**
	Freshwater (in m^3/day)		101 m^3/day		101 m^3/day
	Recycled water (Flushing)		57 m^3/day		57 m^3/day
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	Total water requirement		154 m^3/day		150 m^3/day
	Wastewater generation		144 m^3/day		144 m^3/day
24	**Water Storage Capacity for Firefighting**				
	Firefighting (Underground water tank)	150 m^3			
	Firefighting (Overhead wate tank)	40 m^3			
25	**Source of water**				
26	**Rain Water Harvesting (RWH)**				
	i) Level of the groundwater table	Groundwater table: Pre-Monsoon-12 to 15m BGL Post Monsoon-5 to 6m			
	ii) Size and no of RWH tank(s) and Quantity	NA			
	iii) Quantity and size of recharge pits	2 nos. of recharge pit Size 2 m x1 m x2 m			
	iv) Details of UGT tanks if any:	Domestic UG tank capacity: 340 m^3 Flushing UG tank capacity: 75 m^3 Fire UG tank capacity: 190 m^3			
27	**Sewage and wastewater Demand**	i) Sewage generation in KLD	153 m^3/day		
		ii) STP technology	MBBR		
		iii) No. and Capacity of STP	1 no. x 160 m^3/day		
28	**Solid Waste Management during Construction phase**: 20 kg/day				
29	**Solid Waste Management during operation Phase:**				
	Type	**Quantity (kg/day)**	**Treatment/disposal**		
	Total waste generation	611 kg/day			
	Wet waste	367 kg/day	Through Organic Waste Converter.		

Member Secretary

Chairman

			Generated manure will be used for gardening.
	Dry waste	245 kg/day	Handed over to the authorized recycling agency
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Total RG area	760 m^2
Existing trees on plot	62 nos.
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Source of power supply	MSEDCL
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Fuel Used	Diesel

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Energy Conservation Measures	**Quantity**
Energy-saving due renewable energy	5 %
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Parameter	**Description & Criteria**	**Estimation**	**Cost (Rs. In Lakh)**
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Environment Monitoring	Ambient air, drinking water, noise and soil testing on monthly basis.	Monitoring of Air, Noise, Soil and water and wastewater through MoEF Approved lab	2
Disinfection	Cleaning and maintaining the site	Daily Housekeeping, Annual Health Checkup, Quarterly Disinfection	1
Health Check up	Weekly health checkup at site and medicines.	PPE and Safety equipment's	1
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Member Secretary

Chairman

34 **Environmental Management plan budget during Operation phase**

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Type	Required as per DCR	Actual Provided	Area per parking (m^2)
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Cycle	141 nos.	141 nos.	

36 Details of Court cases / litigations w.r.t. the project and project location if any. — No

Member Secretary

Chairman

SEAC Deliberation –

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PP further stated that, after 12 years in the year 2017, they decided to construct Building No. C, with its 'total covered built-up construction area' of 6500 m2 by changes in 1 residential building C of 55 flats with B+G+F+11 floors. PP informed that, they were earlier unaware about project need EC as the project had started prior to EC Notification2006 and the FSI was more than 20,000m2

PP informed that, the matter has been filed in the NGT OA 65/2019, hence they have decided to apply under the violation category in accordance with the Office Memorandum dated07.07.2021 issued by the Ministry of Environment, Forest and Climate Change (MoEFCC). The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(b) B1.

The office memorandum dated 28.01.2022 mentions SOP in clause no 10 and sub clause no (i) mentions that " without prejudice to any other consequences, action to be initiated under section 15 read with section 19 of the Environment (Protection) Act, 1986 against all Violations.

It is not clear that who will initiate the action under section 15 read with section 19 of Environment (Protection) act 1986. In violation cases the committee feels that proper procedure shall be laid down based on the of OM issued by MoEFCC. However Step 3 mentions about appraisal under EIA notification, 2006, the sub clause B (i) mentions about procedure of TOR to be issued in Violation cases.

Recommendations of SEAC-

Considering above the application is submitted for further guidance in violation cases

Deliberation in SEIAA-

The proposal is submitted by SEAC for further guidance in violation cases. During the meeting SEIAA observed that, all project details mentioned in above table is for different project. Further, SEIAA vide Circular dated 22.08.2022 issued guidelines appraising the violation projects. SEIAA after deliberation decided to refer back the proposal to SEAC for appraisal as per guidelines issued by SEIAA vide Circular dated 22.08.2022.

SEIAA Decision-

SEIAA decided to refer back the proposal to SEAC.

Member Secretary

Chairman

Discussion Item- 1:-

A. Correction in Minutes of Sr No. 36 of 147th SEAC-3 meeting held on 19-22.07.2022

An Email requesting correction in 147th Minutes received from "M/s. BRAMHACORP LIMITED" received on 9th August, 2022. **It is noted that, the PP has submitted the application under** Violation category.

Sr. No & Name of the project	Category	Minutes Uploaded	Corrected Minutes
147th SEAC-III Sr.No- 36 SIA/MH/MIS/76973/2022 M/s. Bramha Corp Ltd.	Violation	PP stated that, the project for total plot area of 8,950 m2, FSI area of 20,024.42 m2, Non FSI area of 12,401.58 m2 and total BUA of 32,426 m2.	PP stated that, the project for total plot area of 17,433.10 m2, FSI area of 21,798.69m2, Non FSI area of 28,749.68m2 and total BUA of 50,548.37m2. **Corrected Brief information of the proposal is as below:**

Brief information of the proposal is as below:

1	Proposal Number	**SIA/MH/MIS/76973/2022**
2	Name of Project	Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra by Bramha Corp Ltd.
3	Project Category	8(a) B2 Category
4	Type of Institution	Private
5	Name of Project Proponent	Name: Mr. Sachin Shah Regd. Office address: The Residency Club, 3 Queen's Garden Road, Pune Maharashtra 411001 Contact number: 020-41423333 Email ID: ec@bramhacorp.in
6	Consultant	**Mahabal Enviro Engineers Pvt. Ltd.** Plot F-7, Road 21, MIDC Wagle Estate, Thane – 400604, (022) 25823154, mahabal.thane@gmail.com QCI Accreditation status: QCI NABET Accredited QCI/NABET/ENV/ACO/22/2405 Re-Accreditation dated 21.06.2021 valid up 23.09.2022
7	Applied for	Environmental Clearance
8	Details of previous EC	NA

9	Location of project	Sr. No.13, H. No. 1, 2, & 3 of Village- Kondhwa Khurd, Taluka- Haveli, Pune, Maharashtra
10	Latitude and Longitude	18°28'31.22"N, 73°53'42.44"E
11	Total Plot area (m^2)	17,433.10 m^2
12	Deductions (m^2)	2,833.35 m^2
13	Net Plot Area (m^2)	14,599.75 m^2
14	Proposed FSI Area (m^2)	21,798.69 m^2
15	Proposed Non-FSI Area (m^2)	28,749.68 m^2
16	Proposed Total BUA area (m^2)	50,548.37 m^2
17	TBUA (m^2) approved by Planning Authority till date	14,805.95 m^2 (FSI area) as per Sanctioned plan No. DPO5191/VI/39 dated 14.09.2005 & 50,548.37 m^2 as per sanction no. CC/0819/17 dated 21.06.2017.
18	Total ground coverage (m^2) & %	3,007.70 m^2 (20 %) of total net plot area
19	Total project cost (Rs.)	Rs. 27.33 Crore
20	CER as per MoEF & CC Circular dated 01.05.2018	

CER Activity	Details of CER activity and Place of Implementation	Name/address of implementing agency	Total Amount (Rs.)	Duration
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
Total			___/-	

21	Details of Building Configuration	**Sr.**	**Building Name**	**Configuration** / **Height (m)**
			A Building	Podium + Stilt + 11 Floors / 34.90
			B Building	Podium + Stilt + 11 Floors / 34.90
			C Building	Lower Parking + Podium + 11 Floors / 34.90
			D Building	Podium + Stilt + 11 Floors / 34.90
			E Building	Podium + Stilt + 11 Floors / 34.90
22	Total number of tenements/shops/offices	Tenements: 249 Nos.		
	Number of expected residents / users	Total Population: 1,432 Nos.		
23	**Water Budget**			

		Dry Season	Wet Season
	Freshwater (in m^3/day)	123 m^3/day	123 m^3/day
	Recycled water (Flushing)	62 m^3/day	62 m^3/day
	Recycled water	17 m^3/day	9 m^3/day

	(Gardening)		
	Swimming pool	NA	NA
	Total water requirement	185 m^3/day	185 m^3/day
	Wastewater generation	173 m^3/day	173 m^3/day
24	**Water Storage Capacity for Firefighting**		
	Firefighting (Underground water tank)	50 m^3	
	Firefighting (Overhead water tank)	50 m^3	
24	**Source of water**	Pune Municipal Corporation	
25	**Rain Water Harvesting (RWH)**		
	i) Level of the groundwater table	Groundwater table: 5 m to 6 m below ground level	
	ii) Size and no of RWH tank(s) and Quantity	NA	
	iii) Quantity and size of recharge pits	Total 2 no. of Borewell (1 nos. of Borewell: Size 3'x3'x4.5")	
	iv) Details of UGT tanks if any:	Domestic UG domestic tank capacity: 377 m^3, Domestic UG Fire tank capacity: 50 m^3,	
26	**Sewage and wastewater Demand**	i) Sewage generation in KLD	173 m^3/day
		ii) STP technology	MBBR
		iii) No. and Capacity of STP	1 no. x 70 m^3/day Existing
27	**Solid Waste Management during Construction phase**: 0 kg/day		
28	**Solid Waste Management during operation Phase:**		

Type	**Quantity (kg/day)**	**Treatment/disposal**
Total waste generation	699 kg/day	
Wet waste	419 kg/day	Through Organic Waste Converter. Generated manure used for gardening.
Dry waste	280 kg/day	Handed over to the authorized recycling agency
Hazardous waste	NA	NA
Biomedical waste	NA	NA
STP sludge (dry)	1.7 kg/day	Used as manure
E-waste	NA	NA

29 **Green Belt Development**

Total RG area	2,045.85 m^2
Existing trees on plot	392
Number of trees to be planted	NA
No of trees to be retained	NA
Number of trees to be transplanted/cut	NA

30 **Power requirement**

Source of power supply	MSEDCL
During Construction Phase (Demand Load)	NA
During Operation phase (Connected Load)	1,419 kW
During Operation phase (Demand Load)	1,135 kW
Transformer	1 nos. X 82.5 kVA
DG set	1 nos. X 82.5 kVA
Fuel Used	Diesel

31 **Details of Energy saving**

Energy Conservation Measures	**Quantity**
Energy-saving due to use of solar PV panels	5 %
Energy-saving due to CFL Lamp	NA
Energy-saving due to LED Lamp	NA
Energy-saving due to Electronic Ballast	NA
Energy savings due to VFD	NA
Overall energy saving	20%

32 **Environmental Management plan budget during Construction phase**

Component	**Parameter**	**Cost (Rs. In Lakhs)**
Air Environment	Water for dust suppression	8.0
	Water utilization for tree planted along with the plot boundary	1.0
	Vehicle maintenance, washing area, tyre cleaning	0.5
	Safety net	0.5
Water Environment	Site sanitation, Toilets, STP, safe drinking water	1.0
	Environment Monitoring	0.5
	Stormwater management	0.5
Socio-Economics Environment	Disinfection at site	1.0
Health & Safety	Health check-ups for workers, first aid kit	1.0
Noise Environment	Site fencing & noise barrier	1.0
	Traffic management	0.5
Training and awareness	Safety personal protective equipment & training programs	1.0
Total		**16.5**

33 **Environmental Management plan budget during Operation phase**

Sr.	**Component**	**Details**	**Capital cost (Rs. In Lakh)**	**O&M cost (Rs. In Lacs/year)**

	1.	Storm water management	Laying of storm & Sewer line up to final disposal point	11.00	0.90
	2.	Sewage Treatment Plant	1 no. of STP having capacity 70 m^3/day existing & 110 m^3/day to be proposed	80.25	2.6
	3.	Rain Water Harvesting	1 nos of Borewell	1.90	0.5
	4.	Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	3.00	0.4
	5.	Landscape development	Tree Plantation	17.26	1.5
	6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	25.00	2.6
	7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	5.00	0.5
	8.	Firefighting system	Installation and operation of Fire Fighting system	14.50	1.7
	9.	Disaster Management		23.10	9.5
		Total		**181.01**	**20.2**

34	**Traffic Management:**	**Type**	**Required as per DCR**	**Actual Provided**	**Area per parking (m^2)**
		4 -wheeler	140 nos.	214nos.	2,675
		2 -wheeler	388 nos.	411 nos.	1,233
		Total			**4,458**
35	Details of Court cases / litigations w.r.t. the project and project location if any.	Yes Court case details- NGT Western zone bench at Pune – Case no.65/2019			

Decision :- Committee approves the above modifications in Minutes.

22	**P-22**	SIA/MH/MIS/245894/2021	Gandharva Samrudhi (Expansion) by YOGESH ENTERPRISES

PP requested to withdraw the application. Committee noted & accepted the same, hence application is forwarded to SEIAA with the recommendation that PP may be allowed to withdraw the project.

*****

23	**P-23**	SIA/MH/MIS/76973/2022	Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune by BRAMHACORP LIMITED

Representative of PP was present during the meeting along with environmental consultant M/s. Mahabal Enviro Engineers Pvt. Ltd.

It is noted that, the PP has submitted the application for prior Environment clearance under violation category. PP stated that, the project for total plot area of 17,433.10 m2, FSI area of 21,798.69 m2, Non FSI area of 28,749.68 m2 and total BUA of 50,548.37 m2.

Brief information of the proposal is as below:

1	Proposal Number	**SIA/MH/MIS/76973/2022**
2	Name of Project	Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra by Bramha Corp Ltd.
3	Project Category	8(a) B2 Category
4	Type of Institution	Private
5	Name of Project Proponent	Name: Mr. Sachin Shah Regd. Office address: The Residency Club, 3 Queen's Garden Road, Pune Maharashtra 411001 Contact number: 020-41423333 Email ID: ec@bramhacorp.in
6	Consultant	**Mahabal Enviro Engineers Pvt. Ltd.** Plot F-7, Road 21, MIDC Wagle Estate, Thane – 400604, (022) 25823154, mahabal.thane@gmail.com QCI Accreditation status: QCI NABET Accredited QCI/NABET/ENV/ACO/22/2405

		Re-Accreditation dated 21.06.2021 valid up 23.09.2022
7	Applied for	Environmental Clearance
8	Details of previous EC	NA
9	Location of project	Sr. No.13, H. No. 1, 2, & 3 of Village- Kondhwa Khurd, Taluka- Haveli, Pune, Maharashtra
10	Latitude and Longitude	18°28'31.22"N, 73°53'42.44"E
11	Total Plot area (m^2)	17,433.10 m^2
12	Deductions (m^2)	2,833.35 m^2
13	Net Plot Area (m^2)	14,599.75 m^2
14	Proposed FSI Area (m^2)	21,798.69 m^2
15	Proposed Non-FSI Area (m^2)	28,749.68 m^2
16	Proposed Total BUA area (m^2)	50,548.37 m^2
17	TBUA (m^2) approved by Planning Authority till date	14,805.95 m^2 (FSI area) as per Sanctioned plan No. DPO5191/VI/39 dated 14.09.2005 & 50,548.37 m^2 as per sanction no. CC/0819/17 dated 21.06.2017.
18	Total ground coverage (m^2) & %	3,007.70 m^2 (20 %) of total net plot area
19	Total project cost (Rs.)	Rs. 27.33 Crore

20 CER as per MoEF & CC Circular dated 01.05.2018

CER Activity	Details of CER activity and Place of Implementation	Name/address of implementing agency	Total Amount (Rs.)	Duration
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
Total			___/-	

21 Details of Building Configuration

Sr.	Building Name	Configuration	Height (m)
	A Building	Podium + Stilt + 11 Floors	34.90
	B Building	Podium + Stilt + 11 Floors	34.90
	C Building	Lower Parking + Podium + 11 Floors	34.90
	D Building	Podium + Stilt + 11 Floors	34.90
	E Building	Podium + Stilt + 11 Floors	34.90

22	Total number of tenements/shops/offices	Tenements: 249 Nos.	
	Number of expected residents / users	Total Population: 1,432 Nos.	
23	**Water Budget**		
		Dry Season	**Wet Season**
	Freshwater (in m^3/day)	123 m^3/day	123 m^3/day

	Recycled water (Flushing)	62 m^3/day	62 m^3/day
	Recycled water (Gardening)	17 m^3/day	9 m^3/day
	Swimming pool	NA	NA
	Total water requirement	185 m^3/day	185 m^3/day
	Wastewater generation	173 m^3/day	173 m^3/day
24	**Water Storage Capacity for Firefighting**		
	Firefighting (Underground water tank)	50 m^3	
	Firefighting (Overhead water tank)	50 m^3	
24	**Source of water**	Pune Municipal Corporation	
25	**Rain Water Harvesting (RWH)**		
	i) Level of the groundwater table	Groundwater table: 5 m to 6 m below ground level	
	ii) Size and no of RWH tank(s) and Quantity	NA	
	iii) Quantity and size of recharge pits	Total 2 no. of Borewell (1 nos. of Borewell: Size 3'x3'x4.5")	
	iv) Details of UGT tanks if any:	Domestic UG domestic tank capacity: 377 m^3, Domestic UG Fire tank capacity: 50 m^3,	
26	**Sewage and wastewater Demand**	i) Sewage generation in KLD	173 m^3/day
		ii) STP technology	MBBR
		iii) No. and Capacity of STP	1 no. x 70 m^3/day Existing
27	**Solid Waste Management during Construction phase**: 0 kg/day		
28	**Solid Waste Management during operation Phase:**		

Type	**Quantity (kg/day)**	**Treatment/disposal**
Total waste generation	699 kg/day	
Wet waste	419 kg/day	Through Organic Waste Converter. Generated manure used for gardening.
Dry waste	280 kg/day	Handed over to the authorized recycling agency
Hazardous waste	NA	NA
Biomedical waste	NA	NA
STP sludge (dry)	1.7 kg/day	Used as manure
E-waste	NA	NA

29 **Green Belt Development**

Total RG area	2,045.85 m^2
Existing trees on plot	392
Number of trees to be planted	NA

No of trees to be retained	NA
Number of trees to be transplanted/cut	NA

30 **Power requirement**

Source of power supply	MSEDCL
During Construction Phase (Demand Load)	NA
During Operation phase (Connected Load)	1,419 kW
During Operation phase (Demand Load)	1,135 kW
Transformer	1 nos. X 82.5 kVA
DG set	1 nos. X 82.5 kVA
Fuel Used	Diesel

31 **Details of Energy saving**

Energy Conservation Measures	**Quantity**
Energy-saving due to use of solar PV panels	5 %
Energy-saving due to CFL Lamp	NA
Energy-saving due to LED Lamp	NA
Energy-saving due to Electronic Ballast	NA
Energy savings due to VFD	NA
Overall energy saving	20%

32 **Environmental Management plan budget during Construction phase**

Component	**Parameter**	**Cost (Rs. In Lakhs)**
Air Environment	Water for dust suppression	8.0
	Water utilization for tree planted along with the plot boundary	1.0
	Vehicle maintenance, washing area, tyre cleaning	0.5
	Safety net	0.5
Water Environment	Site sanitation, Toilets, STP, safe drinking water	1.0
	Environment Monitoring	0.5
	Stormwater management	0.5
Socio-Economics Environment	Disinfection at site	1.0
Health & Safety	Health check-ups for workers, first aid kit	1.0
Noise Environment	Site fencing & noise barrier	1.0
	Traffic management	0.5
Training and awareness	Safety personal protective equipment & training programs	1.0
Total		**16.5**

33 **Environmental Management plan budget during Operation phase**

Sr.	Component	Details	Capital cost (Rs. In Lakh)	O&M cost (Rs. In Lacs/year)
1.	Storm water management	Laying of storm & Sewer line up to final disposal point	11.00	0.90
2.	Sewage Treatment Plant	1 no. of STP having capacity 70 m^3/day existing & 110 m^3/day to be proposed	80.25	2.6
3.	Rain Water Harvesting	1 nos of Borewell	1.90	0.5
4.	Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	3.00	0.4
5.	Landscape development	Tree Plantation	17.26	1.5
6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	25.00	2.6
7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	5.00	0.5
8.	Firefighting system	Installation and operation of Fire Fighting system	14.50	1.7
9.	Disaster Management		23.10	9.5
	Total		**181.01**	**20.2**

34 **Traffic Management:**

Type	Required as per DCR	Actual Provided	Area per parking (m^2)
4 -wheeler	140 nos.	214nos.	2,675
2 -wheeler	388 nos.	411 nos.	1,233
Total			**4,458**

35 Details of Court cases / litigations w.r.t. the project and project location if any.

Yes
Court case details-
NGT Western zone bench at Pune – Case no.65/2019

Deliberations:

PP informed that, the application is a Residential Project located at Village Kondhwa Khurd and the Project is a Fresh EC application under violation category with existing construction on site. PP stated that, the existing construction was started in year 2005 and there was no EC Notification. PP further stated that, FSI area was considered as the deciding factor for the requirement of Environment clearance, which was less than 20,000 m2 i.e.14,805.95 m2. PP stated that, a case has been filed in the NGT OA 65/2019 and hence they decided to apply under the violation category in accordance with the Office Memorandum dated 07.07.2021 issued by the Ministry of Environment, Forest and Climate Change MoEFCC. PP informed that the existing project has 5 buildings. PP further informed that Building A, Building B, Building D and Building E have Podium+Stilt+11 Floors building configuration and Building C has Lower Parking+Podium+11 Floors.

PP & Environment consultant could not able to explain the chronology of the project, & construction status of the project properly. PP & Environment consultant requested more time. **In view of above, the proposal is deferred and shall be considered afresh only after the compliance of above observations.**

*****

24	**P-24**	SIA/MH/MIS/281709/2022	Proposed Residential project 'Pari Tower' located at S. No. 38/2/17, 38/2/22, 38/2/23(P) village Mouje – Narhe, Taluka Haveli, Pune, Maharashtra by M/s. Urban Homes Realty

PP was absent, hence deferred the project.

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25	**P-25**	SIA/MH/MIS/281772/2022	LAXMI VIHAR at Sr. No. 425, 427/2, 430, Lake Paradise, Opp. CRFP, Pune-Mumbai Highway, Talegaon Dabhade, Tal. Maval, Dist. Pune by V S KALBHOR AND COMPANY

Terms of Reference (ToR) Presentation to

State Expert Appraisal Committee-III

For

BramhaCorp Ltd.

Residential Project

"Bramha Exuberance"

at

Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra

Consultant

Mahabal Enviro Engineers Pvt. Ltd.

Pollution monitoring, Engineers & Contractors in Environmental Management

Accreditation No.: QCI/NABET/ENV/ACO/22/2405

165th SEAC-III Meeting, Item No.14, Date: 08.03.2023

Proposal no. SIA/MH/MIS/76973/2022

Project Summary

- **'Bramha Exuberance'** is a residential project at sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BrahmaCorp Ltd.
- As per sanction 2005, **A & B (4 wings each), D, and E (5 wings each) buildings were constructed with 'FSI area of 16,693.84 m^2**. It comprises of 5 residential buildings, **249 flats** in 2005 as per the Sanctioned plan No. CC/2342/05 dated 21/9/2005 & CC/3387/05 dated 30/12/2005. **The entire work was completed in 2009.**
- **The Occupancy Certificate was granted to the project on 04/12/2009**. Society registration was done on 29/08/2011 and the possession of the flats and buildings was handed over to the buyers 'residents' society in the year **2012.**
- At the time of starting the construction in the year 2005, there was no EC Notification. Thereafter also, the FSI area was considered as the deciding factor for the requirement of Environment clearance, which was less than 20,000 m^2 i.e. **16,693.84 m^2** (till the last building plan revision in the year 2005).
- The earlier sanctioned plan of the year 2005 had all buildings A, B, C, D and E. But we did not construct building C. **It was not economically viable** as the selling cost was not permitting buying the TDR from the open market.
- The built-up area definition is given in the **MoEF Notification dated 04/04/2011**, *"The built-up area for the purpose of this Notification is defined as "the built-up or covered area on all the floors put together including basement (s) and other service areas, which are proposed in the building / construction projects".*
- As per CC-3954 dated 04/03/2014, Building No. C was constructed and the total built-up area of the C building is **8,823.47 m^2**. The building configuration of the C building is Lower Parking + Podium + 11 Floors & **55 flats.**
- **Commencement Certificate of the last C building was issued on 15/07/2014.**

Project Summary Cont.

- **In C building, 20000 m^2 construction area was cross after 4th slab on dated 15/11/2015**.
- **70 KLD of STP, 7 no. of Vermicomposting pits, 2 no. of the recharge well, 2,046 m^2 green area, Solar PV Panels, fire fighting system have been provided at the project site.**
- The violation application was submitted on PARIVESH portal as per MoEF&CC Office Memorandum dated 07/07/2021 and 28/01/2022 vide F. No. 22-21/2020-IA.III (E 138949). No one had directed to apply for EC. The NGT matter OA 65/2019(WZ) Tanaji Gambhire was pending before NGT with no adverse order. **NGT by Daily Order dated 09/11/2022 has stated**; ***"11….. However, we also deem it appropriate that the SEIAA, before which the application dated 14/01/2022 for ex-post facto Environmental Clearance is pending should be directed to decide the same within a period of one month from today, particularly in this matter and direct accordingly."***
- We have applied for environmental clearance for the FSI area **21,798.69 m^2**, Non-FSI area **28,749.68 m^2** & Contruction area **50,548.37** vide proposal no. SIA/MH/MIS/76973/2022 dated 17.02.2022.
- We have calculated violation days from the date of a **sanctioned plan dated** 15.07.2014 **to the date of the Occupancy Certificate dated 18.01.2019** i.e.**1,648 days.**
- We have calculated violation days from the date of a **sanctioned plan dated** 21.06.2017 **to the date of the Occupancy Certificate dated 18.01.2019** i.e.**576 days.**
- We have given the construction status on slide no.11.
- Project was considered in the 147th SEAC-III meeting as Sr.36 on 21/07/2022 and further recommended to SEIAA.
- Further project was considered in the 248th SEIAA meeting as Sr.66 on 17/08/2022 and SEIAA decided to refer back the proposal to SEAC-III.
- Project was considered in 152nd SEAC-III meeting as Sr.23 on 22/09/2022. As per the SEAC-III meeting committee wants the chronology of the project & construction status of the project properly.
- We have calculated penalty provision for violation application as per approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance on the PARIVESH portal.

139

265

Brief information

55

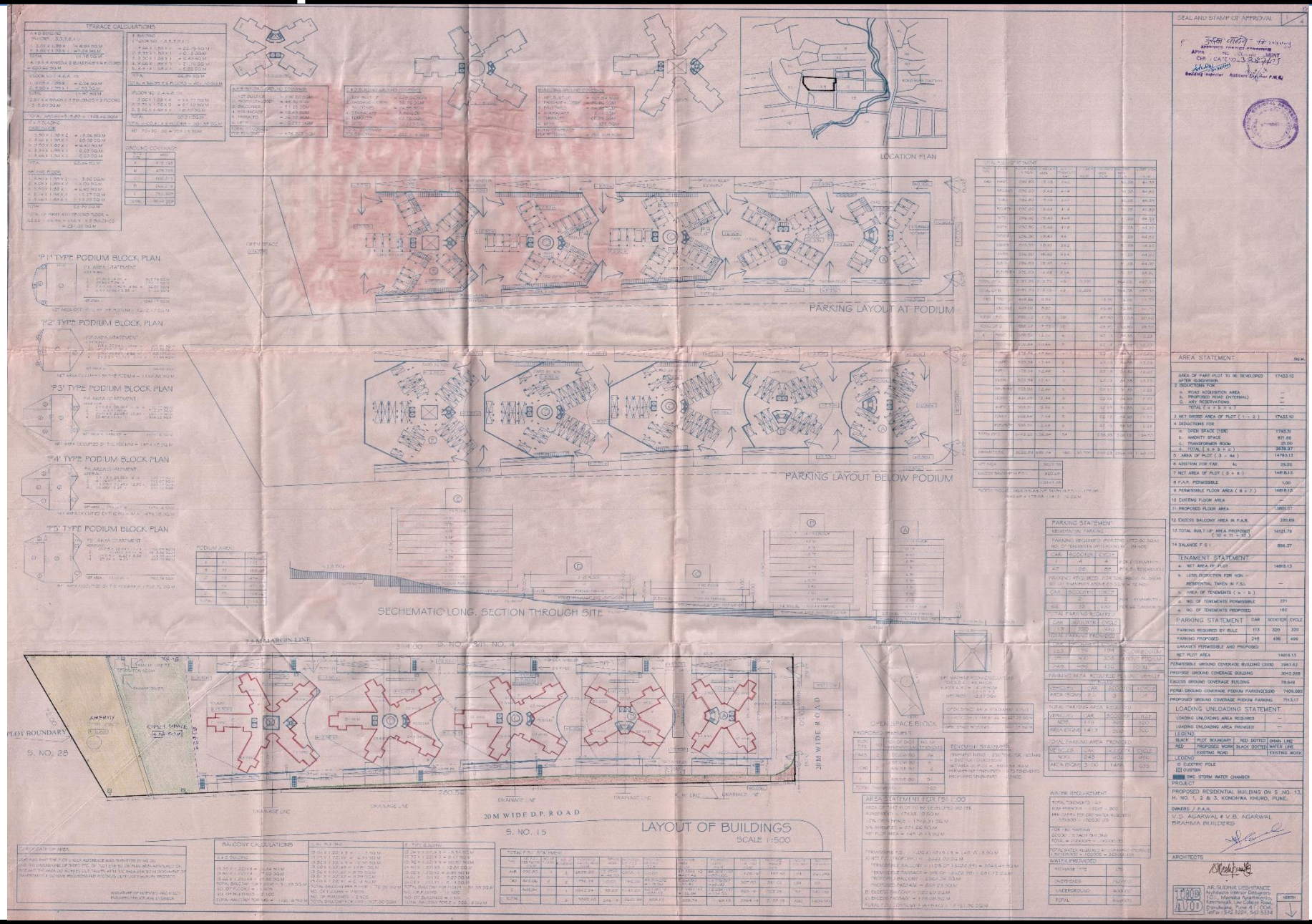
Sr.	Details	Information
1.1	Name of the project	“Bramha Exuberance” - Residential Project by BramhaCorp Ltd.
1.2	Screening category	8(a) category “Townships and Area Development projects”
1.3	Location details	Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka Haveli, District-Pune, State-Maharashtra
1.4	Project cost	**Rs.27.33 Crore**
1.5	Name, contact and email ID of the project proponent	**BramhaCorp Ltd.** Mr. Sachin Shah Telephone No.: 02041423333, Mobile No. 82639788/9325066422 E-mail: ec@bramhacorp.in Address: The Residency Club, 3 Queen’s Garden Road, Camp, Pune-411001
1.6	Name, contact and email ID of Environmental consultant	**Mahabal Enviro Engineers Pvt. Ltd.** Plot F-7, Road 21, MIDC Wagle Estate, Thane West - 400604 mahabal.thane@gmail.com
1.7	QCI Accreditation status	QCI/NABET/ENV/ACO/22/2405
1.8	Accreditation for the category	sectors 1, 2, 4, 8, 9, 21, 22, 27, 31, 32, 33, 38 and 39
1.9	Ownership and land use in DP	Land use in DP-Residential
1.10	Any court case, litigation, if any	Yes, Case no NGT OA 65/2019

140

Google image

Latitude	18°28’30.41"N
Longitude	73°53’43.23"E

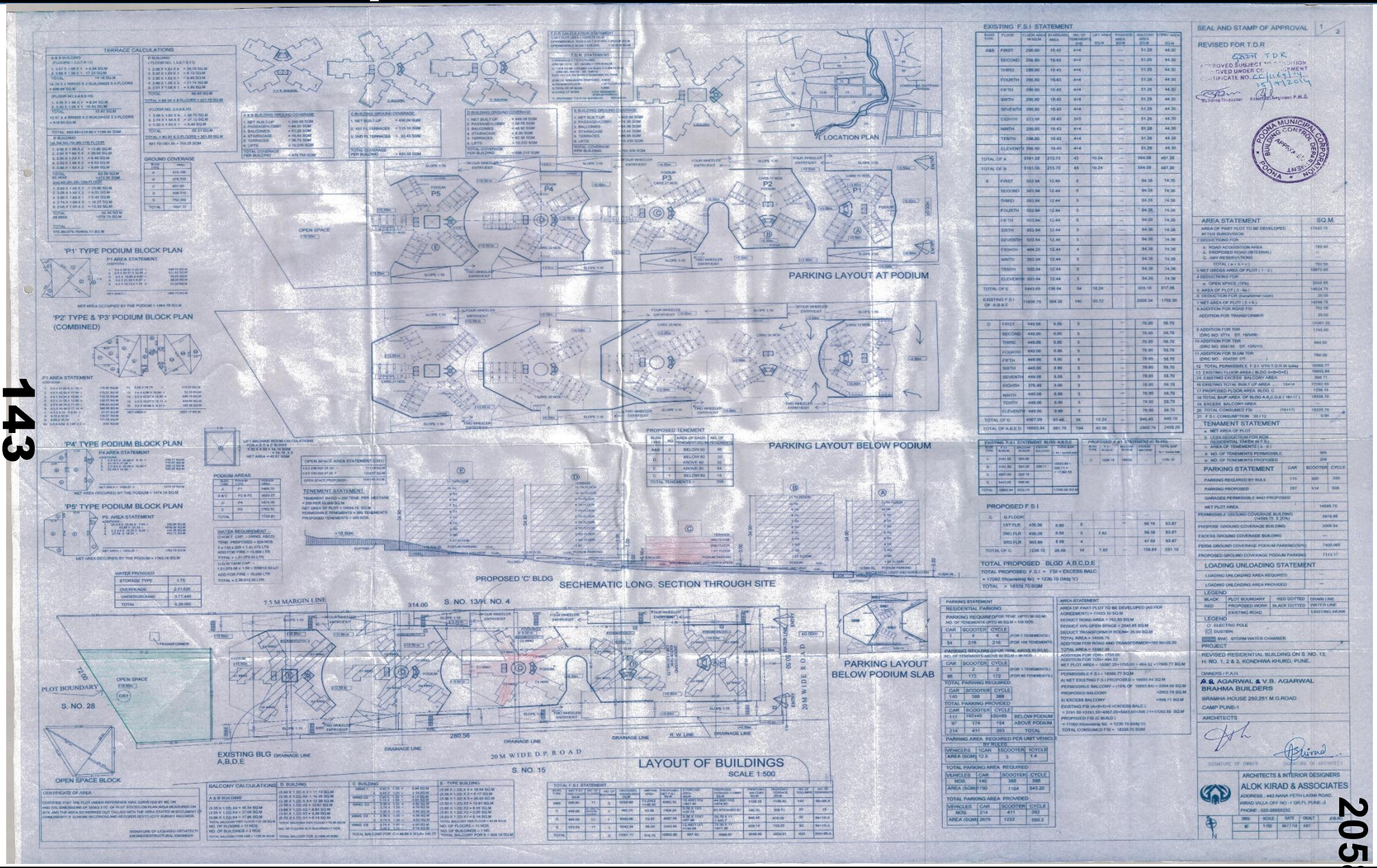
Sanctioned plan_30/12/2005



142

057

Sanctioned plan_15/07/2014



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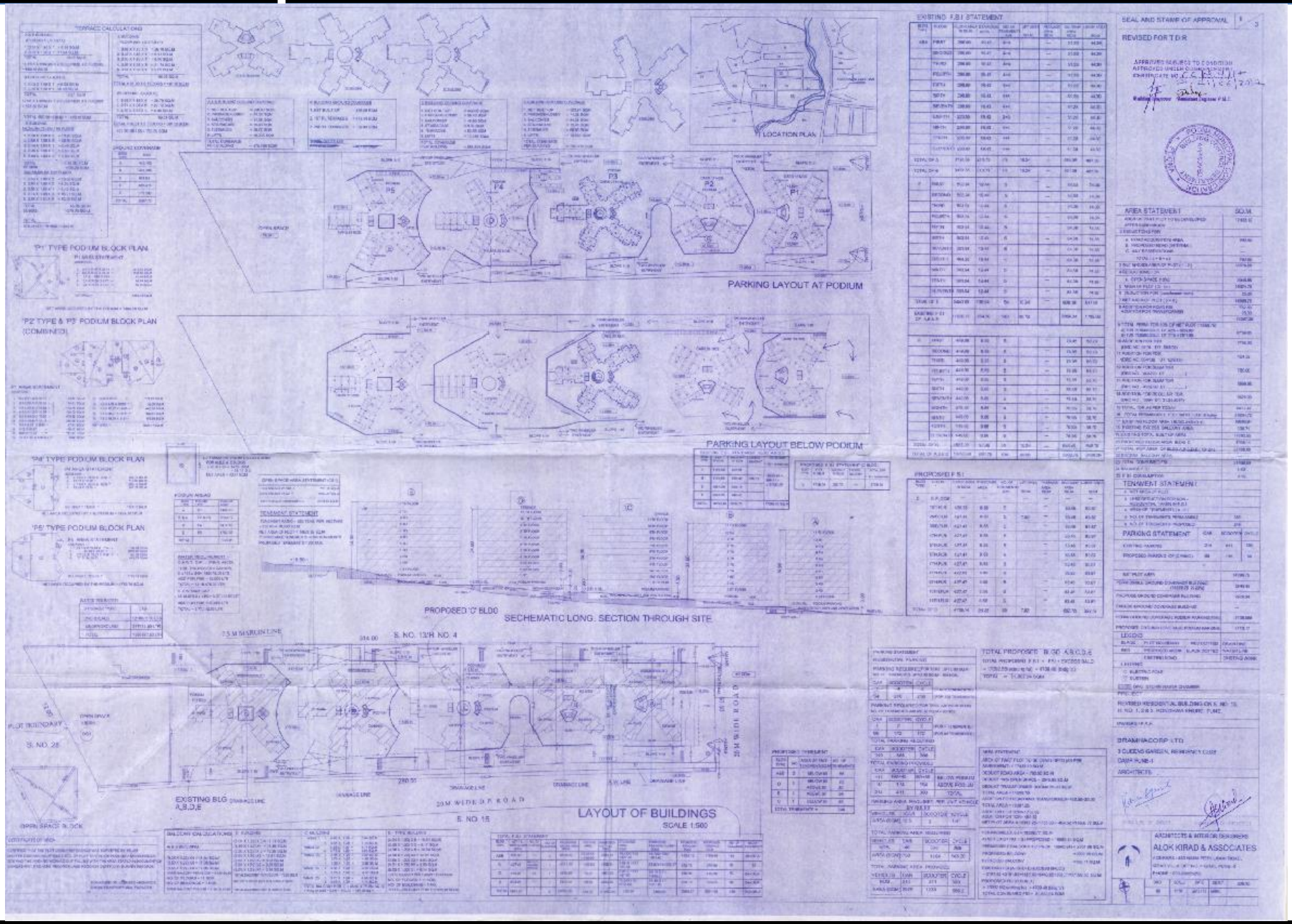
205

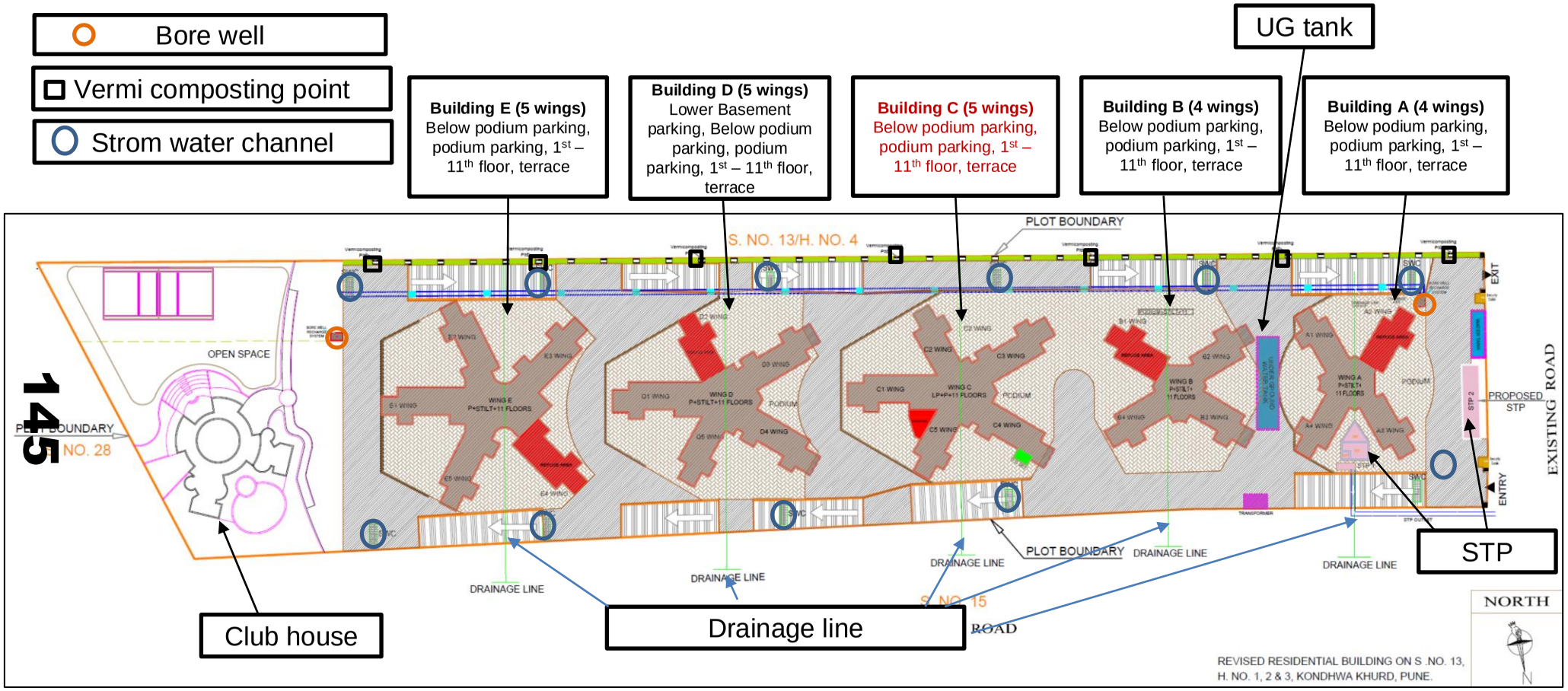
Sanctioned plan_21/06/2017

059

144



Master layout



206

Area statement

Description	Area (m^2)
Plot area	17,433.10
Deductions	2,833.35
Net plot area	14,599.75
Total proposed FSI area	21,798.69
Total Non-FSI area	28,749.68
Total construction area	50,548.37

FSI & Non FSI area statement

Sr.	Particulars	Building A	Building B	Building C	Building D	Building E	Total
1	**FSI**	3191.55	3191.55	4706.14	4867.09	5443.65	21399.98
2	**Excess balcony**					398.71	398.71
3	**Staircase**	213.73	213.73	94.38	97.46	136.84	756.14
4	**Lift area**	10.24	10.24	7.82	10.24	10.24	48.78
5	**Balcony area**	564.08	564.08	692.78	846.45	928.18	3595.57
6	**Lobby area**	487.30	487.30	922.57	645.70	817.96	3360.83
7	**Terrace area**		1199.46	970.89	418.09	703.25	3291.69
8	**Refuge area**	73.25	73.25	25.60	72.57	99.69	344.36
9	**Podium area**	1464.70		3023.17	1474.18	1763.76	7725.81
10	**Lift M. room**	--	--	--	--	--	--
11	**Built up Area of residential buildings**						40921.87
12	**Area of club house**						310.06
13	**Area of Transformer room**						20
14	**Area of undergrounds tanks**						100
16	**Area of Security cabin**						25
17	**Area of Parking below podium**						7197.37
18	**Terrace (11th floor of each building)- A=296.80+B=296.80+C=427.47+D=449.06+E=503.94**						1974.07
	Total built up area of the project						**50548.37**

Construction status

Building A			Building B			Building E			Building D			Club		Building C				
CC	CC/2342/05 dt. 21.09.2005		CC	CC/3387/05 dt. 30.12.2005		CC	CC/3387/05 dt. 30.12.2005		CC	CC/3387/05 dt. 30.12.2005		CC	CC/1246/06	CC	CC/3954/13			
Excavation Started 10.01.2006			Excavation Started 29.01.2006			Excavation Started 29.01.2006			Excavation Started 29.01.2006					Excavation Started:- 10.10.2009				
Plinth Certificate	BCO/14/1/389 dated 02.02.2006	FSI (A)	Plinth Certificate	BCO/14/01/0488 Dated 20.03.2006	FSI	Plinth Certificate	BCO/14/01/0488 Dated 20.03.2006	FSI	Plinth Certificate	BCO/14/01/325 Dated 17.10.2006	FSI			Plinth Certificate	BCO/14/01/422 09.12.2009	FSI	Non FSI	Total built-up area
									Lower basement	05.07.2006	0							
Below podium	01.01.2006	-	Below podium		-	Below podium			Below podium	01.08.2006	0			Below podium		0	0	0
Podium	09.02.2006	-	Podium		-	Podium			Podium	03.10.2006		Ground	0	Podium	10.11.2009	0	0	0
1st floor	10.04.2006	296.8	1st floor	15.05.2006	296.8	1st floor	15.05.2006	503.94	1st floor	12.02.2007	449.06			1st Slab	30.09.2014	436.38	298.29	734.67
2nd Floor	25.05.2006	296.8	2nd Floor	25.06.2006	296.8	2nd Floor	25.06.2006	503.94	2nd Floor	15.06.2008	449.06			2nd Slab	07.11.2014	427.47	315.92	743.39
3rd floor	10.07.2006	296.8	3rd floor	05.08.2006	296.8	3rd floor	05.08.2006	503.94	3rd floor	05.12.2008	449.06			3rd Slab	09.12.2014	427.47	305.15	732.62
4th floor	25.09.2006	296.8	4th floor	01.10.2006	296.8	4th floor	01.10.2006	503.94	4th floor	30.12.2008	449.06			4th Slab	10.01.2015	427.47	291.17	718.64
5th floor	10.10.2006	296.8	5th floor	20.11,2006	296.8	5th floor	20.11,2006	503.94	5th floor	19.01.2009	449.06			5th Slab	15.11.2015	427.47	307.20	734.67
6th floor	25.12.2006	296.8	6th floor	05.01.2007	296.8	6th floor	05.01.2007	503.94	6th floor	13.02.2009	449.06			6th Slab	25.01.2016	427.47	315.92	743.39
7th floor	10.02.2007	296.8	7th floor	20.02.2007	296.8	7th floor	20.02.2007	503.94	7th floor	10.03.2009	449.06			7th Slab	15.03.2016	427.47	305.15	732.62
8th floor	25.03.2007	223.55	8th floor	15.04.2007	223.55	8th floor	15.04.2007	404.25	8th floor	31.03.2009	376.49			8th Slab	01.05.2016	422.53	296.11	718.64
9th floor	10.05.2007	296.8	9th floor	30.05.2007	296.8	9th floor	30.05.2007	503.94	9th floor	22.04.2009	449.06			9th Slab	12.06.2016	427.47	307.20	734.67
10th floor	25.06.2007	296.8	10th floor	10.07.2007	296.8	10th floor	10.07.2007	503.94	10th floor	15.05.2009	449.06			10th Slab	17.11.2017	427.47	315.92	743.39
11th floor	10.08.2007	296.8	11th floor	25.08.2007	296.8	11th floor	25.08.2007	503.94	11th floor	11.06.2009	449.06			11th Slab	13.12.2017	427.47	315.92	743.39
12th Floor (Terrace)	30.09.2007	-	12th Floor (Terrace)	05.10.2007	-	12th Floor (Terrace)	05.10.2007	-	12th Floor (Terrace)	15.07.2009				12th Slab (Terrace)	01.10.2018	0	743.39	743.39
Total		3191.55			3191.55			5443.65			4867.09			Total		4706.14	4117.33	8823.47
Occupancy No and Date	BCO/14/7/14/L dated 22.10.2007		Occupancy No and Date	BCO/14/7/14/L dated 22.10.2007					Occupancy No and Date	1st Occupancy 350 dated 05.10.2009				Occupancy No and Date	1st Occupancy OCC/0717/18 Dated 01.09.2018			
										2nd Occupancy 421 dated 04.12.2009					2nd Occupancy OCC/1333/18 Dated 18.01.2019			

Building Configuration

Building Type	Configuration	Tenements (nos.)	Population (nos.)	Height (m)	Status
A	Below podium parking, podium parking, 1st – 11th floor, terrace	43	215	34.90	Completed (2009)
B	Below podium parking, podium parking, 1st – 11th floor, terrace	43	215	34.90	Completed (2009)
C	Below podium parking, podium parking, 1st – 11th floor, terrace	55	308	34.90	Completed (2019)
D	Lower Basement parking, Below podium parking, podium parking, 1st – 11th floor, terrace	54	302	34.90	Completed (2009)
E	Below podium parking, podium parking, 1st – 11th floor, terrace	54	324	34.90	Completed (2009)
	Total	**249**	**1,432 (1364 + 86 visitors)**		

148

53

Salient features of project

Sr.	Description	Details	Unit
1	Project name	“Bramha Exuberance"	-
2	EIA category	8 (a)	-
3	Plot area	17,433.10	m^2
4	Deductions	2,833.35	m^2
5	Net plot area	14,599.75	m^2
6	Proposed FSI area	21,798.69	m^2
7	Non FSI area	28,749.68	m^2
8	**Total built up area**	**50,548.37**	m^2
9	Project cost (from year 2005 4 buildings and then 2015 C Bldg.)	27.33	Rs. Crore
10	Total No. of Tenements	249	Nos.
11	Total population	1,432	Nos.
12	Total water requirement	185	m^3/day
15	Fresh water requirement	123	m^3/day
16	Flushing water requirement	62	m^3/day
17	Sewage generation	173	m^3/day

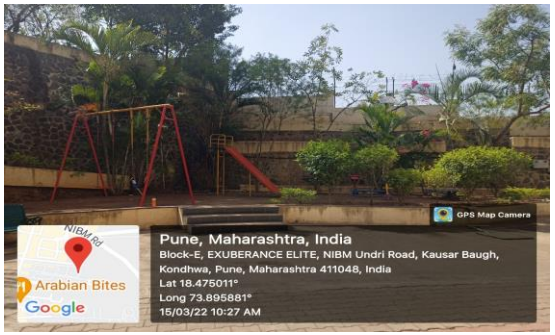
149

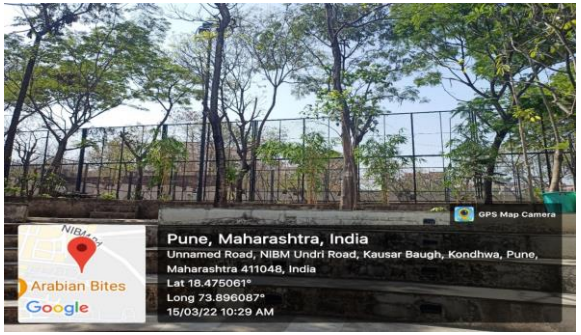
206

Salient features of project Cont.

Sr.	Description	Details	Unit
18	STP capacity	1 no. x 70 m^3/day Existing	m^3/day
19	Total solid waste generation	699	kg/day
20	Bio-degradable waste	419	kg/day
21	Non Bio-degradable and Inert Waste	280	kg/day
25	STP dry sludge	1	kg/day
26	RWH bore well	2	Nos.
27	Parking area	4,458	m^2
28	Two Wheeler	214	No.
29	Four Wheeler	411	No.
30	RG area	2,045.82	m^2
31	No. of trees	392	No.
32	Connected Load	1,419	kW
33	Maximum Demand	1,135	kVA
34	DG set number & capacity details	1 no. x 82.5	No. x kVA
35	EMP construction phase	16.5	Rs. Lakh/year
	EMP Capital cost during operation phase	181.01	Rs.Lakh
	EMP O & M cost during operation phase	20.2	Rs. Lakh/year

Site Photographs



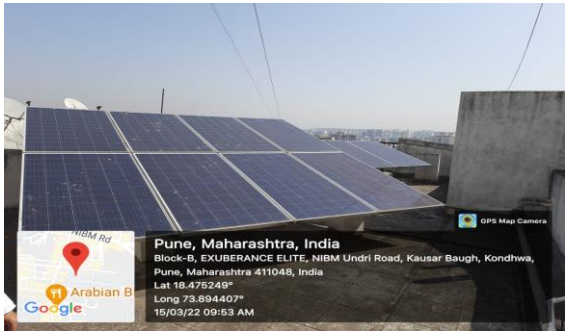


151

206

Site photographs

152



EIA study

- We will prepare the EIA report as per the EIA guidance manual by Administrative Staff College of India, Hyderabad, February 2010 and Standard terms of reference Mannual issued by MoEFCC, April 2015 and the additional ToR will be granted by the SEAC-III.
- Damage Assessment report will be prepared as per MoEFCC Notification dated 28th January 2022 and the approach paper published by environment department Maharashtra.

Chapter	Content
1	Introduction
2	Project Description
3	Description of the Environment
4	Anticipated Environmental impacts & mitigation measures
5	Alternative technologies
6	Environmental Monitoring Program
7	Additional studies
8	Project Benefits
9	Environment management plan (EMP)
10	Summary & conclusions
11	Assessment of Ecological (Environmental) Damage Report including Remediation & Natural and Community Resources Augmentation Plan
12	Disclosure of Consultant engaged

153

Gmail Sachin Shah <mahabal.thane153@gmail.com>

Acceptance Letter for TOR Application(SEIAA)

1 message

dattatray.bhalerao@nic.in <dattatray.bhalerao@nic.in> Tue, May 17, 2022 at 3:57 PM
To: mahabal.thane153@gmail.com
Cc: monitoring-ec@nic.in, psec.env-1@maharashtra.gov.in

Acceptance Letter for TOR application

F.No.- SIA/MH/MIS/76973/2022

State Environment Impact Assessment Authority

Maharashtra

dattatray.bhalerao@nic.in

Dated: 17 May 2022

To,

BRAMHACORP LIMITED

, Pune

Maharashtra , 411001

Subject : Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune

Sir,

This has reference to your proposal No. SIA/MH/MIS/76973/2022 dated 17 May 2022 regarding grant of TORs for the above mentioned proposal.

2. This is to acknowledge that the soft copies of EIA/EMP/other reports along with the proceedings of Public Hearing (if applicable to the instant project) have been uploaded on Parivesh Portal.

Yours Sincerely

SEIAA, Maharashtra

Note: ***This is an automatically generated email, please do not reply***

206

Standard Terms of Reference_ April 2015

69

1) Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images.
2) Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/ villages and present status of such activities.
3) Examine baseline environmental quality along with projected incremental load due to the project.
4) Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.
5) Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area.
6) Submit the details of the trees to be felled for the project.
7) Submit the present land use and permission required for any conversion such as forest, agriculture etc.
8) Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
9) Ground water classification as per the Central Ground Water Authority.
10) Examine the details of Source of water, water requirement, use of treated waste water and prepare a water balance chart.
11) Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water. Examine details.
12) Examine soil characteristics and depth of ground water table for rainwater harvesting

154

Standard Terms of Reference _ April 2015

13) Examine details of solid waste generation treatment and its disposal.

14) Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption.

15) DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.

16) Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.

17) A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.

18) Examine the details of transport of materials for construction which should include source and availability.

19) Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.

20) Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.

21) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given

22) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out

23) Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "http://moef.nic.in/Manual/Townships".

155

207

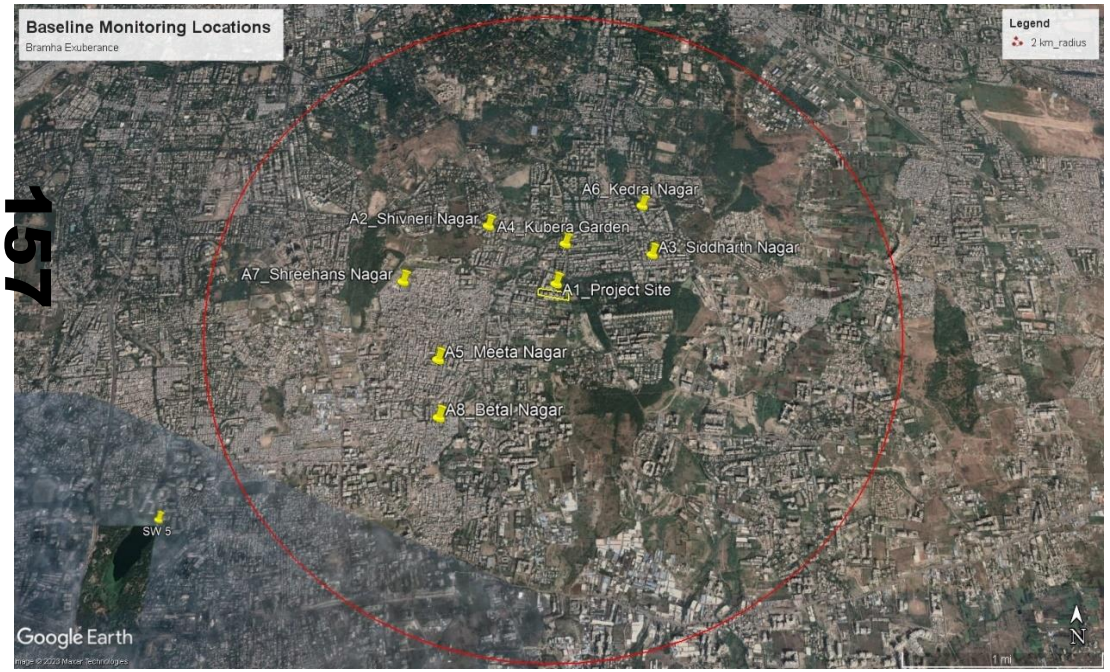
Additional studies for ToR

- Traffic study
- Carbon footprint report
- Environment Status Report
- Biodiversity Index
- Air quality modelling study
- Treatability study of Existing STP & OWC
- Renewable energy saving details
- Storm water management
- Swept path analysis

Baseline Environmental Monitoring Locations

Period of baseline: January 2023

Wind Direction: North West-North East



Sr.	Environmental Attribute	Sampling location
1	Meteorology	Indian Meteorological Department, Pune
2	**Sampling at eight locations (in 2 km study area)**	
	A1, N1, S1	Project Site
	A2, N2, S2	Shivneri Nagar
	A3, N3, S3	Siddharth Nagar
	A4, N4, S4	Kubera Garden
	A5, N5, S5	Metta Nagar
	A6, N6, S6	Kedrai Nagar
	A7, N6, S6	Shreehans Nagar
	A8, N8, S8	Betal Nagar
	Surface water	
	SW1	Mutha River
	SW2	Katraj lake
	SW3	Jambhulwadi lake
	SW4	Pashan lake
	SW5	Mutha river canal
	SW6	Khadakwasla dam
4	Ground water	
	GW1	Bore Well water (Project site Area)
5	Geology and Geohydrology	Generally, in 10 km study area
6	Land use pattern	Generally, in 10 km study area
7	Ecology	Primary data collection at site
8	Socio-economic and demography	Generally, in 10 km study area through Pune city Census data of year 2011

157

207

Baseline Environmental Monitoring Locations

Aspect	Mode of Data collection	No. of Sampling Locations	Frequency	Parameter
Meteorology	Primary data	-	5 consecutive weeks	Temperature, Humidity, Wind speed, Wind direction and Rainfall
Ambient Air Quality	Field studies	8 locations	5 consecutive weeks	PM2.5, PM_{10}, SO_2, NO_X, O_3, Pb, CO, NH_3, C_6H_6, BaP, As, Ni
DG set	Project site	1 Location		PM2.5, PM_{10}, SO_2, NO_X,
Noise	Field studies	8 Locations	Once	Hourly equivalent noise level during day time and Night time
Soil	Field studies	8 Location	Once	pH, Electrical Conductivity Sodium, Nitrogen, Phosphate, Potassium, Organic Matter, Cation Exchange Capacity (meq/100 gm), Particle Size Analysis , Permeability, Water holding capacity, Porosity

Baseline Environmental Monitoring Locations

Aspect	Mode of Data collection	No. of Sampling Locations	Frequency	Parameter
Ground water Quality	Field studies	1 Location	Once	Physical, chemical and bacteriological parameters, as per Environment Protection Rules/IS 10500 as applicable, shall be analyzed
Surface water Quality	Field studies	6 Location	Once	Physical, chemical and bacteriological parameters, as per Environment Protection Rules/IS 10500 as applicable, shall be analyzed
Terrestrial Ecology	Field studies & Literature review		--	Inventory of major floral & faunal species
Socio-economic environment	Census 2011, Secondary Sources		--	Demography, caste profile, literacy rate, occupational profile
Wastewater analysis	Project site	1 Location	Once	pH, BOD, TSS, COD, N, P, FC

159

207

2075

Thank You

160

		E-waste	NA	NA	NA
		Green belt development	Landscaping	4.67 lakhs	2.0lakhs/yr
		Energy saving	Energy Savings	36.05 Lakhs	0.72 Lakhs/yr.
		Environmental Monitoring	Air, water, Noise, Soil	----	1.2 lakhs/yr.
		Disaster Management	Lightning arrestor	1.8 Lakhs	----

35	Traffic Management	Type	Required as per DCR	Actual Provided	Area per parking (m2)
		4-Wheeler	231	231	12.5Sq.m
		2-Wheeler	693	693	2.00 Sq.m
		Bicycles	----	----	----
		Total Parking Area			4263.5 Sq.m
36	Details of Court cases / litigations w.r.t. the project and project location If any.				NO

Deliberations:

PP stated that, they have submitted corrigendum application for correction in building configuration. PP informed that, the project comprises of Commercial Building with BP+LGP+G+Mezz+07 Floors building configuration and Club House with G+1 Floor configuration.

PP stated that, their project was appraised in 148th SEAC-3 & the correction in Minutes received in 149th SEAC-3. PP stated that, they have received SEAC-3 MoM as per corrected CS, But in the Environmental Clearance Certificate, configuration was not changed. Hence they have applied for corrigendum.

Decision: -

After deliberation, Committee decided to forward the application to SEIAA for corrigendum, as SEAC-3 already recommended the corrigendum in Minutes.

*****

14	**P-14**	SIA/MH/MIS/76973/2022	Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune

Representative of PP was present during the meeting along with environmental consultant M/s. Mahabal Enviro Engineers Pvt. Ltd.

It is noted that, the PP has submitted the application for Environmental Clearance as per Office Memorandum dated 07.07.2021 under violation category for proposed residential project with total plot area of 17,433.10 m2, FSI area of 21,798.69 m2, Non FSI area of 28,749.68 m2 and total BUA of 50,548.37 m2.

Brief information of the proposal is as below:

1	Proposal Number	**SIA/MH/MIS/76973/2022**
2	Name of Project	Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra by Bramha Corp Ltd.
3	Project Category	8(a) B2 Category
4	Type of Institution	Private
5	Name of Project Proponent	Name: Mr. Sachin Shah Regd. Office address: The Residency Club, 3 Queen's Garden Road, Pune Maharashtra 411001 Contact number: 020-41423333 Email ID: ec@bramhacorp.in
6	Consultant	Mahabal Enviro Engineers Pvt. Ltd.
7	Applied for	Environmental Clearance
8	Details of previous EC	NA
9	Location of project	Sr. No.13, H. No. 1, 2, & 3 of Village- Kondhwa Khurd, Taluka- Haveli, Pune, Maharashtra
10	Latitude and Longitude	18°28'31.22"N, 73°53'42.44"E
11	Total Plot area (m^2)	17,433.10 m^2
12	Deductions (m^2)	2,833.35 m^2
13	Net Plot Area (m^2)	14,599.75 m^2
14	Proposed FSI Area (m^2)	21,798.69 m^2
15	Proposed Non-FSI Area (m^2)	28,749.68 m^2
16	Proposed Total BUA area (m^2)	50,548.37 m^2
17	TBUA (m^2) approved by Planning Authority till date	14,805.95 m^2 (FSI area) as per Sanctioned plan No. DPO5191/VI/39 dated 14.09.2005 & 50,548.37 m^2 as per sanction no. CC/0819/17 dated 21.06.2017.
18	Total ground coverage	3,007.70 m^2 (20 %) of total net plot area

<table>
<tr><td></td><td>(m^2) & %</td><td colspan="3"></td></tr>
<tr><td>19</td><td>Total project cost (Rs.)</td><td colspan="3">Rs. 27.33 Crore</td></tr>
<tr><td>20</td><td>CER as per MoEF & CC Circular dated 01.05.2018</td><td colspan="3">Not applicable</td></tr>
<tr><td>21</td><td>Details of Building Configuration</td><td colspan="3"><table>
<tr><th>Sr.</th><th>Building Name</th><th>Configuration</th><th>Height (m)</th></tr>
<tr><td>1</td><td>A Building</td><td>Below podium parking, podium parking, 1st – 11th floor, terrace</td><td>34.90</td></tr>
<tr><td>2</td><td>B Building</td><td>Below podium parking, podium parking, 1st – 11th floor, terrace</td><td>34.90</td></tr>
<tr><td>3</td><td>C Building</td><td>Below podium parking, podium parking, 1st – 11th floor, terrace</td><td>34.90</td></tr>
<tr><td>4.</td><td>D Building</td><td>Lower Basement parking, Below podium parking, podium parking, 1st – 11th floor, terrace</td><td>34.90</td></tr>
<tr><td>5.</td><td>E Building</td><td>Below podium parking, podium parking, 1st – 11th floor, terrace – 54 tenements</td><td>34.90</td></tr>
</table></td></tr>
<tr><td>22</td><td>Total number of tenements/shops/offices</td><td colspan="3">Tenements: 249 Nos.</td></tr>
<tr><td></td><td>Number of expected residents / users</td><td colspan="3">Total Population: 1,432 Nos.</td></tr>
<tr><td>23</td><td colspan="4">Water Budget</td></tr>
<tr><td></td><td></td><td>Dry Season</td><td colspan="2">Wet Season</td></tr>
<tr><td></td><td>Freshwater (in m^3/day)</td><td>123 m^3/day</td><td colspan="2">123 m^3/day</td></tr>
<tr><td></td><td>Recycled water (Flushing)</td><td>62 m^3/day</td><td colspan="2">62 m^3/day</td></tr>
<tr><td></td><td>Recycled water (Gardening)</td><td>17 m^3/day</td><td colspan="2">9 m^3/day</td></tr>
<tr><td></td><td>Swimming pool</td><td>NA</td><td colspan="2">NA</td></tr>
<tr><td></td><td>Total water requirement</td><td>185 m^3/day</td><td colspan="2">185 m^3/day</td></tr>
<tr><td></td><td>Wastewater generation</td><td>173 m^3/day</td><td colspan="2">173 m^3/day</td></tr>
<tr><td>24</td><td colspan="4">Water Storage Capacity for Firefighting</td></tr>
</table>

	Firefighting (Underground water tank)	50 m^3
	Firefighting (Overhead water tank)	50 m^3
24	**Source of water**	Pune Municipal Corporation
25	**Rain Water Harvesting (RWH)**	
	i) Level of the groundwater table	Groundwater table: 5 m to 6 m below ground level
	ii) Size and no of RWH tank(s) and Quantity	NA
	iii) Quantity and size of recharge pits	Total 2 no. of Borewell (1 no. of Borewell: Size 3'x3'x4.5")
	iv) Details of UGT tanks if any:	Domestic UG domestic tank capacity: 377 m^3, Domestic UG Fire tank capacity: 50 m^3,
26	**Sewage and wastewater Demand**	i) Sewage generation in KLD: 173 m^3/day ii) STP technology: MBBR iii) No. and Capacity of STP: 1 no. x 70 m^3/day Existing
27	**Solid Waste Management during Construction phase**: 0 kg/day	
28	**Solid Waste Management during operation Phase:**	

Type	**Quantity (kg/day)**	**Treatment/disposal**
Total waste generation	699 kg/day	
Wet waste	419 kg/day	Through Organic Waste Converter. Generated manure used for gardening.
Dry waste	280 kg/day	Handed over to the authorized recycling agency
Hazardous waste	NA	NA
Biomedical waste	NA	NA
STP sludge (dry)	1.7 kg/day	Used as manure
E-waste	NA	NA

29	**Green Belt Development**	
	Total RG area	2,045.85 m^2
	Existing trees on plot	392
	Number of trees to be planted	NA
	No of trees to be retained	NA
	Number of trees to be transplanted/cut	NA
30	**Power requirement**	
	Source of power supply	MSEDCL
	During Construction Phase (Demand	NA

	Load)	
	During Operation phase (Connected Load)	1,419 kW
	During Operation phase (Demand Load)	1,135 kW
	Transformer	1 nos. X 82.5 kVA
	DG set	1 nos. X 82.5 kVA
	Fuel Used	Diesel

31 **Details of Energy saving**

Energy Conservation Measures	**Quantity**
Energy-saving due to use of solar PV panels	5 %
Energy-saving due to CFL Lamp	NA
Energy-saving due to LED Lamp	NA
Energy-saving due to Electronic Ballast	NA
Energy savings due to VFD	NA
Overall energy saving	20%

32 **Environmental Management plan budget during Construction phase**

Component	**Parameter**	**Cost (Rs. In Lakhs)**
Air Environment	Water for dust suppression	8.0
	Water utilization for tree planted along with the plot boundary	1.0
	Vehicle maintenance, washing area, tyre cleaning	0.5
	Safety net	0.5
Water Environment	Site sanitation, Toilets, STP, safe drinking water	1.0
	Environment Monitoring	0.5
	Stormwater management	0.5
Socio-Economics Environment	Disinfection at site	1.0
Health & Safety	Health check-ups for workers, first aid kit	1.0
Noise Environment	Site fencing & noise barrier	1.0
	Traffic management	0.5
Training and awareness	Safety personal protective equipment & training programs	1.0
Total		**16.5**

33 **Environmental Management plan budget during Operation phase**

Sr.	**Component**	**Details**	**Capital cost (Rs. In Lakh)**	**O&M cost (Rs. In Lakh/year)**
1.	Storm water management	Laying of storm & Sewer line up	11.00	0.90

Member Secretary **Chairman**

			to final disposal point		
	2.	Sewage Treatment Plant	1 no. of STP having capacity 70 m^3/day existing & 110 m^3/day to be proposed	80.25	2.6
	3.	Rain Water Harvesting	1 no. of Borewell	1.90	0.5
	4.	Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	3.00	0.4
	5.	Landscape development	Tree Plantation	17.26	1.5
	6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	25.00	2.6
	7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	5.00	0.5
	8.	Firefighting system	Installation and operation of Fire Fighting system	14.50	1.7
	9.	Disaster Management		23.10	9.5
		Total		**181.01**	**20.2**

34	**Traffic Management:**	
35	Details of Court cases / litigations w.r.t. the project and project location if any.	Yes Court case details- NGT Western zone bench at Pune – Case no.65/2019

Type	**Required as per DCR**	**Actual Provided**	**Area per parking (m^2)**
4 -wheeler	140 nos.	214nos.	2,675
2 -wheeler	388 nos.	411 nos.	1,233
Total			**4,458**

Member Secretary **Chairman**

Deliberations:

PP stated that, the application is a residential project located at Kondhwa Khurd, Pune. PP further stated that, the Project is a Fresh EC application in violation category. PP informed that, as per sanction 2005, A, B, C, D, and E buildings were constructed with 'FSI area of 16,693.84 m2, it comprises of 5 residential buildings, 249 flats in 2005 as per the Sanctioned plan No. CC/2342/05 dated 21.09.2005 & CC/3387/05 dated 30.12.2005 and the work was completed in the year 2009. PP stated that, the violation application was submitted on PARIVESH portal as per MoEF&CC Office Memorandum dated 28.01.2022 vide F. No. 22-21/2020-IA.III (E 138949).

SEAC-3 appraises the proposal as per Circular issued by SEIAA vide dated 22.08.2022. The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(a) B1.

After detailed deliberations on the proposal committee confirmed the case to be of violation of the EIA Notification, 2006 and as per Office Memorandum- F. No. 22-21/2020-IA.III dated 07.07.2021 issued by the Ministry of Environment, Forest & Climate Change, decided to issuing following Term of Reference for undertaking EIA and preparation of Environment Management Plan (EMP).

Terms of Reference for EIA and preparation of Environment Management Plan (EMP) for Violation Cases

The following Terms of Reference (TOR) for violation cases shall be read along with Ministry of Environment Forest and Climate Change orders no F.No.22-21/2020-IA.III Dated 7th July 2021 and F No. 22-21/2020-IA.III (E 138949) dated 28th January 2022 and Approach for Assessment for Environment Damage and Estimation of Remediation Costs for Building Construction Projects Initiated Without Mandatory Environment Clearance" 2018

The following TOR are drafted with reference to Ministry of Environment Forest and Climate Change impact assessment division TORs for Violation Case a) For Construction Sector vide Notification S.O.804 (E) dated 14th March 2017 in the matter of IA/HR/NCP/63612/2017 and b) For Mining Sector dated 12th November 2018 in the proposal No IA/MH/MIN/68113/2017.

A) Project Description

1. Project description, its importance and benefits.

2. Project site details (location, topo-sheet of the study area of 10 Km, Coordinates, google map, layout map, land use, geological features and geo-hydrological status of the study area, drainage). hydro geological survey report with graphs & data.

3. Land use as per the approved Master Plan of the area, Permission/approvals required from the land owning agencies, Planning / Development Authorities, Local Body, Water supply & Sewerage Board, etc.

4. Land acquisition status, R & R details.

5. Forest and Wildlife and eco-sensitive zones, if any in the study area of 10 km. Any sensitive areas in impact zone such as archaeological structures, reserved forest, noise sensitive zones etc. Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986.

6. High Tension lines or Hazard lines if any on the plot.

7. Plan showing HFL/CRZ lines.

8. Permissions granted by State Government in tabular and chronological form. Comparative statement of components approved and components constructed including tis configuration as per earlier EC (if applicable) and proposed development.

9. PP to submit the detailed master plan indicating already completed construction and proposed construction. PP to submit the certificate from registered architect for completed work, built up area and configuration.

10. Project cost shall be based on government notified stamp duty ready reckoner at time of application including cost of land and construction including civil, MEP works, environment services, site/land development, horticulture/landscape works etc complete

B) Base Line Data

11. Baseline environmental study for ambient air (PM_{10}, $PM_{2.5}$, SO_2, NO_x & CO),water (both surface and ground), noise and soil for one month (except monsoon period) as per MoEF&CC/CPCB guidelines at minimum 5 locations in the study area of 10 km, The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory duly notified under the Environment (Protection) Act,1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

12. Detail on flora and fauna and socio-economic aspects in the study area. Details of tree cutting, tree transplantation and survival report of existing trees including conformity to prevailing Tree Act.

13. Likely impact of the project on the environmental parameters (ambient air surface and ground water, land, flora and fauna and socio-economic, etc.)

14. Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc.

15. Socio-economic infrastructure details including public transport arrangements on the site; PP to mention details of socio-economic in EIA.

16. PP to submit contour map with slopes, drainage pattern of the site and surrounding area. Layout showing natural water courses on site; total runoff calculation before and after development.

17. PP to submit details of existing trees, proposed to be cut, proposed to be transplanted along with tree survival report conforming to prevailing Tree Act.

18. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated.

19. Proximity to Areas declared as 'Critically Polluted' should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB should be secured and furnished to the effect that the proposed Activities could be considered.

20. Similarly, for Coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t. CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain Approval of the concerned Coastal Zone Management Authority).

21. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

22. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

23. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

24. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

25. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central

Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

26. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be examined.

27. Information on site elevation, working depth, groundwater table etc. should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

C) Traffic Impact Study in detail including:

28. Traffic Management Plan for the development – Internal circulation indicating road width and turning radius. Cross section of roads at four places showing clear road width, distance left from building line, spaces left for plantation, footpath, service lines etc.

29. Traffic Volume Counts and Turning Movement Counts on all the external surrounding roads of the proposed project showing the time period taken.

30. Topographic details of roads and intersection of the surrounding roads where counts are taken, actual geometry on ground to be shown with dimensions.

31. Traffic generation values of similar development to be given by actual count by actual count as support data for assumption made to the particular project.

32. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

33. Parking statement mentioning parking as per DCR & parking provided actually.

34. Basement ventilation plan: Fire Tender Movement Plan showing clear road and turning radius. Cross section of roads at four places including UGT, OWC and DG set location showing clear road width and distance left from building line & spaces left for plantation, parking, service lines, foot paths, etc.

D) Environmental Impact and Management Plan:

35. Identify sources of air pollution, indicate mitigation measures to reduce Air pollution/Noise pollution.

36. Debris management plan including (a) debris required for refilling, (b) contour plan, (c) details of site where excess debris will be disposed, capacity of the site and NOC of plot owner. PP shall also ensure that debris disposed on other plot shall not be disposed on another

plot. If to be disposed on another plot, the same shall be carried out as per prevailing environmental laws.

37. Management of solid waste and the construction & demolition waste for the project vis-a-vis the Solid Waste Management Rules 2016 and the Construction & Demolition Rules, 2016. Transport, collection, storage and disposal for all types of wastes like hazardous waste, non-hazardous waste, solid waste, E– waste, and debris/excess earth etc. PP to provide the detailed solid waste management plan along with marked locations on the master plan. Design details of waste processing equipment such as OWC/biogas plants confirming to the technical requirements to meet the quality products.

38. Waste water management (treatment, reuse and disposal) for the project and also the study area. Design of all STP's along with BOD load, oxygen requirement calculations and sizing of the tanks with respect to the design criteria. PP to submit detailed calculation for the disinfection of the treated STP water; PP to submit cross sectional drawing of STP's showing dimensions and ground level; PP to provide ozonation for tertiary treatment. PP to mark the area required for all STP's on master layout with dimensions

39. PP to show internal storm water drain and sewer line arrangements up to final disposal point.

40. Provision of mandatory RG area on virgin land and submit the drawing with calculations, ensuring entire mandatory RG is provided on the plot where residential buildings are proposed.

41. A detailed phase wise development plan with safety planning where occupancy has been given.

42. If any site specific structures such as creation of water body, alteration of natural storm water, large alteration of slopes, creation of green areas abutting to water bodies / natural storm water drain / river etc, is involved, detailed environmental protection approach for the same shall be provided.

43. Separate chapter on Renewable energy in EIA report. PP to submit terrace plan for installing solar panels& calculations of energy saving; Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project. Report on ECBC compliance.

44. Provide details of Solar PV and Solar water heater in the specific format. PP to carryout shadow analysis for identifying the roof-top area for providing solar panels Minimum 5% of the total connected load shall be provided with Solar PV.

45. Environmental status report including analysis reports of all environmental pollution reduction facilities if any commissioned.

46. PP to submit Disaster management plan.

47. Preparation of site specific, executable and auditable environment management plan (EMP)

48. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

49. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc

E) Environmental Modelling and additional Studies:

50. Fugitive dust modelling by using local meteorological data.

51. Ecological footprint calculation using LCA approach.

52. Estimation of Carbon footprint of the project and its analysis to be included.

53. Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection of data and sample analysis shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986 or Environmental Laboratory accredited by NABL, or a laboratory of council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

54. Gate mass balance analysis for environmental parameters related to solid/liquid waste material coming to site, waste generated and its treatment and disposal from site.

55. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

56. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

57. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

58. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

Member Secretary **Chairman**

59. PP to refer "approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance" available on the portal : "ecmpcb.in".

F) NOCs, Undertakings, CER and Litigations:

60. NOC's required: a) CFO, b)Water supply with quantity, c) Drainage, d) Non-biodegradable waste disposal, e) Aviation f) HRC, G) PESO , H) Defence/NAD etc

61. Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, Emergency Services including emergency lifts, etc.

62. Include condition of "maintenance of all Pollution Control Equipment's and functioning of Environment Monitoring Cell in PP's MoU with society /maintenance agencies /vendors

63. PP to submit details of CER activities in consultation with the affected people in the project area as per MoEF&CC circular dt. 01.05.2018, along with details of fund utilization & agreement or consent of executor.

64. PP to submit Roles and Responsibilities of developer etc for compliance of environmental regulations under the provisions of EP act.

65. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

G) Specific Term of Reference

66. The State Government/SPCB shall take action against the project proponent under the provisions of section 15 read in conjunction with Section 19 of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.

67. As per extant regulations at the time of scoping, if it is viewed that the project activity is otherwise permissible, Terms of Reference (TOR) shall be issued with directions to complete impact assessment studies and submit Environment Impact Assessment (EIA) report and Environment Management Plan (EMP) in a time bound manner.

68. Such cases shall be subject to appropriate

(a) Damage Assessment

(b) Remedial Plan and

(c) Community Augmentation Plan.

69. Assessment of ecological damage with respect to air, water, land and other environmental attributes shall be done before arriving at quantum environment remediation and natural and community resource augmentation.

70. The methodology of calculating this quantum shall be as specified in format for Assessment of Environmental damages in the paper titled "Approach for Assessment for

Environment Damage and Estimation of Remediation Costs for Building Construction Projects Initiated Without Mandatory Environment Clearance" 2018

71. Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived, which shall be based on cost of project derived from prevailing rates of construction and land of government approved ready reckoner, due to violation. The cost of the Project (capital cost and recurring cost) as prevailing in Annual Statement of Rates / District Schedule of Rates/ Government Ready Reckoner Rates as well as the cost towards implementation of EMP should be clearly spelt out.

72. The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP in a period of one year, followed by recommendations of the EAC and approval of the regulatory authority.

73. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

74. The remediation plan and the natural and community resource augmentation plan shall be prepared as an independent chapter in the EIA report by the accredited consultants.

75. It should be clearly stated whether the proponent if it is a Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

76. Besides the above, the below mentioned general points are also to be followed:

a) All documents to be properly referenced with index and continuous page numbering.

b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

d) Where the documents provided are in a language other than English, an English translation should be provided.

77. **In case of continued violation after issue of TOR, the ToR/Environmental Clearance shall be terminated forthwith**.

Project Specific emerged points

1. PP to submit the DP Plan.
2. PP to submit the detail Architect Certificate stating current status of the construction along with building wise construction done (FSI, NoN- FSI & Total built up area) on site along with the chronology.
3. PP to submit the all-approvals details (CC, OC etc) regarding project under consideration.
4. PP to submit the details of Court cases / litigations w.r.t. the project and project location, if any.
5. PP to submit details of implementation of points mentioned in point number 68 along with financial requirements for same with EIA.

Decision: -

After deliberation, Committee decided to recommend the proposal to SEIAA for grant of ToR.

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Member Secretary **Chairman**

2091

Terms of Reference (ToR) Presentation to State Environmental Impact Assessment Authority (SEIAA) For

BramhaCorp Ltd.

Residential Project

176

"Bramha Exuberance"

at

Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra

Consultant

Mahabal Enviro Engineers Pvt. Ltd.

Pollution monitoring, Engineers & Contractors in Environmental Management

Accreditation No.: QCI/NABET/ENV/ACO/22/2531

259th SEIAA Meeting, Item No.44, Date: 19.04.2023

Proposal no. SIA/MH/MIS/76973/2022

Project Summary

- **'Bramha Exuberance'** is a residential project at sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BrahmaCorp Ltd.
- As per sanction 2005, **A & B (4 wings each), D, and E (5 wings each) buildings were constructed with 'built-up area of 39,037.99 m^2**. It comprises of 4 residential buildings, **249 flats** in 2005 as per the Sanctioned plan No. CC/2342/05 dated 21/9/2005 & CC/3387/05 dated 30/12/2005. **The entire work was completed in 2009.**
- **The Occupancy Certificate was granted to the project on 04/12/2009**. Society registration was done on 29/08/2011 and the possession of the flats and buildings was handed over to the buyers 'residents' society in the year **2012.**
- As per CC-3954 dated 04/03/2014, Building No. C was constructed and the total built-up area of the C building is **11,510.38 m^2**. The building configuration of the C building is Lower Parking + Podium +1 Floors & **55 flats.**
- **Commencement Certificate of the last C building was issued on 15/07/2014.**
- **20000 m^2 construction area was crossed on dated 20/11/2006.**
- **70 KLD of STP, 7 no. of Vermicomposting pits, 2 no. of the recharge well, 2,046 m^2 green area, Solar PV Panels, fire fighting system have been provided at the project site.**
- The violation application was submitted on PARIVESH portal as per MoEF&CC Office Memorandum dated 07/07/2021 and 28/01/2022 vide F. No. 22-21/2020-IA.III (E 138949). No one had directed to apply for EC. The NGT matter OA 65/2019(WZ) Tanaji Gambhire was pending before NGT with no adverse order. **NGT by Daily Order dated 09/11/2022 has stated**; ***"11..... However, we also deem it appropriate that the SEIAA, before which the application dated 14/01/2022 for ex-post facto Environmental Clearance is pending should be directed to decide the same within a period of one month from today, particularly in this matter and direct accordingly."***

777

2091

Project Summary Cont.

93

- We have applied for environmental clearance for the FSI area **21,798.69 m²**, Non-FSI area **28,749.68 m²** & Contruction area **50,548.37** vide proposal no. SIA/MH/MIS/76973/2022 dated 17/05/2022.
- We have calculated violation days from the date of a **total construction area exceeds the threshold limit of 20,000 m² i.e. 20/11/2006 to the date of the Occupancy Certificate dated 18/01/2019** i.e.**4,442 days.**
- We have given the construction status on slide no.10.
- Project was considered in the 147th SEAC-III meeting as Sr.36 on 21/07/2022 and further recommended to SEIAA.
- Further project was considered in the 248th SEIAA meeting as Sr.66 on 17/08/2022 and SEIAA decided to refer back the proposal to SEAC-III.

178

- Project was considered in 152nd SEAC-III meeting as Sr.23 on 22/09/2022. As per the SEAC-III meeting committee wants the chronology of the project & construction status of the project properly.
- We have calculated penalty provision for violation application as per approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance on the PARIVESH portal.
- Project was considered in the 165th SEAC-III meeting as sr. no.14 on 08/03/2023. Additional ToR was received in the same meeting.

Brief information

Sr.	Details	Information
1.1	Name of the project	“Bramha Exuberance” - Residential Project by BramhaCorp Ltd.
1.2	Screening category	8(a) B2 category “Building and Construction Projects”
1.3	Location details	Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka Haveli, District-Pune, State-Maharashtra
1.4	Project cost	**Rs.27.33 Crore**
1.5	Name, contact and email ID of the project proponent	**BramhaCorp Ltd.** Mr. Sachin Shah Telephone No.: 02041423333, Mobile No. 82639788/9325066422 E-mail: ec@bramhacorp.in Address: The Residency Club, 3 Queen’s Garden Road, Camp, Pune-411001
1.6	Name, contact and email ID of Environmental consultant	**Mahabal Enviro Engineers Pvt. Ltd.** Plot F-7, Road 21, MIDC Wagle Estate, Thane West - 400604 mahabal.thane@gmail.com
1.7	QCI Accreditation status	QCI/NABET/ENV/ACO/22/2531
1.8	Accreditation for the category	Sectors 1, 2, 4, 8, 9, 21, 22, 27, 31, 32, 33, 38 and 39
1.9	Ownership and land use in DP	Land use in DP-Residential
1.10	Any court case, litigation, if any	Yes, Case no NGT OA 65/2019

179

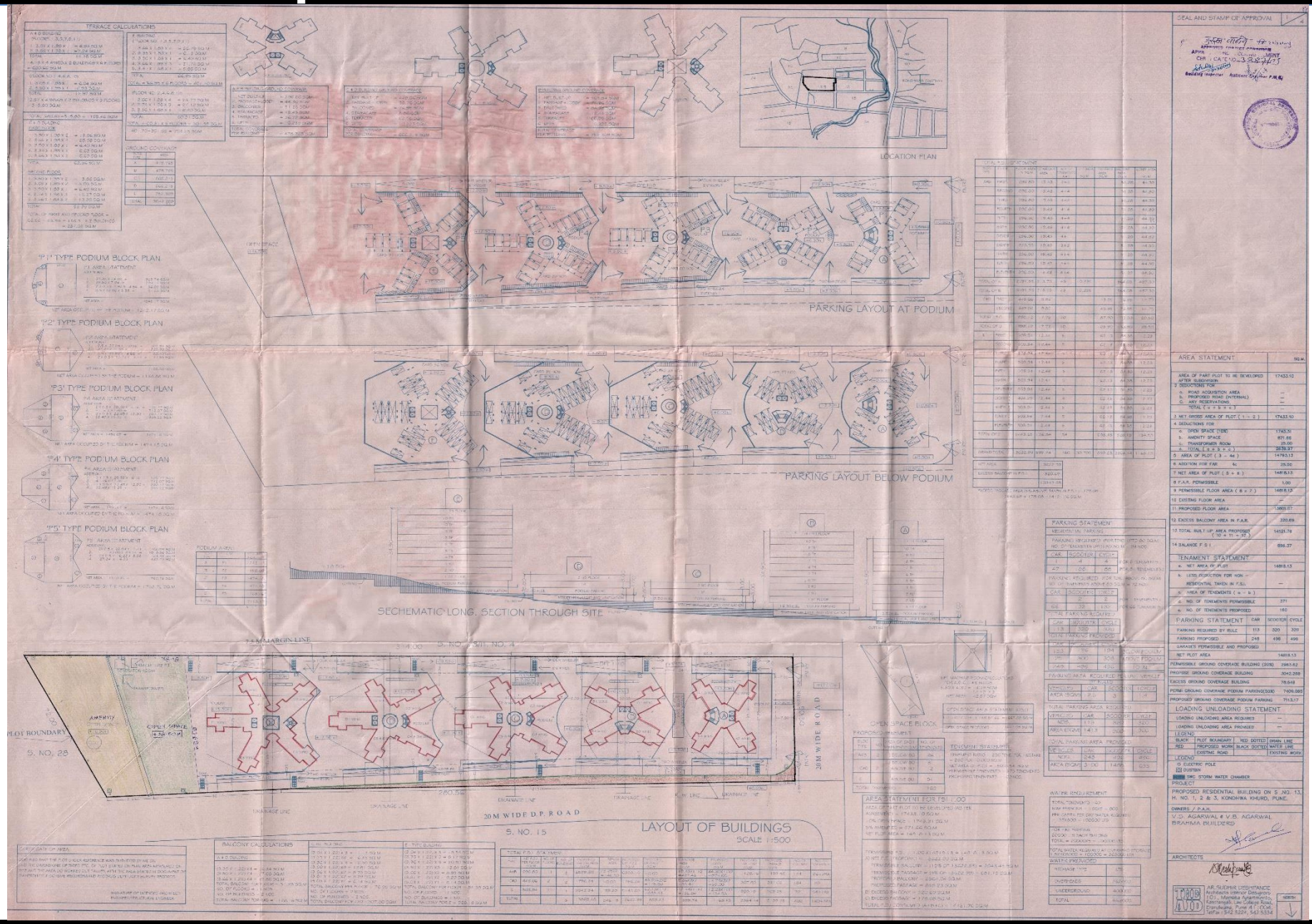
209

Google image

Latitude	18°28’30.41"N
Longitude	73°53’43.23"E

2095

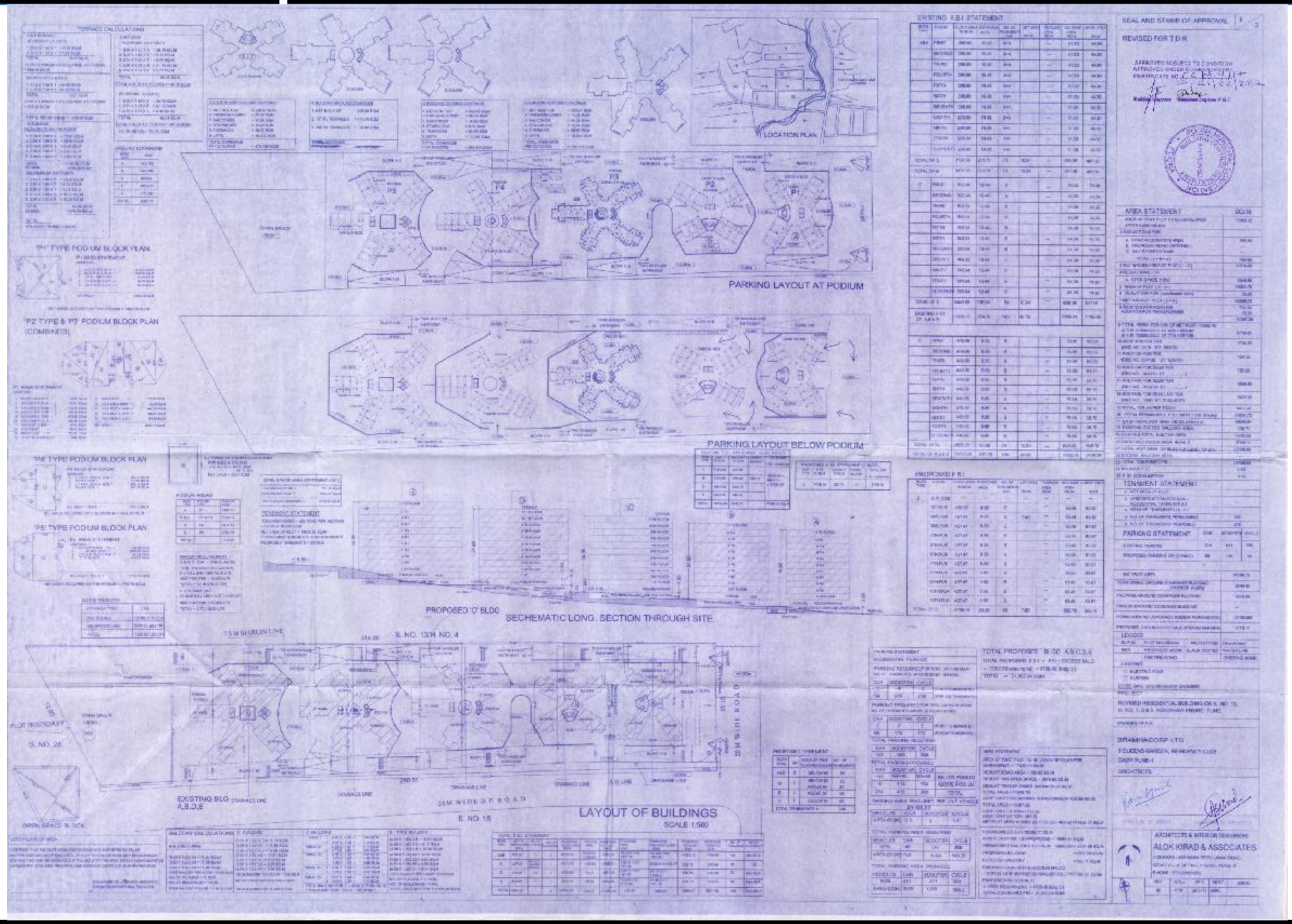
Sanctioned plan_30/12/2005



181

209

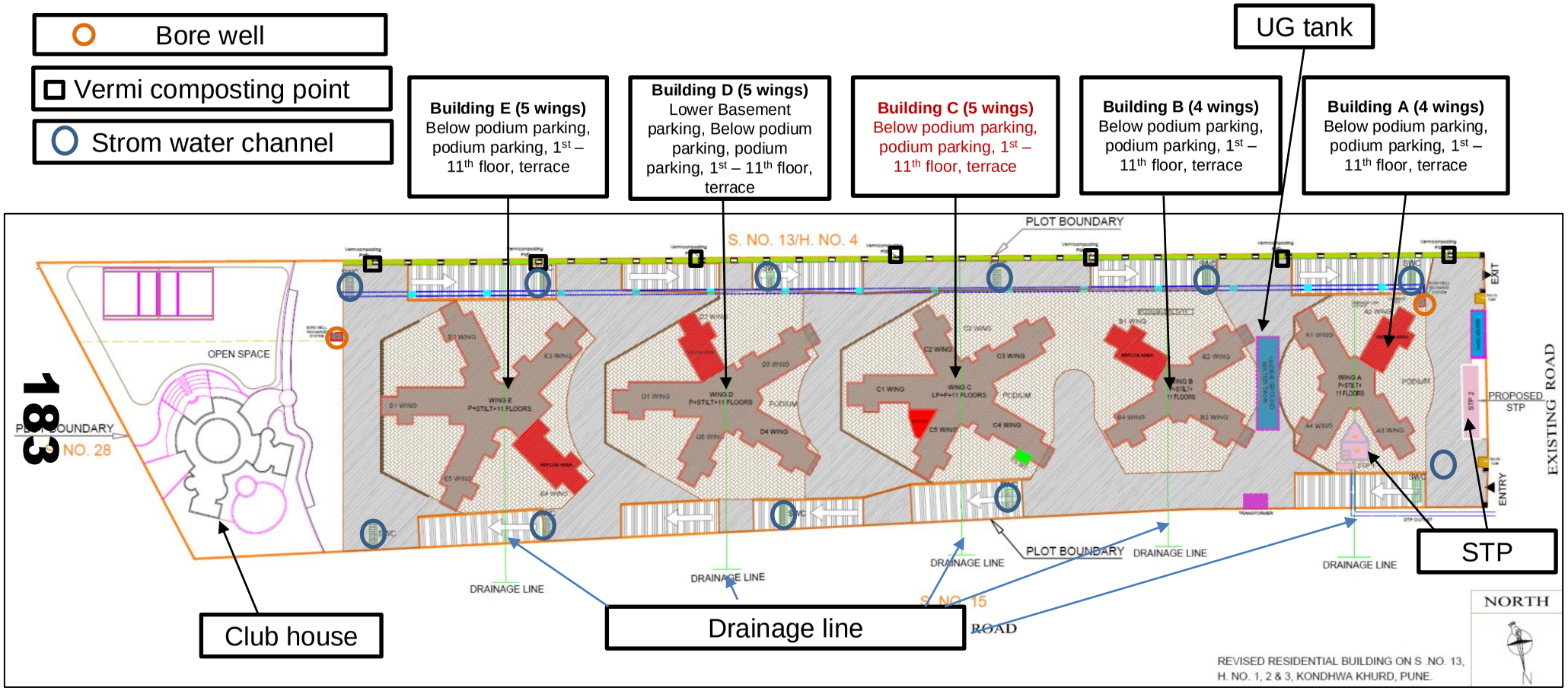
Sanctioned plan_21/06/2017



182

097

Master layout



209

Area statement

Description	Area (m^2)
Plot area	17,433.10
Deductions	2,833.35
Net plot area	14,599.75
Total proposed FSI area	21,798.69
Total Non-FSI area	28,749.68
Total construction area	50,548.37

FSI & Non FSI area statement

Sr.	Particulars	Building A	Building B	Building C	Building D	Building E	Total
1	**FSI**	3191.55	3191.55	4706.14	4867.09	5443.65	21399.98
2	**Excess balcony**					398.71	398.71
3	**Staircase**	213.73	213.73	94.38	97.46	136.84	756.14
4	**Lift area**	10.24	10.24	7.82	10.24	10.24	48.78
5	**Balcony area**	564.08	564.08	692.78	846.45	928.18	3595.57
6	**Lobby area**	487.30	487.30	922.57	645.70	817.96	3360.83
7	**Terrace area**		1199.46	970.89	418.09	703.25	3291.69
8	**Refuge area**	73.25	73.25	25.60	72.57	99.69	344.36
9	**Podium area**	1464.70		3023.17	1474.18	1763.76	7725.81
10	**Lift M. room**	--	--	--	--	--	--
11	**Built up Area of residential buildings**						40921.87
12	**Area of club house**						310.06
13	**Area of Transformer room**						20
14	**Area of undergrounds tanks**						100
16	**Area of Security cabin**						25
17	**Area of Parking below podium**						7197.37
18	**Terrace (11th floor of each building)- A=296.80+B=296.80+C=427.47+D=449.06+E=503.94**						1974.07
	Total built up area of the project						**50548.37**

Construction status

Building A			Building B, E			Building D			Club House			Building C				
CC	CC/2342/05 dt. 21.09.2005	B/up area in Sq.M.	CC	CC/3387/05 dt. 30.12.2005	B/up area in Sq.M.	CC	CC/3387/05 dt. 30.12.2005	B/up area in Sq.M.	CC	CC/1246/06 dt. 30.12.2005	B/up area in Sq.M.	CC	CC/2342/05 dt. 21.09.2005	B/up area in Sq.M.	Other non-FSI common areas	B/up area in Sq.M.
Excavation Started 10.01.2006			Excavation Started 29.01.2006			Excavation Started 29.01.2006			Excavation Started 07.07.2006							
Plinth Certificate	BCO/14/1/389 dated 02.02.2006		Plinth Certificate	BCO/14/01/0488 dated 20.03.2006		Plinth Certificate	BCO/14/01/325 dated 17.10.2006		Plinth Certificate			Plinth Certificate	BCO/14/01/ 422 09.12.2009			
						Lower Basement		1,075.49								
Below podium	01.01.2006	869.00	Below podium		2550.28	Below podium	01.08.2006	1385.84	Ground floor	15.04.2006	164.4	Below podium	07.08.2006	1,285.87	Area of transformer room	20
Podium	09.02.2006	1464.7	Podium	10.10.2006	3385.88	Podium	03.10.2006	1474.18	1st floor	30.05.2006	164.4	Podium	10.10.2006	1,401.05	Area of underground tank	100
1st floor	10.04.2006	292.32	1st floor	15.05.2006	761.48	1st floor	12.02.2007	526.01	Terrace	05.07.2006	99.94	1st Slab	30.01.2007	734.67	Area of security cabin	25
2nd Floor	25.05.2006	292.32	2nd Floor	25.06.2006	761.48	2nd Floor	15.06.2008	526.01			428.74	2nd Slab	07.11.2014	743.39	Refuge areas	344.36
3rd floor	10.07.2006	292.32	3rd floor	05.08.2006	761.48	3rd floor	05.12.2008	526.01				3rd Slab	09.12.2014	732.62	Lobbies	3360.83
4th floor	25.09.2006	292.32	4th floor	01.10.2006	761.48	4th floor	30.12.2008	526.01				4th Slab	10.01.2015	718.64	Balconies	3595.97
5th floor	10.10.2006	292.32	5th floor	20.11,2006	761.48	5th floor	19.01.2009	526.01				5th Slab	15.11.2015	734.67		
6th floor	25.12.2006	292.32	6th floor	05.01.2007	761.48	6th floor	13.02.2009	526.01				6th Slab	25.01.2016	743.39		
7th floor	10.02.2007	292.32	7th floor	20.02.2007	761.48	7th floor	10.03.2009	526.01				7th Slab	15.03.2016	732.62		
8th floor	25.03.2007	292.32	8th floor	15.04.2007	761.48	8th floor	31.03.2009	526.01				8th Slab	01.05.2016	718.64		
9th floor	10.05.2007	292.32	9th floor	30.05.2007	761.48	9th floor	22.04.2009	526.01				9th Slab	12.06.2016	734.67		
10th floor	25.06.2007	292.32	10th floor	10.07.2007	761.48	10th floor	15.05.2009	526.01				10th Slab	17.11.2017	743.39		
11th floor	10.08.2007	292.32	11th floor	25.08.2007	761.48	11th floor	11.06.2009	526.01				11th Slab	13.12.2017	743.39		
12th Floor (Terrace)	30.09.2007	292.32	12th floor (Terrace)	05.10.2007	761.48	12th floor (Terrace)	15.07.2009	526.01				12th Slab (Terrace)	01.10.2018	743.39		
Occupancy no. and date	BCO/14/7/14/L dated 22.10.2007		Occupancy no. and date	BCO/14/7/14/L dated 22.10.2007		Occupancy no. and date	1st Occupancy 350 dated 05.10.2009					Occupancy no. and date	1st Occupancy OCC/0717/18 dated 01.09.2018			
							2nd Occupancy 421 dated 04.12.2009						2nd Occupancy OCC/1333/18 dated 18.01.2019			
Total		5,841.54			15,073.92			10,247.63			428.74			11,510.38		7,446.16
Total BUA																50,548.37

Date	BUA in Sq.M.
20.11.2006	20,590.03

Building Configuration

Building Type	Configuration	Tenements (nos.)	Population (nos.)	Height (m)	Status
A	Below podium parking, podium parking, 1st – 11th floor, terrace	43	215	34.90	Completed (2009)
B	Below podium parking, podium parking, 1st – 11th floor, terrace	43	215	34.90	Completed (2009)
C	Below podium parking, podium parking, 1st – 11th floor, terrace	55	308	34.90	Completed (2019)
D	Lower Basement parking, Below podium parking, podium parking, 1st – 11th floor, terrace	54	302	34.90	Completed (2009)
E	Below podium parking, podium parking, 1st – 11th floor, terrace	54	324	34.90	Completed (2009)
	Total	**249**	**1,432 (1364 + 86 visitors)**		

Salient features of project

Sr.	Description	Details	Unit
1	Project name	“Bramha Exuberance"	-
2	EIA category	8 (a)	-
3	Plot area	17,433.10	m^2
4	Deductions	2,833.35	m^2
5	Net plot area	14,599.75	m^2
6	Proposed FSI area	21,798.69	m^2
7	Non FSI area	28,749.68	m^2
8	**Total built up area**	**50,548.37**	m^2
9	Project cost (from year 2005 4 buildings and then 2015 C Bldg.)	27.33	Rs. Crore
10	Total No. of Tenements	249	Nos.
11	Total population	1,432	Nos.
12	Total water requirement	185	m^3/day
15	Fresh water requirement	123	m^3/day
16	Flushing water requirement	62	m^3/day
17	Sewage generation	173	m^3/day

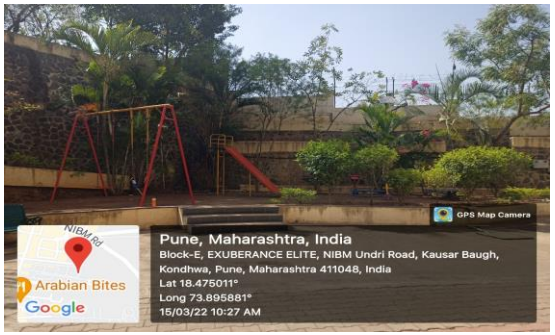
187

210

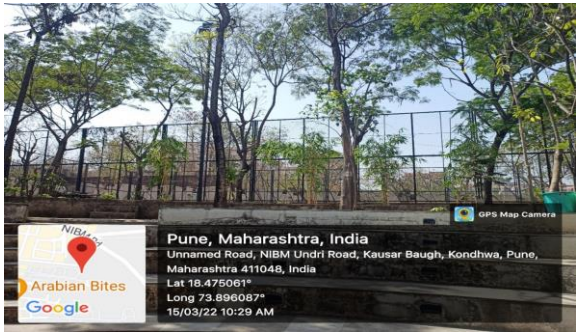
Salient features of project Cont.

Sr.	Description	Details	Unit
18	STP capacity	1 no. x 70 m^3/day Existing	m^3/day
19	Total solid waste generation	699	kg/day
20	Bio-degradable waste	419	kg/day
21	Non Bio-degradable and Inert Waste	280	kg/day
25	STP dry sludge	1	kg/day
26	RWH bore well	2	Nos.
27	Parking area	4,458	m^2
28	Two Wheeler	214	No.
29	Four Wheeler	411	No.
30	RG area	2,045.82	m^2
31	No. of trees	392	No.
32	Connected Load	1,419	kW
33	Maximum Demand	1,135	kVA
34	DG set number & capacity details	1 no. x 82.5	No. x kVA
35	EMP construction phase	16.5	Rs. Lakh/year
	EMP Capital cost during operation phase	181.01	Rs.Lakh
	EMP O & M cost during operation phase	20.2	Rs. Lakh/year

Site Photographs



189



210

Site photographs

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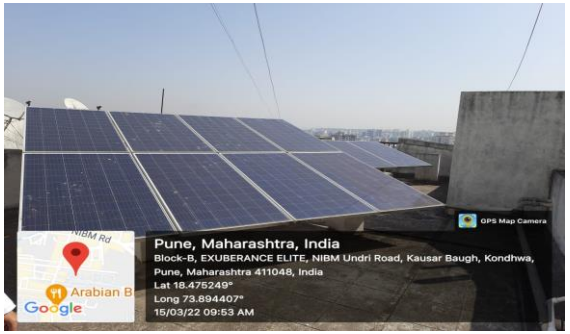
190



EIA study

- EIA study, baseline study period is January, 2023
- We are preparing the EIA report as per the EIA guidance manual by Administrative Staff College of India, Hyderabad, February 2010 and Standard terms of reference Mannual issued by MoEFCC, April 2015 and the additional ToR granted by the SEAC-III.
- Damage Assessment report are preparing as per MoEFCC Notification dated 28th January 2022 and the approach paper published by environment department Maharashtra.

Chapter	Content
1	Introduction
2	Project Description
3	Description of the Environment
4	Anticipated Environmental impacts & mitigation measures
5	Alternative technology
6	Environmental Monitoring Program
7	Additional studies
8	Project benefit
9	Environment management plan (EMP)
10	Summary & conclusion
11	Disclosure of Consultant engaged
12	Nature of Violation
13	Damage Assessment of Ecological (Environmental) Damage Report
14	Remediation & Natural and Community Resources Augmentation Plan

191

Gmail — Sachin Shah <mahabal.thane153@gmail.com>

Acceptance Letter for TOR Application(SEIAA)

1 message

dattatray.bhalerao@nic.in <dattatray.bhalerao@nic.in> Tue, May 17, 2022 at 3:57 PM
To: mahabal.thane153@gmail.com
Cc: monitoring-ec@nic.in, psec.env-1@maharashtra.gov.in

Acceptance Letter for TOR application

F.No.- SIA/MH/MIS/76973/2022

State Environment Impact Assessment Authority

Maharashtra

dattatray.bhalerao@nic.in

Dated: 17 May 2022

To,

BRAMHACORP LIMITED
, Pune
Maharashtra , 411001

Subject : Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune

Sir,

This has reference to your proposal No. SIA/MH/MIS/76973/2022 dated 17 May 2022 regarding grant of TORs for the above mentioned proposal.

2. This is to acknowledge that the soft copies of EIA/EMP/other reports along with the proceedings of Public Hearing (if applicable to the instant project) have been uploaded on Parivesh Portal.

Yours Sincerely

SEIAA, Maharashtra

Note: ***This is an automatically generated email, please do not reply***

210

Standard Terms of Reference_ April 2015

07

1) Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images.
2) Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/ villages and present status of such activities.
3) Examine baseline environmental quality along with projected incremental load due to the project.
4) Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.
5) Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area.
6) Submit the details of the trees to be felled for the project.
7) Submit the present land use and permission required for any conversion such as forest, agriculture etc.
8) Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
9) Ground water classification as per the Central Ground Water Authority.
10) Examine the details of Source of water, water requirement, use of treated waste water and prepare a water balance chart.
11) Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water. Examine details.
12) Examine soil characteristics and depth of ground water table for rainwater harvesting

192

Standard Terms of Reference _ April 2015

13) Examine details of solid waste generation treatment and its disposal.

14) Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption.

15) DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.

16) Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.

17) A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.

18) Examine the details of transport of materials for construction which should include source and availability.

19) Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.

20) Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.

21) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given

22) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out

23) Any further clarification **on carrying out the above studies including anticipated impacts due to the project and mitigative measure**, project proponent can refer to the model ToR available on Ministry website "http://moef.nic.in/Manual/Townships".

193

210

Additional ToR of 165th SEAC-III meeting

A. Project Description

1. Project description, its importance and benefits.
2. Project site details (location, topo-sheet of the study area of 10 km, Coordinates, google map, layout map, land use, geological features and geo hydrological status of the study area, drainage). hydro geological survey report with graphs & data.
3. Land use as per the approved Master Plan of the area, Permission/approvals required from the land-owning agencies, Planning / Development Authorities, Local Body, Water supply & Sewerage Board, etc.
4. Land acquisition status, R & R details.
5. Forest and Wildlife and eco-sensitive zones, if any in the study area of 10 km. Any sensitive areas in impact zone such as archaeological structures, reserved forest, noise sensitive zones etc. Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986.
6. High Tension lines or Hazard lines if any on the plot.
7. Plan showing HFL/CRZ lines.
8. Permissions granted by State Government in tabular and chronological form. Comparative statement of components approved and components constructed including the configuration as per earlier EC (if applicable) and proposed development.
9. PP to submit the detailed master plan indicating already completed construction and proposed construction. PP to submit the certificate from registered architect for completed work, built up area and configuration.
10. Project cost shall be based on government notified stamp duty ready reckoner at time of application including cost of land and construction including civil, MEP works, environment services, site/land development, horticulture/landscape works etc. complete.

B. Base Line Data

11. Baseline environmental study for ambient air (PM_{10}, $PM_{2.5}$, SO_2, NO_x & CO), water (both surface and ground), noise and soil for one month (except monsoon period) as per MoEF&CC/CPCB guidelines at minimum 5 locations in the study area of 10 km, The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory duly notified under the Environment (Protection) Act,1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
12. Detail on flora and fauna and socio-economic aspects in the study area. Details of tree cutting, tree transplantation and survival report of existing trees including conformity to prevailing Tree Act.
13. Likely impact of the project on the environmental parameters (ambient air surface and ground water, land, flora and fauna and socio-economic, etc.)

Additional ToR of 165th SEAC-III meeting 2

14. Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc.
15. Socio-economic infrastructure details including public transport arrangements on the site; PP to mention details of socio-economic in EIA.
16. PP to submit contour map with slopes, drainage pattern of the site and surrounding area. Layout showing natural water courses on site; total runoff calculation before and after development.
17. PP to submit details of existing trees, proposed to be cut, proposed to be transplanted along with tree survival report conforming to prevailing Tree Act.
18. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated.
19. Proximity to Areas declared as 'Critically Polluted' should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB should be secured and furnished to the effect that the proposed Activities could be considered.
20. Similarly, for Coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t. CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain Approval of the concerned Coastal Zone Management Authority).
21. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
22. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
23. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
24. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
25. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
26. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be examined.
27. Information on site elevation, working depth, groundwater table etc. should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

195

211

C. Traffic Impact Study in detail

28. Traffic Management Plan for the development – Internal circulation indicating road width and turning radius. Cross section of roads at four places showing clear road width, distance left from building line, spaces left for plantation, footpath, service lines etc.
29. Traffic Volume Counts and Turning Movement Counts on all the external surrounding roads of the proposed project showing the time period taken.
30. Topographic details of roads and intersection of the surrounding roads where counts are taken, actual geometry on ground to be shown with dimensions.
31. Traffic generation values of similar development to be given by actual count by actual count as support data for assumption made to the particular project.
32. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
33. Parking statement mentioning parking as per DCR & parking provided actually.
34. Basement ventilation plan: Fire Tender Movement Plan showing clear road and turning radius. Cross section of roads at four places including UGT, OWC and DG set location showing clear road width and distance left from building line & spaces left for plantation, parking, service lines, foot paths, etc.

D. Environmental Impact and Management Plan

35. Identify sources of air pollution, indicate mitigation measures to reduce Air pollution/Noise pollution.
36. Debris management plan including (a) debris required for refilling, (b) contour plan, (c) details of site where excess debris will be disposed, capacity of the site and NOC of plot owner. PP shall also ensure that debris disposed on other plot shall not be disposed on another plot. If to be disposed on another plot, the same shall be carried out as per prevailing environmental laws.
37. Management of solid waste and the construction & demolition waste for the project vis-a-vis the Solid Waste Management Rules 2016 and the Construction & Demolition Rules, 2016. Transport, collection, storage and disposal for all types of wastes like hazardous waste, non-hazardous waste, solid waste, E– waste, and debris/excess earth etc. PP to provide the detailed solid waste management plan along with marked locations on the master plan. Design details of waste processing equipment such as OWC/biogas plants confirming to the technical requirements to meet the quality products.
38. Waste water management (treatment, reuse and disposal) for the project and also the study area. Design of all STP's along with BOD load, oxygen requirement calculations and sizing of the tanks with respect to the design criteria. PP to submit detailed calculation for the disinfection of the treated STP water; PP to submit cross sectional drawing of STP's showing dimensions and ground level; PP to provide ozonation for tertiary treatment. PP to mark the area required for all STP's on master layout with dimensions.

39. PP to show internal storm water drain and sewer line arrangements up to final disposal point.
40. Provision of mandatory RG area on virgin land and submit the drawing with calculations, ensuring entire mandatory RG is provided on the plot where residential buildings are proposed.
41. A detailed phase wise development plan with safety planning where occupancy has been given.
42. If any site-specific structures such as creation of water body, alteration of natural storm water, large alteration of slopes, creation of green areas abutting to water bodies / natural storm water drain / river etc., is involved, detailed environmental protection approach for the same shall be provided.
43. Separate chapter on Renewable energy in EIA report. PP to submit terrace plan for installing solar panels& calculations of energy saving; Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project. Report on ECBC compliance.
44. Provide details of Solar PV and Solar water heater in the specific format. PP to carryout shadow analysis for identifying the roof-top area for providing solar panels Minimum 5% of the total connected load shall be provided with Solar PV.
45. Environmental status report including analysis reports of all environmental pollution reduction facilities if any commissioned.
46. PP to submit Disaster management plan.
47. Preparation of site specific, executable and auditable environment management plan (EMP)
48. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
49. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

E. Environmental Modelling and additional Studies

50. Fugitive dust modelling by using local meteorological data.
51. Ecological footprint calculation using LCA approach.
52. Estimation of Carbon footprint of the project and its analysis to be included.
53. Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection of data and sample analysis shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986 or Environmental Laboratory accredited by NABL, or a laboratory of council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
54. Gate mass balance analysis for environmental parameters related to solid/liquid waste material coming to site, waste generated and its treatment and disposal from site.

197

21

55. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
56. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
57. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
58. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
59. PP to refer "approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance" available on the portal: "ecmpcb.in"

F. NOCs, Undertakings, CER and Litigations

60. NOC's required: a) CFO, b) Water supply with quantity, c) Drainage, d) Non-biodegradable waste disposal, e) Aviation f) HRC, G) PESO, H) Defense/NAD etc.
61. Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, Emergency Services including emergency lifts, etc.
62. Include condition of "maintenance of all Pollution Control Equipment's and functioning of Environment Monitoring Cell in PP's MoU with society/maintenance agencies /vendors
63. PP to submit details of CER activities in consultation with the affected people in the project area as per MoEF&CC circular dt. 01.05.2018, along with details of fund utilization & agreement or consent of executor.
64. PP to submit Roles and Responsibilities of developer etc. for compliance of environmental regulations under the provisions of EP act.
65. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

G. Specific Term of Reference

66. The State Government/SPCB shall take action against the project proponent under the provisions of section 15 read in conjunction with Section 19 of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.
67. As per extant regulations at the time of scoping, if it is viewed that the project activity is otherwise permissible, Terms of Reference (TOR) shall be issued with directions to complete impact assessment studies and submit Environment Impact Assessment (EIA) report and Environment Management Plan (EMP) in a time bound manner.

Additional ToR of 165th SEAC-III meeting 6

68. Such cases shall be subject to appropriate:
    a) Damage Assessment
    b) Remedial Plan and
    c) Community Augmentation Plan.
69. Assessment of ecological damage with respect to air, water, land and other environmental attributes shall be done before arriving at quantum environment remediation and natural and community resource augmentation.
70. The methodology of calculating this quantum shall be as specified in format for Assessment of Environmental damages in the paper titled “Approach for Assessment for Environment Damage and Estimation of Remediation Costs for Building Construction Projects Initiated Without Mandatory Environment Clearance” 2018.
71. Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived, which shall be based on cost of project derived from prevailing rates of construction and land of government approved ready reckoner, due to violation. The cost of the Project (capital cost and recurring cost) as prevailing in Annual Statement of Rates / District Schedule of Rates/ Government Ready Reckoner Rates as well as the cost towards implementation of EMP should be clearly spelt out.
72. The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP in a period of one year, followed by recommendations of the EAC and approval of the regulatory authority.
73. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
74. The remediation plan and the natural and community resource augmentation plan shall be prepared as an independent chapter in the EIA report by the accredited consultants.
75. It should be clearly stated whether the proponent if it is a Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

69. Besides the above, the below mentioned general points are also to be followed:
    a) All documents to be properly referenced with index and continuous page numbering.
    b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
    c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
    d) Where the documents provided are in a language other than English, an English translation should be provided.
77. In case of continued violation after issue of TOR, the ToR/Environmental Clearance shall be terminated forthwith.

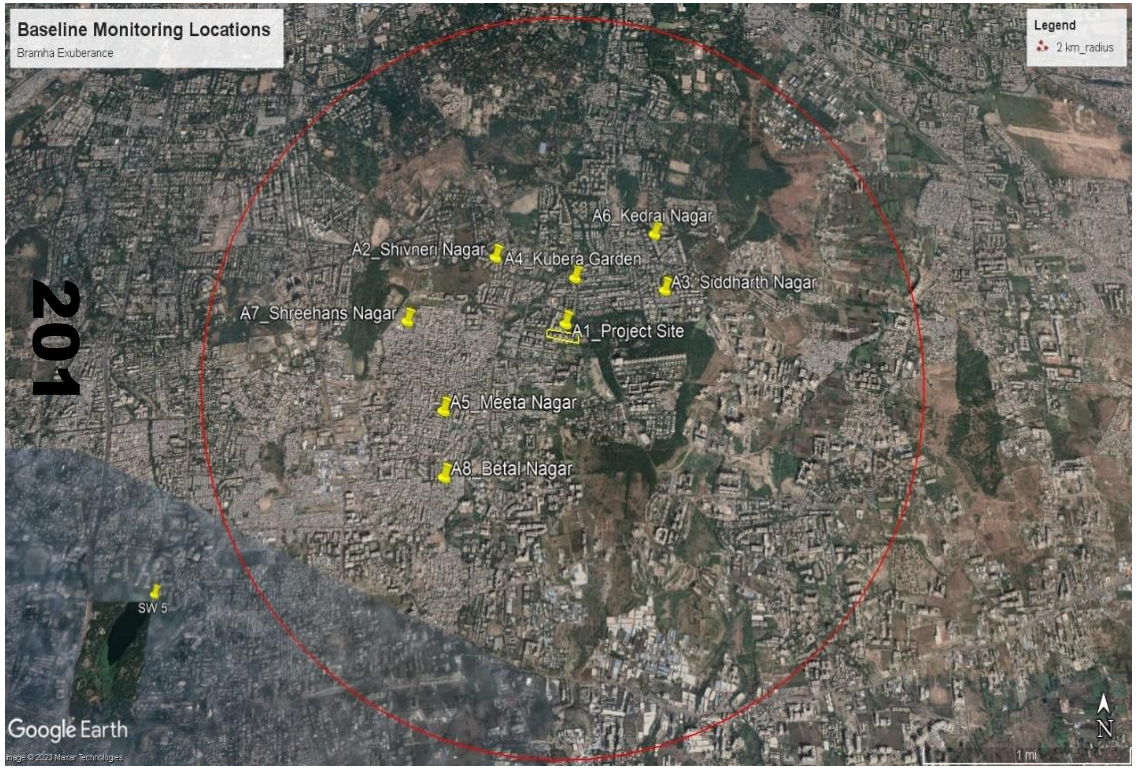
Project Specific emerged points

1. PP to submit the DP Plan.
2. PP to submit the detail Architect Certificate stating current status of the construction along with building wise construction done (FSI, NoN- FSI & Total built up area) on site along with the chronology.
3. PP to submit the all-approvals details (CC, OC etc) regarding project under consideration.
4. PP to submit the details of Court cases / litigations w.r.t. the project and project location, if any.
5. PP to submit details of implementation of points mentioned in point number 68 along with financial requirements for same with EIA.

Baseline Environmental Monitoring Locations

Period of baseline: January 2023

Wind Direction: North West-North East



Sr.	Environmental Attribute	Sampling location
1	Meteorology	Indian Meteorological Department, Pune
2	**Sampling at eight locations (in 2 km study area)**	
	A1, N1, S1	Project Site
	A2, N2, S2	Shivneri Nagar
	A3, N3, S3	Siddharth Nagar
	A4, N4, S4	Kubera Garden
	A5, N5, S5	Metta Nagar
	A6, N6, S6	Kedrai Nagar
	A7, N6, S6	Shreehans Nagar
	A8, N8, S8	Betal Nagar
	Surface water	
	SW1	Mutha River
	SW2	Katraj lake
	SW3	Jambhulwadi lake
	SW4	Pashan lake
	SW5	Mutha river canal
	SW6	Khadakwasla dam
4	Ground water	
	GW1	Bore Well water (Project site Area)
5	Geology and Geohydrology	Generally, in 10 km study area
6	Land use pattern	Generally, in 10 km study area
7	Ecology	Primary data collection at site
8	Socio-economic and demography	Generally, in 10 km study area through Pune city Census data of year 2011

Baseline Environmental Monitoring Locations

17

Aspect	Mode of Data collection	No. of Sampling Locations	Frequency	Parameter
Meteorology	Primary data	-	5 consecutive weeks	Temperature, Humidity, Wind speed, Wind direction and Rainfall
Ambient Air Quality	Field studies	8 locations	5 consecutive weeks	$PM_{2.5}$, PM_{10}, SO_2, NO_X, O_3, Pb, CO, NH_3, C_6H_6, BaP, As, Ni
DG set	Project site	1 Location		PM2.5, PM_{10}, SO_2, NO_X,
Noise	Field studies	8 Locations	Once	Hourly equivalent noise level during day time and Night time
Soil	Field studies	8 Location	Once	pH, Electrical Conductivity Sodium, Nitrogen, Phosphate, Potassium, Organic Matter, Cation Exchange Capacity (meq/100 gm), Particle Size Analysis , Permeability, Water holding capacity, Porosity

202

Baseline Environmental Monitoring Locations

Aspect	Mode of Data collection	No. of Sampling Locations	Frequency	Parameter
Ground water Quality	Field studies	1 Location	Once	Physical, chemical and bacteriological parameters, as per Environment Protection Rules/IS 10500 as applicable, shall be analyzed
Surface water Quality	Field studies	6 Location	Once	Physical, chemical and bacteriological parameters, as per Environment Protection Rules/IS 10500 as applicable, shall be analyzed
Terrestrial Ecology	Field studies & Literature review		--	Inventory of major floral & faunal species
Socio-economic environment	Census 2011, Secondary Sources		--	Demography, caste profile, literacy rate, occupational profile
Wastewater analysis	Project site	1 Location	Once	pH, BOD, TSS, COD, N, P, FC

2119

204

Thank You

Minutes of 259th Day 1 (Part D) meeting of SEIAA held on 19th April, 2023

Item no. 44

Proposal No.:- SIA/MH/MIS/76973/2022 **Type of Project: ToR**

Subject- Environmental Clearance for Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune by Bramha Corp Ltd.

Project Details-

Representative of PP was present during the meeting along with environmental consultant M/s. Mahabal Enviro Engineers Pvt. Ltd.

Brief information of the proposal is as below:

1	Proposal Number	**SIA/MH/MIS/76973/2022**
2	Name of Project	Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd,Taluka Haveli, District Pune, Maharashtra by Bramha Corp Ltd.
3	Project Category	8(a) B2 Category
4	Type of Institution	Private
5	Name of Project Proponent	Name: Mr. Sachin Shah Regd. Office address: The Residency Club, 3 Queen's Garden Road, Pune Maharashtra 411001 Contact number: 020-41423333 Email ID: ec@bramhacorp.in
6	Consultant	Mahabal Enviro Engineers Pvt. Ltd.
7	Applied for	Environmental Clearance
8	Details of previous EC	NA
9	Location of project	Sr. No.13, H. No. 1, 2, & 3 of Village- Kondhwa Khurd, Taluka- Haveli, Pune, Maharashtra
10	Latitude and Longitude	18°28'31.22"N, 73°53'42.44"E
11	Total Plot area (m^2)	17,433.10 m^2
12	Deductions (m^2)	2,833.35 m^2
13	Net Plot Area (m^2)	14,599.75 m^2
14	Proposed FSI Area (m^2)	21,798.69 m^2
15	Proposed Non-FSI Area (m^2)	28,749.68 m^2
16	Proposed Total BUA area (m^2)	50,548.37 m^2
17	TBUA (m^2) approved by Planning Authority till date	14,805.95 m^2 (FSI area) as per Sanctioned plan No. DPO5191/VI/39 dated 14.09.2005 & 50,548.37 m^2 as per sanction no. CC/0819/17 dated 21.06.2017.
18	Total ground coverage (m^2) & %	3,007.70 m^2 (20 %) of total net plot area
19	Total project cost (Rs.)	Rs. 27.33 Crore

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20	CER as per MoEF & CC Circular dated 01.05.2018	Not applicable
21	Details of Building Configuration	

Sr.	Building Name	Configuration	Height (m)
1	A Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
2	B Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
3	C Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
4.	D Building	Lower Basement parking, Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
5.	E Building	Below podium parking, podium parking, 1st – 11th floor, terrace – 54 tenements	34.90

22	Total number of tenements/shops/offices	Tenements: 249 Nos.	
	Number of expected residents / users	Total Population: 1,432 Nos.	
23	**Water Budget**		
		Dry Season	**Wet Season**
	Freshwater (in m^3/day)	123 m^3/day	123 m^3/day
	Recycled water (Flushing)	62 m^3/day	62 m^3/day
	Recycled water (Gardening)	17 m^3/day	9 m^3/day
	Swimming pool	NA	NA
	Total water requirement	185 m^3/day	185 m^3/day
	Wastewater generation	173 m^3/day	173 m^3/day
24	**Water Storage Capacity for Firefighting**		
	Firefighting (Underground water tank)	50 m^3	

Member Secretary

Chairman

	Firefighting (Overhead water tank)	50 m^3
24	**Source of water**	Pune Municipal Corporation
25	**Rain Water Harvesting (RWH)**	
	i) Level of the groundwater table	Groundwater table: 5 m to 6 m below ground level
	ii) Size and no of RWH tank(s) and Quantity	NA
	iii) Quantity and size of recharge pits	Total 2 no. of Borewell (1 no. of Borewell: Size 3'x3'x4.5")
	iv) Details of UGT tanks if any:	Domestic UG domestic tank capacity: 377 m^3, Domestic UG Fire tank capacity: 50 m^3,
26	**Sewage and wastewater Demand**	

i) Sewage generation in KLD	173 m^3/day
ii) STP technology	MBBR
iii) No. and Capacity of STP	1 no. x 70 m^3/day Existing

27	**Solid Waste Management during Construction phase**: 0 kg/day
28	**Solid Waste Management during operation Phase:**

Type	**Quantity (kg/day)**	**Treatment/disposal**
Total waste generation	699 kg/day	
Wet waste	419 kg/day	Through Organic Waste Converter. Generated manure used for gardening.
Dry waste	280 kg/day	Handed over to the authorized recycling agency
Hazardous waste	NA	NA
Biomedical waste	NA	NA
STP sludge (dry)	1.7 kg/day	Used as manure
E-waste	NA	NA

29	**Green Belt Development**	
	Total RG area	2,045.85 m^2
	Existing trees on plot	392
	Number of trees to be planted	NA
	No of trees to be retained	NA
	Number of trees to be transplanted/cut	NA
30	**Power requirement**	
	Source of power supply	MSEDCL
	During Construction Phase (Demand Load)	NA
	During Operation phase (Connected Load)	1,419 kW
	During Operation phase (Demand Load)	1,135 kW

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	Transformer	1 nos. X 82.5 kVA
	DG set	1 nos. X 82.5 kVA
	Fuel Used	Diesel

31 **Details of Energy saving**

Energy Conservation Measures	Quantity
Energy-saving due to use of solar PV panels	5 %
Energy-saving due to CFL Lamp	NA
Energy-saving due to LED Lamp	NA
Energy-saving due to Electronic Ballast	NA
Energy savings due to VFD	NA
Overall energy saving	20%

32 **Environmental Management plan budget during Construction phase**

Component	Parameter	Cost (Rs. In Lakhs)
Air Environment	Water for dust suppression	8.0
	Water utilization for tree planted along with the plot boundary	1.0
	Vehicle maintenance, washing area, tyre cleaning	0.5
	Safety net	0.5
Water Environment	Site sanitation, Toilets, STP, safe drinking water	1.0
	Environment Monitoring	0.5
	Stormwater management	0.5
Socio-Economics Environment	Disinfection at site	1.0
Health & Safety	Health check-ups for workers, first aid kit	1.0
Noise Environment	Site fencing & noise barrier	1.0
	Traffic management	0.5
Training and awareness	Safety personal protective equipment & training programs	1.0
Total		**16.5**

33 **Environmental Management plan budget during Operation phase**

Sr.	Component	Details	Capital cost (Rs. In Lakh)	O&M cost (Rs. In Lakh/year)
1.	Storm water management	Laying of storm & Sewer line up	11.00	0.90
		to final disposal point		

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	2.	Sewage Treatment Plant	1 no. of STP having capacity 70 m^3/day existing & 110 m^3/day to be proposed	80.25	2.6
	3.	Rain Water Harvesting	1 no. of Borewell	1.90	0.5
	4.	Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	3.00	0.4
	5.	Landscape development	Tree Plantation	17.26	1.5
	6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	25.00	2.6
	7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	5.00	0.5
	8.	Firefighting system	Installation and operation of Fire Fighting system	14.50	1.7
	9.	Disaster Management		23.10	9.5
		Total		**181.01**	**20.2**

34	**Traffic Management:**	

Type	**Required as per DCR**	**Actual Provided**	**Area per parking (m^2)**
4 -wheeler	140 nos.	214nos.	2,675
2 -wheeler	388 nos.	411 nos.	1,233
Total			**4,458**

35	Details of Court cases / litigations w.r.t. the project and project location if any.	Yes Court case details- NGT Western zone bench at Pune – Case no.65/2019

SEAC Deliberation –

PP stated that, the application is a residential project located at Kondhwa Khurd, Pune. PP further stated that, the Project is a Fresh EC application in violation category. PP informed that, as per sanction 2005, A, B, C, D, and E buildings were constructed with 'FSI area of 16,693.84

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m2, it comprises of 5 residential buildings, 249 flats in 2005 as per the Sanctioned plan No. CC/2342/05 dated 21.09.2005 & CC/3387/05 dated 30.12.2005 and the work was completed in the year 2009. PP stated that, the violation application was submitted on PARIVESH portal as per MoEF&CC Office Memorandum dated 28.01.2022 vide F. No. 22-21/2020-IA.III (E 138949).

SEAC-3 appraises the proposal as per Circular issued by SEIAA vide dated 22.08.2022. The case was discussed on the basis of the documents submitted and presentation made by the proponent. All issues relating to environment, including air, water, land, soil, ecology, biodiversity and social aspects were examined. The proposal is appraised as category 8(a) B1. After detailed deliberations on the proposal committee confirmed the case to be of violation of the EIA Notification, 2006 and as per Office Memorandum- F. No. 22-21/2020- IA.III dated 07.07.2021 issued by the Ministry of Environment, Forest & Climate Change, decided to issuing following Term of Reference for undertaking EIA and preparation of Environment Management Plan (EMP).

Terms of Reference for EIA and preparation of Environment Management Plan (EMP) for Violation Cases

The following Terms of Reference (TOR) for violation cases shall be read along with Ministry of Environment Forest and Climate Change orders no F.No.22-21/2020-IA.III Dated 7th July 2021 and F No. 22-21/2020-IA.III (E 138949) dated 28th January 2022 and Approach for Assessment for Environment Damage and Estimation of Remediation Costs for Building Construction Projects Initiated Without Mandatory Environment Clearance" 2018

The following TOR are drafted with reference to Ministry of Environment Forest and Climate Change impact assessment division TORs for Violation Case a) For Construction Sector vide Notification S.O.804 (E) dated 14th March 2017 in the matter of IA/HR/NCP/63612/2017 and b) For Mining Sector dated 12th November 2018 in the proposal No IA/MH/MIN/68113/2017.

A) Project Description

1. Project description, its importance and benefits.
2. Project site details (location, topo-sheet of the study area of 10 Km, Coordinates, google map, layout map, land use, geological features and geo-hydrological status of the study area, drainage). hydro geological survey report with graphs & data.
3. Land use as per the approved Master Plan of the area, Permission/approvals required from the land owning agencies, Planning / Development Authorities, Local Body, Water supply & Sewerage Board, etc.
4. Land acquisition status, R & R details.
5. Forest and Wildlife and eco-sensitive zones, if any in the study area of 10 km. Any sensitive areas in impact zone such as archaeological structures, reserved forest, noise sensitive zones etc. Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986.
6. High Tension lines or Hazard lines if any on the plot.
7. Plan showing HFL/CRZ lines.

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8. Permissions granted by State Government in tabular and chronological form. Comparative statement of components approved and components constructed including tis configuration as per earlier EC (if applicable) and proposed development.
9. PP to submit the detailed master plan indicating already completed construction and proposed construction. PP to submit the certificate from registered architect for completed work, built up area and configuration.
10. Project cost shall be based on government notified stamp duty ready reckoner at time of application including cost of land and construction including civil, MEP works, environment services, site/land development, horticulture/landscape works etc complete

B) Base Line Data

11. Baseline environmental study for ambient air (PM10, PM2.5, SO2, NOx & CO),water (both surface and ground), noise and soil for one month (except monsoon period) as per MoEF&CC/CPCB guidelines at minimum 5 locations in the study area of 10 km, The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory duly notified under the Environment (Protection) Act,1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
12. Detail on flora and fauna and socio-economic aspects in the study area. Details of tree cutting, tree transplantation and survival report of existing trees including conformity to prevailing Tree Act.
13. Likely impact of the project on the environmental parameters (ambient air surface and ground water, land, flora and fauna and socio-economic, etc.)
14. Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc.
15. Socio-economic infrastructure details including public transport arrangements on the site; PP to mention details of socio-economic in EIA.
16. PP to submit contour map with slopes, drainage pattern of the site and surrounding area. Layout showing natural water courses on site; total runoff calculation before and after development.
17. PP to submit details of existing trees, proposed to be cut, proposed to be transplanted along with tree survival report conforming to prevailing Tree Act.
18. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated.
19. Proximity to Areas declared as 'Critically Polluted' should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB should be secured and furnished to the effect that the proposed Activities could be considered.

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20. Similarly, for Coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t. CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain Approval of the concerned Coastal Zone Management Authority).
21. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
22. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
23. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
24. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
25. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
26. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be examined.
27. Information on site elevation, working depth, groundwater table etc. should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

C) Traffic Impact Study in detail including:

28. Traffic Management Plan for the development – Internal circulation indicating road width and turning radius. Cross section of roads at four places showing clear road width, distance left from building line, spaces left for plantation, footpath, service lines etc.
29. Traffic Volume Counts and Turning Movement Counts on all the external surrounding roads of the proposed project showing the time period taken.
30. Topographic details of roads and intersection of the surrounding roads where counts are taken, actual geometry on ground to be shown with dimensions.
31. Traffic generation values of similar development to be given by actual count by actual count as support data for assumption made to the particular project.
32. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of

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handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

33. Parking statement mentioning parking as per DCR & parking provided actually.
34. Basement ventilation plan: Fire Tender Movement Plan showing clear road and turning radius. Cross section of roads at four places including UGT, OWC and DG set location showing clear road width and distance left from building line & spaces left for plantation, parking, service lines, foot paths, etc.

D) Environmental Impact and Management Plan:

35. Identify sources of air pollution, indicate mitigation measures to reduce Air pollution/Noise pollution.
36. Debris management plan including (a) debris required for refilling, (b) contour plan,

(c) details of site where excess debris will be disposed, capacity of the site and NOC of plot owner. PP shall also ensure that debris disposed on other plot shall not be disposed on another

plot. If to be disposed on another plot, the same shall be carried out as per prevailing environmental laws.

37. Management of solid waste and the construction & demolition waste for the project vis-a-vis the Solid Waste Management Rules 2016 and the Construction & Demolition Rules, 2016. Transport, collection, storage and disposal for all types of wastes like hazardous waste, non-hazardous waste, solid waste, E– waste, and debris/excess earth etc. PP to provide the detailed solid waste management plan along with marked locations on the master plan. Design details of waste processing equipment such as OWC/biogas plants confirming to the technical requirements to meet the quality products.
38. Waste water management (treatment, reuse and disposal) for the project and also the study area. Design of all STP's along with BOD load, oxygen requirement calculations and sizing of the tanks with respect to the design criteria. PP to submit detailed calculation for the disinfection of the treated STP water; PP to submit cross sectional drawing of STP's showing dimensions and ground level; PP to provide ozonation for tertiary treatment. PP to mark the area required for all STP's on master layout with dimensions
39. PP to show internal storm water drain and sewer line arrangements up to final disposal point.
40. Provision of mandatory RG area on virgin land and submit the drawing with calculations, ensuring entire mandatory RG is provided on the plot where residential buildings are proposed.
41. A detailed phase wise development plan with safety planning where occupancy has been given.
42. If any site specific structures such as creation of water body, alteration of natural storm water, large alteration of slopes, creation of green areas abutting to water bodies / natural

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storm water drain / river etc, is involved, detailed environmental protection approach for the same shall be provided.

43. Separate chapter on Renewable energy in EIA report. PP to submit terrace plan for installing solar panels& calculations of energy saving; Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project. Report on ECBC compliance.
44. Provide details of Solar PV and Solar water heater in the specific format. PP to carryout shadow analysis for identifying the roof-top area for providing solar panels Minimum 5% of the total connected load shall be provided with Solar PV.
45. Environmental status report including analysis reports of all environmental pollution reduction facilities if any commissioned.
46. PP to submit Disaster management plan.
47. Preparation of site specific, executable and auditable environment management plan (EMP)
48. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
49. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc

E) Environmental Modelling and additional Studies:

50. Fugitive dust modelling by using local meteorological data.
51. Ecological footprint calculation using LCA approach.
52. Estimation of Carbon footprint of the project and its analysis to be included.
53. Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection of data and sample analysis shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986 or Environmental Laboratory accredited by NABL, or a laboratory of council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
54. Gate mass balance analysis for environmental parameters related to solid/liquid waste material coming to site, waste generated and its treatment and disposal from site.
55. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

Member Secretary

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56. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
57. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
58. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
59. PP to refer "approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance" available on the portal : "ecmpcb.in".

F) NOCs, Undertakings, CER and Litigations:

60. NOC's required: a) CFO, b)Water supply with quantity, c) Drainage, d) Non-biodegradable waste disposal, e) Aviation f) HRC, G) PESO , H) Defence/NAD etc
61. Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, Emergency Services including emergency lifts, etc.
62. Include condition of "maintenance of all Pollution Control Equipment's and functioning of Environment Monitoring Cell in PP's MoU with society /maintenance agencies /vendors
63. PP to submit details of CER activities in consultation with the affected people in the project area as per MoEF&CC circular dt. 01.05.2018, along with details of fund utilization & agreement or consent of executor.
64. PP to submit Roles and Responsibilities of developer etc for compliance of environmental regulations under the provisions of EP act.
65. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

G) Specific Term of Reference

66. The State Government/SPCB shall take action against the project proponent under the provisions of section 15 read in conjunction with Section 19 of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.
67. As per extant regulations at the time of scoping, if it is viewed that the project activity is otherwise permissible, Terms of Reference (TOR) shall be issued with directions to complete impact assessment studies and submit Environment Impact Assessment (EIA) report and Environment Management Plan (EMP) in a time bound manner.
68. Such cases shall be subject to appropriate

(a) Damage Assessment
(b) Remedial Plan and

Member Secretary

Chairman

(c) Community Augmentation Plan.

69. Assessment of ecological damage with respect to air, water, land and other environmental attributes shall be done before arriving at quantum environment remediation and natural and community resource augmentation.
70. The methodology of calculating this quantum shall be as specified in format for Assessment of Environmental damages in the paper titled "Approach for Assessment for Environment Damage and Estimation of Remediation Costs for Building Construction Projects Initiated Without Mandatory Environment Clearance" 2018
71. Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived, which shall be based on cost of project derived from prevailing rates of construction and land of government approved ready reckoner, due to violation. The cost of the Project (capital cost and recurring cost) as prevailing in Annual Statement of Rates / District Schedule of Rates/ Government Ready Reckoner Rates as well as the cost towards implementation of EMP should be clearly spelt out.
72. The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP in a period of one year, followed by recommendations of the EAC and approval of the regulatory authority.
73. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
74. The remediation plan and the natural and community resource augmentation plan shall be prepared as an independent chapter in the EIA report by the accredited consultants.
75. It should be clearly stated whether the proponent if it is a Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.
76. Besides the above, the below mentioned general points are also to be followed:

a) All documents to be properly referenced with index and continuous page numbering.
b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

Member Secretary

Chairman

c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

d) Where the documents provided are in a language other than English, an English translation should be provided.

77. In case of continued violation after issue of TOR, the ToR/Environmental Clearance shall be terminated forthwith.

Project Specific emerged points

1. PP to submit the DP Plan.
2. PP to submit the detail Architect Certificate stating current status of the construction along with building wise construction done (FSI, NoN- FSI & Total built up area) on site along with the chronology.
3. PP to submit the all-approvals details (CC, OC etc) regarding project under consideration.
4. PP to submit the details of Court cases / litigations w.r.t. the project and project location, if any.
5. PP to submit details of implementation of points mentioned in point number 68 along with financial requirements for same with EIA.

Recommendations of SEAC-

After deliberation, Committee decided to recommend the proposal to SEIAA for grant of ToR.

Deliberation in SEIAA-

Proposal is recommended in 165th meeting of SEAC-3 for grant of Terms of References (ToR) under violation category.

SEIAA further directed SEIAA cell to communicate with MPCB to confirm whether action has been initiated against the Project Proponent under section 15 of Environment (Protection) Act, 1986 for violating provisions of EIA Notification, 2006.

SEIAA after deliberation decided to grant of Terms of References (ToR) as per recommendation of SEAC.

SEIAA Decision-

SEIAA after deliberation decided to grant of Terms of References (ToR) as per recommendation of SEAC.

Member Secretary

Chairman

State Environment Impact Assessment Authority

No. SIA/MH/MIS/76973/2022
Environment & Climate Change
Department, 217(Annex),
Mantralaya, Mumbai- 400032.
Date :20.04.2023.

To,
M/s. Bramha Corp Ltd.,
S.No.13, H.No.1, 2&3,
Kondhwa Khurd, Haveli, Pune

Subject: Environmental Clearance for Residential Project "Bramha Exuberance" at S.No.13, H.No.1, 2&3, Kondhwa Khurd, Haveli, Pune by M/s. Bramha Corp Ltd.

Ref. : Your application no. SIA/MH/MIS/76973/2022

This has reference to your proposal submitted to State Environment Impact Assessment Authority (SEIAA) for seeking Terms of Reference (ToR) in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 under violation category as per MoEF&CC OM dated 07.07.2021.

2. The proposal for grant of Terms of Reference (ToR) which was considered by the State Expert Appraisal Committee (SEAC-3) in its 165th meeting and by SEIAA in its 259th (Day-1) meeting.
3. ToR for the said project is issued as per details of the project, which are as given below:-

1	Proposal Number	**SIA/MH/MIS/76973/2022**	
2	Name of Project	Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd,Taluka Haveli, District Pune, Maharashtra by Bramha Corp Ltd.	
3	Project Category	8(a) B2 Category	
4	Type of Institution	Private	
5	Name of Project Proponent	Name	Mr. Sachin Shah
		Regd. Office address	The Residency Club, 3 Queen's Garden Road, Pune Maharashtra 411001
		Contact number	020-41423333
		Email ID	ec@bramhacorp.in
6	Consultant	Mahabal Enviro Engineers Pvt. Ltd.	
7	Applied for	Environmental Clearance	

8	Details of previous EC	NA
9	Location of project	Sr. No.13, H. No. 1, 2, & 3 of Village- Kondhwa Khurd, Taluka- Haveli, Pune, Maharashtra
10	Latitude and Longitude	18°28'31.22"N, 73°53'42.44"E
11	Total Plot area (m^2)	17,433.10 m^2
12	Deductions (m^2)	2,833.35 m^2
13	Net Plot Area (m^2)	14,599.75 m^2
14	Proposed FSI Area (m^2)	21,798.69 m^2
15	Proposed Non-FSI Area (m^2)	28,749.68 m^2
16	Proposed Total BUA area (m^2)	50,548.37 m^2
17	TBUA (m^2) approved by Planning Authority till date	14,805.95 m^2 (FSI area) as per Sanctioned plan No. DPO5191/VI/39 dated 14.09.2005 & 50,548.37 m^2 as persanction no. CC/0819/17 dated 21.06.2017.
18	Total ground coverage (m^2) & %	3,007.70 m^2 (20 %) of total net plot area
19	Total project cost (Rs.)	Rs. 27.33 Crore
20	CER as per MoEF &CC Circular dated 01.05.2018	Not applicable
21	Details of Building Configuration	

Sr.	Building Name	Configuration	Height (m)
1	A Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
2	B Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
3	C Building	Below podium parking, podium parking, 1st – 11th floor, terrace	34.90
4.	D Building	Lower Basement parking, Below podium parking, podium parking, 1st – 11th floor, terrace	34.90

		5.	E Building	Below podium parking, podium parking, 1st – 11th floor, terrace – 54 tenements	34.90

22	Total number of tenements/shops/offices	Tenements: 249 Nos.	
	Number of expected residents / users	Total Population: 1,432 Nos.	
23	**Water Budget**		
		Dry Season	**Wet Season**
	Freshwater (in m^3/day)	123 m^3/day	123 m^3/day
	Recycled water (Flushing)	62 m^3/day	62 m^3/day
	Recycled water (Gardening)	17 m^3/day	9 m^3/day
	Swimming pool	NA	NA
	Total water requirement	185 m^3/day	185 m^3/day
	Wastewater generation	173 m^3/day	173 m^3/day
24	**Water Storage Capacity for Firefighting**		
	Firefighting (Underground water tank)	50 m^3	
	Firefighting (Overhead water tank)	50 m^3	
24	**Source of water**	Pune Municipal Corporation	
25	**Rain Water Harvesting (RWH)**		
	i) Level of the groundwater table	Groundwater table: 5 m to 6 m below ground level	
	ii) Size and no of RWH tank(s) and Quantity	NA	
	iii) Quantity and size of recharge pits	Total 2 no. of Borewell (1 no. of Borewell: Size 3'x3'x4.5")	
	iv) Details of UGT tanks if any:	Domestic UG domestic tank capacity: 377 m^3, Domestic UG Fire tank capacity: 50 m^3,	
26	**Sewage and wastewater Demand**	i) Sewage generation in KLD: 173 m^3/day ii) STP technology: MBBR iii) No. and Capacity of STP: 1 no. x 70 m^3/day Existing	
27	**Solid Waste Management during Construction phase:** 0 kg/day		

28 Solid Waste Management during operation Phase:

Type	Quantity (kg/day)	Treatment/disposal
Total waste generation	699 kg/day	
Wet waste	419 kg/day	Through Organic Waste Converter. Generated manure used for gardening.
Dry waste	280 kg/day	Handed over to the authorized recycling agency
Hazardous waste	NA	NA
Biomedical waste	NA	NA
STP sludge (dry)	1.7 kg/day	Used as manure
E-waste	NA	NA

29 Green Belt Development

Total RG area	2,045.85 m^2
Existing trees on plot	392
Number of trees to be planted	NA
No of trees to be retained	NA
Number of trees to be transplanted/cut	NA

30 Power requirement

Source of power supply	MSEDCL
During Construction Phase (Demand Load)	NA
During Operation phase (Connected Load)	1,419 kW
During Operation phase (Demand Load)	1,135 kW
Transformer	1 nos. X 82.5 kVA
DG set	1 nos. X 82.5 kVA
Fuel Used	Diesel

31 Details of Energy saving

Energy Conservation Measures	Quantity
Energy-saving due to use of solar PV panels	5 %
Energy-saving due to CFL Lamp	NA
Energy-saving due to LED Lamp	NA
Energy-saving due to Electronic Ballast	NA
Energy savings due to VFD	NA
Overall energy saving	20%

32 Environmental Management plan budget during Construction phase

Component	Parameter	Cost (Rs. In Lakhs)

Air Environment	Water for dust suppression	8.0
	Water utilization for tree planted along with the plot boundary	1.0
	Vehicle maintenance, washing area, tyre cleaning	0.5
	Safety net	0.5
Water Environment	Site sanitation, Toilets, STP, safe drinking water	1.0
	Environment Monitoring	0.5
	Stormwater management	0.5
Socio-Economics Environment	Disinfection at site	1.0
Health & Safety	Health check-ups for workers, first aid kit	1.0
Noise Environment	Site fencing & noise barrier	1.0
	Traffic management	0.5
Training and awareness	Safety personal protective equipment & training programs	1.0
Total		**16.5**

33 **Environmental Management plan budget during Operation phase**

Sr.	Component	Details	Capital cost (Rs. In Lakh)	O&M cost (Rs. In Lakh/year)
1.	Storm water management	Laying of storm & Sewer line up to final disposal point	11.00	0.90
2.	Sewage Treatment Plant	1 no. of STP having capacity 70 m^3/day existing & 110 m^3/day to be proposed	80.25	2.6
3.	Rain Water Harvesting	1 no. of Borewell	1.90	0.5
4.	Solid Waste Management	Cost for Treatment of biodegradable garbage in OWC	3.00	0.4
5.	Landscape development	Tree Plantation	17.26	1.5

	6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	25.00	2.6
	7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	5.00	0.5
	8.	Firefighting system	Installation and operation of Fire Fighting system	14.50	1.7
	9.	Disaster Management		23.10	9.5
		Total		**181.01**	**20.2**

34	**Traffic Management:**	

Type	Required as per DCR	Actual Provided	Area per parking (m^2)
4 -wheeler	140 nos.	214nos.	2,675
2 -wheeler	388 nos.	411 nos.	1,233
Total			**4,458**

35	Details of Court cases / litigations w.r.t. the project and project location if any.	Yes Court case details- NGT Western zone bench at Pune – Case no.65/2019

4. The project/ activity is covered under item 8(a) 'Townships and Area Development Projects' of the Schedule to the EIA Notification, 2006 under violation category.
5. SEAC-3 in its 165th meeting after detailed deliberation recommended the project for grant of ToR.As per the recommendations of the SEAC, the SEIAA hereby accords ToR for preparation of the Environment Impact Assessment (EIA) Report and Environment Management Plan (EMP) the following specific and general conditions:-

Specific Conditions-

Terms of Reference for EIA and preparation of Environment Management Plan (EMP) for Violation Cases

The following Terms of Reference (TOR) for violation cases shall be read along with Ministry of Environment Forest and Climate Change orders no F.No.22-21/2020-IA.III Dated 7th July 2021 and F No. 22-21/2020-IA.III (E 138949) dated 28th January 2022 and Approach for Assessment for Environment Damage and Estimation of Remediation Costs for Building Construction Projects Initiated Without Mandatory Environment Clearance" 2018

The following TOR are drafted with reference to Ministry of Environment Forest and Climate Change impact assessment division TORs for Violation Case a) For Construction Sector vide Notification S.O.804 (E) dated 14th March 2017 in the matter of IA/HR/NCP/63612/2017 and b) For Mining Sector dated 12th November 2018 in the proposal No IA/MH/MIN/68113/2017.

A) Project Description

1. Project description, its importance and benefits.
2. Project site details (location, topo-sheet of the study area of 10 Km, Coordinates, google map, layout map, land use, geological features and geo-hydrological status of the study area, drainage). hydro geological survey report with graphs & data.
3. Land use as per the approved Master Plan of the area, Permission/approvals required from the land owning agencies, Planning / Development Authorities, Local Body, Water supply & Sewerage Board, etc.
4. Land acquisition status, R & R details.
5. Forest and Wildlife and eco-sensitive zones, if any in the study area of 10 km. Any sensitive areas in impact zone such as archaeological structures, reserved forest, noise sensitive zones etc. Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986.
6. High Tension lines or Hazard lines if any on the plot.
7. Plan showing HFL/CRZ lines.
8. Permissions granted by State Government in tabular and chronological form. Comparative statement of components approved and components constructed including tis configuration as per earlier EC (if applicable) and proposed development.
9. PP to submit the detailed master plan indicating already completed construction and proposed construction. PP to submit the certificate from registered architect for completed work, built up area and configuration.
10. Project cost shall be based on government notified stamp duty ready reckoner at time of application including cost of land and construction including civil, MEP works, environment services, site/land development, horticulture/landscape works etc complete

B) Base Line Data

11. Baseline environmental study for ambient air (PM10, PM2.5, SO2, NOx & CO),water (both surface and ground), noise and soil for one month (except monsoon period) as per MoEF&CC/CPCB guidelines at minimum 5 locations in the study area of 10 km, The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory duly notified under the Environment (Protection) Act,1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
12. Detail on flora and fauna and socio-economic aspects in the study area. Details of tree cutting, tree transplantation and survival report of existing trees including conformity to prevailing Tree Act.
13. Likely impact of the project on the environmental parameters (ambient air surface and ground water, land, flora and fauna and socio-economic, etc.)

14. Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc.
15. Socio-economic infrastructure details including public transport arrangements on the site; PP to mention details of socio-economic in EIA.
16. PP to submit contour map with slopes, drainage pattern of the site and surrounding area. Layout showing natural water courses on site; total runoff calculation before and after development.
17. PP to submit details of existing trees, proposed to be cut, proposed to be transplanted along with tree survival report conforming to prevailing Tree Act.
18. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated.
19. Proximity to Areas declared as 'Critically Polluted' should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB should be secured and furnished to the effect that the proposed Activities could be considered.
20. Similarly, for Coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t. CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain Approval of the concerned Coastal Zone Management Authority).
21. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
22. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
23. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
24. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
25. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
26. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be examined.

27. Information on site elevation, working depth, groundwater table etc. should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

C) Traffic Impact Study in detail including:

28. Traffic Management Plan for the development – Internal circulation indicating road width and turning radius. Cross section of roads at four places showing clear road width, distance left from building line, spaces left for plantation, footpath, service lines etc.
29. Traffic Volume Counts and Turning Movement Counts on all the external surrounding roads of the proposed project showing the time period taken.
30. Topographic details of roads and intersection of the surrounding roads where counts are taken, actual geometry on ground to be shown with dimensions.
31. Traffic generation values of similar development to be given by actual count by actual count as support data for assumption made to the particular project.
32. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
33. Parking statement mentioning parking as per DCR & parking provided actually.
34. Basement ventilation plan: Fire Tender Movement Plan showing clear road and turning radius. Cross section of roads at four places including UGT, OWC and DG set location showing clear road width and distance left from building line & spaces left for plantation, parking, service lines, foot paths, etc.

D) Environmental Impact and Management Plan:

35. Identify sources of air pollution, indicate mitigation measures to reduce Air pollution/Noise pollution.
36. Debris management plan including (a) debris required for refilling, (b) contour plan,

(c) details of site where excess debris will be disposed, capacity of the site and NOC of plot owner. PP shall also ensure that debris disposed on other plot shall not be disposed on another

plot. If to be disposed on another plot, the same shall be carried out as per prevailing environmental laws.

37. Management of solid waste and the construction & demolition waste for the project vis-a-vis the Solid Waste Management Rules 2016 and the Construction & Demolition Rules, 2016. Transport, collection, storage and disposal for all types of wastes like hazardous waste, non-hazardous waste, solid waste, E– waste, and debris/excess earth etc. PP to provide the detailed solid waste management plan along with marked locations on the master plan. Design details of waste processing equipment such as OWC/biogas plants confirming to the technical requirements to meet the quality products.
38. Waste water management (treatment, reuse and disposal) for the project and also the study area. Design of all STP's along with BOD load, oxygen requirement calculations and sizing of the tanks with respect to the design criteria. PP to submit detailed

calculation for the disinfection of the treated STP water; PP to submit cross sectional drawing of STP's showing dimensions and ground level; PP to provide ozonation for tertiary treatment. PP to mark the area required for all STP's on master layout with dimensions

39. PP to show internal storm water drain and sewer line arrangements up to final disposal point.
40. Provision of mandatory RG area on virgin land and submit the drawing with calculations, ensuring entire mandatory RG is provided on the plot where residential buildings are proposed.
41. A detailed phase wise development plan with safety planning where occupancy has been given.
42. If any site specific structures such as creation of water body, alteration of natural storm water, large alteration of slopes, creation of green areas abutting to water bodies / natural storm water drain / river etc, is involved, detailed environmental protection approach for the same shall be provided.
43. Separate chapter on Renewable energy in EIA report. PP to submit terrace plan for installing solar panels& calculations of energy saving; Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project. Report on ECBC compliance.
44. Provide details of Solar PV and Solar water heater in the specific format. PP to carryout shadow analysis for identifying the roof-top area for providing solar panels Minimum 5% of the total connected load shall be provided with Solar PV.
45. Environmental status report including analysis reports of all environmental pollution reduction facilities if any commissioned.
46. PP to submit Disaster management plan.
47. Preparation of site specific, executable and auditable environment management plan (EMP)
48. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
49. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc

E) Environmental Modelling and additional Studies:

50. Fugitive dust modelling by using local meteorological data.
51. Ecological footprint calculation using LCA approach.
52. Estimation of Carbon footprint of the project and its analysis to be included.

53. Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection of data and sample analysis shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986 or Environmental Laboratory accredited by NABL, or a laboratory of council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
54. Gate mass balance analysis for environmental parameters related to solid/liquid waste material coming to site, waste generated and its treatment and disposal from site.
55. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
56. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
57. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
58. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
59. PP to refer "approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance" available on the portal : "ecmpcb.in".

F) NOCs, Undertakings, CER and Litigations:

60. NOC's required: a) CFO, b)Water supply with quantity, c) Drainage, d) Non-biodegradable waste disposal, e) Aviation f) HRC, G) PESO , H) Defence/NAD etc
61. Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, Emergency Services including emergency lifts, etc.
62. Include condition of "maintenance of all Pollution Control Equipment's and functioning of Environment Monitoring Cell in PP's MoU with society /maintenance agencies /vendors
63. PP to submit details of CER activities in consultation with the affected people in the project area as per MoEF&CC circular dt. 01.05.2018, along with details of fund utilization & agreement or consent of executor.
64. PP to submit Roles and Responsibilities of developer etc for compliance of environmental regulations under the provisions of EP act.
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(Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.

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(a) Damage Assessment
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be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

76. Besides the above, the below mentioned general points are also to be followed:

a) All documents to be properly referenced with index and continuous page numbering.

b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

d) Where the documents provided are in a language other than English, an English translation should be provided.

77. In case of continued violation after issue of TOR, the ToR/Environmental Clearance shall be terminated forthwith.

Project Specific emerged points

1. PP to submit the DP Plan.
2. PP to submit the detail Architect Certificate stating current status of the construction along with building wise construction done (FSI, NoN- FSI & Total built up area) on site along with the chronology.
3. PP to submit the all-approvals details (CC, OC etc) regarding project under consideration.
4. PP to submit the details of Court cases / litigations w.r.t. the project and project location, if any.
5. PP to submit details of implementation of points mentioned in point number 68 along with financial requirements for same with EIA.

General Guidelines

i. The EIA document shall be printed on both sides, as for as possible.

ii. All documents should be properly indexed, page numbered.

iii. Period/date of data collection should be clearly indicated.

iv. The letter/application for EC should quote the Proposal No. and also attach a copy of the letter prescribing the ToR.

v. The copy of the letter received from the SEIAA on the ToR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.

vi. The final EIA-EMP report submitted to the SEIAA must incorporate the issues mentioned in ToR. The index of the final EIA-EMP report, must indicate the specific chapter and page no. of the EIA-EMP Report where the specific ToR prescribed by Ministry. Questionnaire related to the project (posted on MoEF & CC website) with all sections duly filled in shall also be submitted at the time of applying for EC.

vii. Grant of ToR does not mean grant of EC.

viii. The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is for the sector for which this EIA is prepared.

ix. On the front page of EIA/EMP reports, the name of the consultant/consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the prescribed ToRs (ToR proposed by the project proponent and additional ToR given by the MoEF & CC) have been complied with and the data submitted is factually correct (Refer MoEF & CC Office memorandum dated 4th August, 2009).

x. While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analyzed should be stated in the report. It shall clearly be indicated whether these laboratories are approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF & CC Office Memorandum dated 4th August, 2009). The project leader of the EIA study shall also be mentioned.

xi. All the ToR points as presented before the State Expert Appraisal Committee (SEAC) shall be covered.

6. The above ToR should be considered in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006.
7. The project proponent shall submit the detailed final EIA/EMP prepared as per ToR to the SEIAA for considering the proposal for environmental clearance within 3 years as per the MoEF & CC O.M. No. J-11013/41/2006-IA-II (I) (Part) dated 29.08.2017.
8. The consultants involved in preparation of EIA/EMP report after accreditation with Quality Council of India/National Accreditation Board of Education and Training (QCI/NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other Organization(s)/ Laboratories including their status of approvals etc. vide Notification of the MoEF&CC dated 19.07.2013.
9. The prescribed ToR would be valid for a period of three years for submission of the EIA/EMP Reports.

(Pravin Darade)
Principal Secretary &
Member Secretary, SEIAA

Copy to:

1. Chairman, SEIAA (Maharashtra), Mumbai.
2. Principal Secretary, Environment, Room no.217, Annex. Bldg., Mantralaya, Mumbai.
3. Member Secretary, SEAC-3, 15th floor, New Administrative Building, Mantralaya, Mumbai.
4. Member Secretary, Maharashtra Pollution Control Board, Kalpataru Point, 3rd and 4th Floor, Opp. Cine Planet, Sion Circle, Mumbai - 400 022.

2147

Form-1 (Part-C): Information for Appraisal (for Category - A/B1)

1. Details of Terms of Reference (ToR)

2. Select nature of the ToR	Standard ToR issued by the Ministry

Note: Please select option "Standard ToR available on website" in case of Expansion under 7 (ii) (a).

2.1. Date of issuance of ToR/Standard ToR	06/06/2023
2.2. Date of issuance of Additional ToR, if any	20/04/2023
2.3. MoEF&CC / SEIAA File No.	SIA/MH/MIS/76973/2022
2.4. Upload ToR letter (PDF only)	ToR granted letter.pdf **Preview**
2.5. Whether any amendment to ToR has been obtained	No

3. Details of Public Consultation

3.1. Whether the Project has been exempted from Public Hearing?	Yes
3.1.1. Reason	Category B2 projects and activities

Baseline Details

3. Summary of Baseline Data

Details of Baseline data collection

3.1. Season	Winter

Period of collection

3.2. From	01/01/2023
3.3. To	31/01/2023

Number of monitoring locations

3.4. Meteorology (Nos.)	1
3.5. Ambient Air Quality (Nos.)	8
3.6. Surface Water Quality (Nos.)	6
3.7. Ground Water Quality (Nos.)	1
3.8. Ground Water Level (Nos.)	1
3.9. Noise Level (Nos.)	8
3.10. Soil Quality (Nos.)	8

4. Meteorological Parameters

Parameter	Min. Value	Max. Value	Mean Value
4.1. Temperature (°C)	10	32	21
4.2. Wind Speed (m/s)	1	6	3.5
4.3. Relative Humidity (%)	17	100	58.5
4.4. Solar Radiation (W/m^2)	9	9.7	9.35
	Total rainfall (mm)	**No. of rainy days**	**Average annual rainfall (mm)**
4.5. Rainfall	452.2	1250.36	851.28
4.6. Predominant Wind direction	East (E)		

5. Ambient Air Quality

Note: Please Specify range in case of data monitored at multiple locations

Monitoring Location			Observed Value			
Buffer Zone	**Criteria Pollutant**	**Unit**	**From**	**To**	**Mean Value**	**Prescribed Standard**
Buffer Zone	PM10	Micro Gram per Meter Cube	40	64	52	100
Buffer Zone	PM2.5	Micro Gram per Meter Cube	11	35	23	60
Buffer Zone	SO2	Micro Gram per Meter Cube	5	8.7	6.85	80
Buffer Zone	NOx	Micro Gram per Meter Cube	5.45	15.3	10.37	80
Buffer Zone	O3	Micro Gram per Meter Cube	14.3	26	20.15	180
Buffer Zone	NH3	Micro Gram per Meter Cube	11	25	18	400
Buffer Zone	CO	Micro Gram per Meter Cube	0.5	1.12	0.81	4.0

Monitoring Location			Observed Value			
Core Zone	**Criteria Pollutant**	**Unit**	**From**	**To**	**Mean Value**	**Prescribed Standard**
Core Zone	PM10	Micro Gram per Meter Cube	49	65	57	100
Core Zone	PM2.5	Micro Gram per Meter Cube	20	34	27	60

232

Core Zone	PM2.5	Micro Gram per Meter Cube	20	34	27	60
Core Zone	SO2	Micro Gram per Meter Cube	5.03	9.8	7.41	80
Core Zone	NOx	Micro Gram per Meter Cube	9.54	15.7	12.62	80
Core Zone	O3	Micro Gram per Meter Cube	18.6	23	20.8	100
Core Zone	NH3	Micro Gram per Meter Cube	12	22	17	400
Core Zone	CO	Micro Gram per Meter Cube	0.52	1.12	0.82	4.0

6. Surface Water Quality

Note: Please Specify range in case of data monitored at multiple locations

Monitoring Location			Observed Value			CPCB Water Quality Criteria	
Buffer Zone	Criteria Pollutant	Unit	From	To	Standard as per IS: 2296-1982	Class	Standard
Buffer Zone	pH	-	6.5	7.20	6.5-8.5	A	6.5-8.5
Buffer Zone	BOD	mg/L	8	66	-	A	-
Buffer Zone	COD	mg/L	23	182	-	A	-
Buffer Zone	Total Hardness	mg/L	18	314	200	A	200
Buffer Zone	TDS	mg/L	60	628	344	A	500
Buffer Zone	Total Coliform	MPN Index/100 ml	7.8	26	16.9	A	-

Monitoring Location			Observed Value			CPCB Water Quality Criteria	
Core Zone	Criteria Pollutant	Unit	From	To	Standard as per IS: 2296-1982	Class	Standard

7. Ground Water Quality

Note: Please Specify range in case of data monitored at multiple locations

Monitoring Location			Observed Value			
Buffer Zone	Criteria Pollutant	Unit	From	To	Standard as per IS: 10500 Desired Limits	Standard as per IS: 10500 Permissible Limits
Buffer Zone	pH	-	6.5	-	6.5	8.5
Buffer Zone	TDS	-	0.3	-	500	2000
Buffer Zone	Total Hardness	mg/L	184	-	200	600
Buffer Zone	Fluoride	mg/L	0.22	-	1	15

Monitoring Location			Observed Value			
Core Zone	Criteria Pollutant	Unit	From	To	IS: 10500 Desired Limits	IS: 10500 Permissible Limits
Core Zone	pH	-	6.5	-	6.5	8.5
Core Zone	TDS	mg/L	0.3	-	500	2000
Core Zone	Total Hardness	mg/L	184	-	200	600
Core Zone	Fluoride	mg/L	0.22	-	1	15

8. Ground Water Level (Phreatic Surface)

Monitoring Location	Range of Water Table Pre-monsoon Season (in m below ground level)		Range of Water Table Post-monsoon Season (in m below ground level)	
Buffer Zone	From (Pre-monsoon)	To (Pre-monsoon)	From (Post-monsoon)	To (Post-monsoon)
Buffer Zone	11	14	7.50	10

Monitoring Location	Range of Water Table Pre-monsoon Season (in m below ground level)		Range of Water Table Post-monsoon Season (in m below ground level)	
Core Zone	From (Pre-monsoon)	To (Pre-monsoon)	From (Post-monsoon)	To (Post-monsoon)
Core Zone	11	14	7.50	10

9. Whether Ground Water Intersection will be there?	No

10. Noise Level

Monitoring Location		Observed Noise Level(dB(A))				Prescribed Standard(dB(A))	
Buffer Zone		Day Time Level		Night Time Level		Day Time Level	Night Time Level
	Category	From	To	From	To		
Buffer Zone	Residential area	51.06	52.08	40.62	42.89	55	40
Buffer Zone	Residential area	50.6	52.69	40.95	43.15	55	40
Buffer Zone	Residential area	51.08	54.6	41.07	43.41	55	40
Buffer Zone	Residential area	50.74	53.61	40.98	43.8	55	40
Buffer Zone	Residential area	50.46	54.2	41.66	43.18	55	40
Buffer Zone	Residential area	51.09	52.7	40.54	42.18	55	40
Buffer Zone	Residential area	50.8	52.6	40.8	42.88	55	40

Monitoring Location		Observed Noise Level(dB(A))				Prescribed Standard(dB(A))	
[illegible]		Day Time Level		Night Time Level		Day Time Level	Night Time Level
	Category	From	To	From	To		
Core Zone	Residential area	50.09	52.36	41.7	43.56	55	40

2149

11. Soil Quality

Physical Characteristics

Note: Please Specify range in case of data monitored at multiple locations

Monitoring Location		Particle Size Distribution (%)				
Buffer Zone	**Soil Texture**	**Sand**	**Silt**	**Clay**	**Water Holding Capacity (%)**	**Porosity (%)**
Buffer Zone	sandy	58	25	17	36	33

Monitoring Location		Particle Size Distribution (%)				
Core Zone	**Soil Texture**	**Sand**	**Silt**	**Clay**	**Water Holding Capacity (%)**	**Porosity (%)**
Core Zone	Sandy	62	23	15	40	33

12. Chemical Properties

Note: Please Specify range in case of data monitored at multiple locations

Monitoring Location		Observed Value			
Buffer Zone	**Criteria Parameter**	**From**	**To**	**Unit**	**Permissible Standard**
Buffer Zone	Calcium	28	34	mg/lg	-
Buffer Zone	Potassium	254	332	mg/kg	-
Buffer Zone	Magnesium	7.36	8.62	mg/kg	-

Monitoring Location		Observed Value			
Core Zone	**Criteria Parameter**	**From**	**To**	**Unit**	**Permissible Standard**
Core Zone	Calcium	26	30	mg/kg	-
Core Zone	Potassium	300	315	mg/kg	-
Core Zone	Magnesium	7.48	8.1	mg/kg	-

13. Whether Traffic study has been conducted?	Yes

Meteorological Parameters		
Parameter	**Existing**	**Proposed**
13.1. Road	Kausar Baug Road	NA
13.2. V (volume in PCU/day)	732	0
13.3. C (capacity in PCU/day)	1500	0
13.4. Existing V/C Ratio	0.49	0
13.5. LOS	0.49	0

14. Whether any Schedule-I Species found in the study area?	No
14.1. Whether conservation plan for Schedule-I Species has been approved by competent authority?	N/A

15. Impact Prediction

Air Quality Impact Prediction

16. Funds Allocated for Environment Management

16.1. Funds Allocated for Environment Management (Capital) (in Lakhs)	N/A
16.2. Funds Allocated towards Corporate Environmental Responsibility (in Lakhs)	N/A
16.3. Funds Allocated for Environment Management Plan (EMP) (Recurring per Annum) (in Lakhs)	N/A
17. Status of Land Acquisition	N/A

18. Details of Post-project monitoring program

Parameters to be monitored during construction and operation of the unit

19. Whether Environmental cell is proposed for implementation and monitoring of EMP	N/A
20. Whether compliance report from integrated regional office on existing EC is obtained?	N/A

Enclosures

234

21. Document to be attached

21.1. Upload Copy of Final EIA/EMP Report	Environmental Impact Assessment report.pdf
21.2. Executive summary of feasibility report/project report	Project summary.pdf
22. Upload Copy of Final Layout Plan (Upload pdf only)	Conceptual Plan.pdf

2150

22. Additional Information

Sr. No.	Document Name	Document	Remark

Undertaking

☑ I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief and I am aware that if any part of the data and information is found to be false or misleading at any stage, the project will be rejected and clearance given if any to the project will be revoked at our risk and cost. In addition to the above, I hearby give undertaking that no activity/construction/expansion has been taken up

22. Name	Sachin Shah
23. Designation	DGM- Design & Development
24. Company	BRAMHACORP LIMITED
25. Address	The Residency Club, 3 Queen's Garden Road, Camp, Pune -411001
26. Date	07/06/2023

FINAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR PROPOSED RESIDENTIAL PROJECT "BRAMHA EXUBERANCE"

at

S. No. 13, H. No. 1, 2 & 3, Village – Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra

-: PROJECT DETAILS: -

Plot area: 17,433.10 m^2
Total BUA: 50,548.68 m^2
Cost of the project: Rs. 27.33 Cr.
ToR No.: SIA/MH/MIS/76973/2022 dated. 17.05.2022
Category as per EIA Notification, 2006: 8 (a) Cat "B2"

APPLICANT

M/s. -BramhaCorp Ltd

The Residency Club, 3 Queen's Garden Road, Pune,
Maharashtra 411001

NABET CONSULTANT

MAHABAL ENVIRO ENGINEERS PVT. LTD.

Plot F-7, Road No-21, Wagle Estate, Thane West- 400604, Maharashtra.

Accredited by NABET vide letter No. QCI/NABET/ENV/ACO/23/2781

Mahabal Enviro Engineers Pvt
Pollution monitoring, Engineers & Contractors in Environmental M

NABL LABORATORY

GREEN ENVIROSAFE ENGINEERS & CONSULTANTS PVT. LTD.

A-7/2/C-11, Capital City, Talwade-Chakan road, Chakan MIDC,
village Nighoje, Taluka Khed, District Pune-410501
Accredited by NABL vide Certificate No. NABL/TC-10367

Baseline Monitoring Period: January 2023

BRAMHACORP
LIMITED

DECLARATION GIVEN BY THE PROPONENT

I, hereby declare that the data furnished in FORM-1, 1A and the data furnished in EIA Report submitted for obtaining EC of **"Bramha Exuberance Project, at Kondhwa, Pune"** are true and correct to the best of my knowledge and belief. I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance given if any to the project will be revoked at our risk and cost.

Date: 02.06.2023
Place: Pune, Maharashtra

Signature of the Proponent

DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA

I, hereby, certify that I was a part of the EIA team in the following capacity that developed the above EIA.

EIA coordinator:

Mr. Raghunath Mahabal

Date: 03.06.2023

Period of involvement: From December 2022 – On going
Contact information: **Mahabal Enviro Engineers Pvt. Ltd.**
Plot no F-7, road no. 21, Wagle Estate, Thane west-400604, Maharashtra
Phone: 022 2582 3154

Functional area experts:

Sr.	Functional areas	Name of the expert/s	Involvement (task**)	Signature
1	AP	Pravin Latwade	Baseline Monitoring data verification approval, Interpretations of Air environment, identify source of emissions, Impact Identification and Suggested Mitigation Measures, Provide Air quality management measures, Report writing	
2	AP	Ajeet Kumar	Baseline Monitoring, Assist and Report to FAE	
3	AQ	Pravin Latwade	Baseline Monitoring, Preparation of meteorological data, fugitive dust emission Modelling, Suggested Mitigation Measure	
4	AQ	Kunal Gajare	Worked on fugitive dust emission modelling	
5	WP	Priyanka Ubale	Checked the water balance calculation as per NBC code 2016 before submission on ECMPCB portal. Checked sewage generation Calculation and Suggested capacity and Treatment Methodology of STP. Checked the Rain water harvesting calculation Checked the storm water	

Sr.	Functional areas	Name of the expert/s	Involvement (task**)	Signature
			generation calculation Studied the 10 km radius of the project area for baseline monitoring. Selected of water sampling locations as per CPCB guideline. Identified Impacts on Surface and Ground water sources. Report writing	
6	WP	Sachin Gore	Baseline Monitoring, data verification and approval wrt to WP.	
7	MSW	Usha Waghmare	• Calculation of solid waste generation. • Prepared the solid waste management plan • Area calculation for solid waste storage and composting machine	
8	MSW	Priyanka Ubale	• Checked the calculation of solid waste generation. • Checked the solid waste management plan • Checked the area calculation for solid waste storage and composting machine • Suggested the location of storage and composting machine area. • Disposal methods of dry, wet and inert solid wastes.	
9	EB	Manoj Eledath	• Identify flora and Fauna of the surrounding environment. Calculate bio diversity index.	
10	SE	Sushil Meshram	Socioeconomic survey, Socioeconomic Assessment of Project area and surrounding area, Impact prediction and assessment, Suggestions for required welfare activities that can be taken up by PP based on scale of project as well as management, Report to EC	

Sr.	Functional areas	Name of the expert/s	Involvement (task**)	Signature
11	HG	Vinay Nikam	Impact Identification and Suggested Mitigation Measures, Report to EC	
12	GEO	Jotiram Balwant Pishte	Impact Identification and Suggested Mitigation Measures, Report to EC	
13	SC	Neeta Salunkhe	Baseline Monitoring, Analysis of soil material & results, Suggested Mitigation Measure	
14	LU	Tapas Bhargava	Land Use and Land Cover Classification and GIS Image processing, Impact on LU and related mitigations	

Declaration by the Head of the accredited consultant organization/ authorized person.

I, **Mr. Raghunath Mahabal,** hereby, confirm that the above-mentioned experts prepared the EIA study for **Proposed Expansion "Bramha Exuberance" is a residential project at sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BrahmaCorp Ltd.**

I also confirm that the consultant organization shall be fully accountable for any mis-leading information mentioned in this statement.

Name: Mr. Raghunath Mahabal

Signature

Date: 03.06.2023

Designation

Name of the EIA consultant Organization:	**Mahabal Enviro Engineers Pvt. Ltd.** Plot No F-7, Road No-21, Wagle Estate, Thane West-400604, Maharashtra.
NABET Certificate No.	QCI/NABET/ENV/ACO/23/2781
Issue Date:	17.05.2023

Contents

Chapter 1 Introduction 15
1.1 Preamble 15
1.2 General Information on Building Construction Project 16
1.3 Environmental Clearance Process 17
1.4 Terms of Reference (ToR) 17
1.5 Validity of Environmental Clearance 29
1.6 Post-Environmental Clearance Monitoring 29
1.7 Transferability of Environmental Clearance 29
1.8 Generic Structure of Environmental Impact Assessment (EIA) Report 29
1.9 The objectives of the EIA study are: 31
1.9.1 Methodology of the study 31
1.10 Identification of Project Proponent 33
1.11 Brief Description of Project 33
1.11.1 Permissions 38
Chapter 2 Project Description 41
2.1 General 41
2.2 Description of the project 41
2.2.1 Project cost 41
2.2.2 Remote Sensing Satellite Imagery 44
2.2.3 Contour Map (Standard ToR point no.V) 44
2.3 Site Selection 45
2.3.1 Land Use Zoning in Natural Hazard Prone Areas 46
2.4 Manpower requirement 49
2.5 Project Implementation Schedule 50
2.5.1 Project Components 50
2.5.2 Tenement Settlement facilities, parking needs, etc. 52
2.5.3 Sewage system 57
2.5.4 Solid Waste 62
2.5.5 Rain water harvesting (Standard ToR point no. 11) 65
2.5.6 Power supply 69
2.5.7 Environmental assessment of building, planning and use 72
Chapter 3 Description of the Environment 74
3.1 Introduction 74
3.2 Scope of Baseline Studies 74
3.3 Air Environment 76
3.3.1 Meteorology 76
3.3.2 Meteorological Data 77
3.3.3 Air Quality Index (AQI) 84
3.4 Noise Environment 85

3.4.1 Methodology for Noise Monitoring 85
3.5 Surface Water 87
3.5.1 Ground water monitoring 89
3.6 Solid Waste 91
3.7 Land Environment 91
3.8 Geology 94
3.9 Seismology 96
3.10 Soil 97
3.11 Biological Environment 100
3.11.1 Approach 100
3.12 Socio Economic Environment 105
Chapter 4 Anticipated Environmental Impact and Mitigation Measures 109
4.1 Introduction 109
4.2 Pollution sources 109
4.3 Project Activities 110
4.4 Impact Evaluation 110
4.5 Air Environment 113
4.5.1 Predicted Air Emissions from the Site 113
4.5.2 Operation Phase 114
4.5.3 Emission Inventory 114
4.6 Water Environment 114
4.6.1 Operation Phase Impacts 115
4.6.2 Impact on Water Environment Quality 116
4.7 Noise Environment 118
4.7.1 Impact on Ambient Noise Environnent 118
4.8 Land Environment 119
4.8.1 Anticipated Impact on Landscape and Topography 119
4.8.2 Mitigation Measure 120
4.8.3 Natural Topography 121
4.9 Biological Environment 121
4.10 Socio-economic Anticipated Impact 123
4.11 Solid Waste 124
4.12 Aesthetics 125
4.13 Impact Matrix 126
Chapter 5 Analysis of Alternatives 127
5.1 Introduction 127
5.2 Building materials 127
5.3 Energy conservation 128
5.4 Transportation 130
Chapter 6 Environmental Monitoring Programme 133

6.1 General 133
6.2 Air quality monitoring programme 133
6.3 Noise quality monitoring programme 133
6.4 Water quality monitoring programme 134
Chapter 7 Additional Studies 135
7.1 General 135
7.2 Risk assessment study 135
7.3 Disaster management plan 137
7.3.1 Purpose 137
7.3.2 Types of Disasters 137
7.3.3 Risk Assessment and Vulnerability Analysis 138
7.4 Mitigation and Preparedness 139
7.4.1 Standard Operating Procedures (SOP's) 140
7.4.2 Inventory Resources 142
7.4.3 Evacuation plan 144
7.4.4 Warning system and information sharing 151
7.4.5 Road map of fire stations 152
7.5 Do's and Don'ts for Disasters 158
7.6 Natural Resource conservation 162
7.6.1 Biodiversity Study of the Project Site 162
7.6.2 Biodiversity Index (additional ToR point no. 17) 162
7.7 Resettlement& Rehabilitation Action Plan 164
7.8 Solid Waste Management Plan 165
7.8.1 Components of Municipal Solid waste Management 165
7.8.2 Project specific solid waste details 166
7.9 Debris Management Plan 169
7.10 Traffic study 176
7.11 ECBC Compliance Study 176
7.12 Carbon Foot Print Study 176
7.13 Hydrological Survey Report 177
7.14 Gate Mass-Balance Analysis Study 177
Chapter 8 Project Benefits 178
8.1 General 178
8.2 Improvement in Social Infrastructure 178
8.3 Economic Development 178
8.4 Employment Potential 179
8.5 Landscape development 179
8.6 Improvement in infrastructure facility 179
Chapter 9 Environmental Cost Benefit Analysis 180
Chapter 10 Environmental Management Plan 181

10.1 General 181
10.2 Introduction 181
10.3 Project description 181
10.4 Emergency Response Plan 188
10.5 Environmental Monitoring Plan 193
10.6 Budgetary allocation for EMP 193
10.7 Responsibility for further O &M 194
10.8 Training and Capacity Building 195
Chapter 11 Summary & Conclusions 197
11.1 General 197
11.2 Project description and project benefits 198
11.3 Environmental Examination 198
11.4 Additional studies 202
11.5 Natural Resource conservation 202
11.6 Resettlement and Rehabilitation action plan 202
11.7 Environmental Management Plan and Post Project Monitoring Program 203
11.8 Risk Assessment (RA) and Disaster Management Plan (DMP) 203
11.9 Fire Risk 203
11.10 Public Health and safety issue related to the project 205
11.11 The Socio-economic impacts of the projects 205
11.12 Energy conservation measures to be implemented 205
Chapter 12 Details of Consultant Engaged 207
Chapter 13 Nature of Violation 209
13.1 General 209
13.2 Brief description 213
13.3 Violation 214
Chapter 14 Assessment of Ecological Damage Report 216
14.1 Background Violation 216
14.2 Violation in a glance 216
14.3 Environment Management Plan 217
Chapter 15 Remediation Plan and Nature and Community Resource Augmentation Plan 219
15.1 Environmental Management Plan 219
15.2 Budget allocation (Operation phase) 222
15.3 Cost benefit analysis 223
15.4 Natural resource augmentation 224
15.5 Community resource augmentation plan 225
15.6 Calculation of cost of remediation plan and natural & community resource augmentation plan 225
15.7 Remediation cost bifurcation: 228

List of Tables

Table 1.1: Construction Area Details 16
Table 1.2: Standards Terms of Reference 17
Table 1.3: Additional ToR in the 165th SEAC-III meeting & the 259th SEIAA meeting 18
Table 1.4: Parameters studied during the survey 32
Table 1.5: Identification of Project Proponent 33
Table 1.6: Co-ordinates of 4 corners of the Project Site 33
Table 1.7: Present status of site 35
Table 1.8: Permissions and NOC Documents 38
Table 2.1: Statement of the Project 42
Table 2.2: Area Statement - FSI and Non FSI area 43
Table 2.3: Built up Area of Buildings 43
Table 2.4: Contour level details 45
Table 2.5: Building Details 50
Table 2.6: Tenement Details 51
Table 2.7: Ground Coverage details 51
Table 2.8: Tenement & Population details 52
Table 2.9: Parking details 55
Table 2.10: Water utilization details 57
Table 2.111: STP details 57
Table 2.12: Expected characteristics of raw and treated water 58
Table 2.13: Solid waste generation calculation details 64
Table 2.14: RWH Details 68
Table 2.15: Power Supply during operational phase 69
Table 2.16: Disaster management resource 71
Table 3.1: Details of Project Site 75
Table 3.2: Average/ maximum and minimum meteorological data 78
Table 3.3: Ambient air quality monitoring location details 80
Table 3.4: Techniques Used for Analysis of Air Quality 80
Table 3.5: Ambient Air Quality monitoring results 81
Table 3.6: National Ambient Air Quality Standards (NAAQS) 82
Table 3.7: Air pollution impact on human body 83
Table 3.8: Noise monitoring location details 86
Table 3.9: Noise Monitoring Results 86
Table 3.10: Ambient Noise Quality Standards 86
Table 3.11: Surface water sampling locations 88
Table 3.12: Surface water monitoring results of January 2023 88
Table 3.13: Ground water sampling locations 90
Table 3.14: Ground water analysis results 90
Table 3.15: Land use Pattern within 10 km Radius of the Study Area 92
Table 3.16: Location of soil analysis 98
Table 3.17: Soil Analysis Report of January Month 98
Table 3.18: Chemical Classification of Soil Quality 99
Table 3.19: List of common plant species 101

Table 3.20: List of planted trees on site 102
Table 3.21: Population of Pune district (Census 2011) 105
Table 3.22: Population Census Abstract 2011 106
Table 3.23: Amenity near the project site 107
Table 3.24: Eco Sensitive Areas, Archaeological and Heritage sites near the project site .. 108
Table 4.1 : Pollutant sources and characteristics 109
Table 4.2 : Project Activity 110
Table 4.3 : Criteria Based Significance of Impact 112
Table 4.4 : Anticipated Impacts on AAQ 113
Table 4.5 : Water Requirement during Operational Phase 116
Table 4.6 : Discharge composition of wastewater 117
Table 4.7 : Landscape & Tree details 120
Table 4.8 : List of planted trees 121
Table 4.9 : Impact Identification Matrix 126
Table 5.1: Details of energy saving 130
Table 5.2: Parking details & parking statement 131
Table 6.1: Environment monitoring plan during operational phase 134
Table 7.1: Seasonal disaster mapping 139
Table 7.2: Codes that will be followed by project proponent 140
Table 7.3: Details of tanker water suppliers 141
Table 7.4: List of NGO's 143
Table 7.5 : List of hospitals 143
Table 7.6 : Disaster management resource 143
Table 7.7: Evacuation time 144
Table 7.8: Details of fire stations near proposed project 152
Table 7.9: DMP cost during operation phase 161
Table 7.10: Biodiversity calculations 163
Table 7.11: Biodiversity index of proposed trees 163
Table 7.12: Solid waste generation calculation details 166
Table 7.13: Vermicompost pit details 168
Table 7.14 : General study of waste generated and its utilization 168
Table 7.15 : General study of waste generated and its utilization 169
Table 9.1: Qualification & cost of officials/persons of environment management cell 182
Table 10.2: Statutory Compliances 183
Table 10.3: Executable EMP – Operation phase 185
Table 10.4: Emergency response plan 188
Table 10.5: Environment monitoring plan - Operation phase 193
Table 10.6: EMP costing during operation phase 193
Table 10.7: Record keeping requirements 194
Table 12.1: Sectors Approved 207
Table 13.1: Diary of events 209
Table 14.1: Details of violation 216
Table 15.1: Environmental Management Plan for Operation Phase 219
Table 15.2 Budget Allocation for Operation Phase 222

Table 15.3 Qualification & Cost of Officials/Persons of Environment Management Cell..... 223

List of Figures

Figure 1.1: Location map 34
Figure 2.1: Satellite image of the project site 44
Figure 2.2: Contour map 44
Figure 2.3: Seismic Zones of India 46
Figure 2.4: Cyclone Prone Areas of India 47
Figure 2.5: Flood Prone Areas of India 48
Figure 2.6: Showing Landslide Zones of India 49
Figure 2.7: Master Layout plan with services 51
Figure 2.8: Pie Graph showing Ground coverage Details 52
Figure 2.9: Buildings cross section 53
Figure 2.10: Parking layout below podium 55
Figure 2.11: Parking layout at podium 56
Figure 2.12: Road Cross Section 56
Figure 2.13: Basement ventilation plan 56
Figure 2.14: STP location 58
Figure 2.15: Cross section of STP 58
Figure 2.16: Flow diagram of Moving Bed Bioreactor (MBBR) 59
Figure 2.17: Classification of solid waste generation 62
Figure 2.18: Location of Vermicomposting pits & section 64
Figure 2.19: Vermicomposting pits photograph 65
Figure 2.20: Rain water harvesting 66
Figure 2.21: Location of Recharge pits 68
Figure 2.22: Storm water plan 69
Figure 2.23: DG set photograph 70
Figure 2.24: DG set location plan 70
Figure 2.25: Road map of the proposed project from Kondhwa Khurd Fire Station, Pune ... 71
Figure 2.26: Fire tender movement plan 72
Figure 3.1: Study area map 76
Figure 3.2: Wind rose diagram 78
Figure 3.3: Land Use Category of Study Area 93
Figure 3.4: Hydrogeology of Pune 95
Figure 3.5: Geomorphology of Pune 95
Figure 3.6: Satellite imaginary at Pune city 96
Figure 3.7: Seismic Zones of India 97
Figure 3.8: Soil Characteristics in the study area 98
Figure 3.9: Landscape plan 103
Figure 7.1: Disaster response plan 138
Figure 7.2: Firefighting equipment's 144
Figure 7.3: Evacuation time 146
Figure 7.4: Activities to be undertaken in case of evacuation 147
Figure 7.5: Fire tender movement plan 147
Figure 7.6: Refuge area plan at 8th floor 148
Figure 7.7: Lightening arrester layout 150

Figure 7.8: Road map of proposed project from fire brigade station Kondhwa Khurd fire station 152
Figure 7.9: Schematic representation of Solid Waste Management Waste 166
Figure 7.10: Solid Waste Management 169
Figure 7.11: Contour plan 174
Figure 10.1: Master Layout 182
Figure 9.2: Organization & Environment Management Cell 182
Figure 13.1: Photograph of building showing building in violation 211

Annexures

	Annexures	Page no.
Annexure I	Damage Assessment Report	232
Annexure II	STP Design Basis Report	277
Annexure III	Sanction plan	285
Annexure IV	ECBC- Shadow analysis report	288
Annexure V	Traffic report	329
Annexure VI	Carbon footprint Report	349
Annexure VII	Ecological footprint	367
Annexure VIII	Gate Mass Balance	388
Annexure IX	Hydrogeology Report	394
Annexure X	Tree survival report	415
Annexure XI	Environmental status report	436
Annexure XII	Architect Certificate	453
Annexure XIII	Undertaking for DG	455
Annexure XIV	Land acquisition status	456
Annexure XV	Development plan	459
Annexure XVI	NOC's	460
Annexure XVII	Vermicomposting Design Basis Report	471
Annexure XVIII	NABET Certificate of Accreditation	477

Chapter 1
Introduction

1.1 Preamble

"Bramha Exuberance" is a residential project at sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BrahmaCorp Ltd.

The violation application was submitted on PARIVESH portal as per MoEF&CC Office Memorandum dated 07.07.2021 and 28.01.2022 vide F. No. 22-21/2020-IA.III (E 138949) for the FSI area **21,798.69 m²**, Non-FSI area **28,749.68 m²** & Construction area **50,548.37** vide proposal no. SIA/MH/MIS/76973/2022 dated 17.05.2022.

As per sanction 2005, **A & B (4 wings each), D, and E (5 wings each) buildings were constructed with 'built-up area of 39,037.99 m²**. It comprises of 4 residential buildings, 249 flats in 2005 as per the Sanctioned plan No. CC/2342/05 dated 21.9.2005 & CC/3387/05 dated 30.12.2005. **The entire work was completed in 2009.**

The Occupancy Certificate was granted to the project on 04.12.2009. Society registration was done on 29.08.2011 and the possession of the flats and buildings was handed over to the buyers 'residents' society in the year **2012.**

The earlier sanctioned plan of year 2005 had all buildings A, B, C, D and E. But we did not construct building C. **It was not economically viable** as the selling cost was not permitting buying the TDR from the open market.

As per CC-3954 dated 04.03.2014, Building No. C was constructed and the total built-up area of the C building is **11,510.38 m²**. The building configuration of the C building is Lower Parking + Podium +1 Floors & **55 flats.**

The plan for this building C was submitted in the year 2014 and Commencement Certificate was issued on 15.07.2014.

The EIA is prepared by considering the manual of Administrative Staff College of India, Hyderabad (2010), MoEF&CC & Standard Terms of Reference (ToR), 2015 & additional ToR received in the 165th SEAC-III meeting & the 259th SEIAA meeting dated 20.04.2023.

The purpose of this Environmental Impact Assessment (EIA) study is to provide information on the nature and extent of environmental impact that might have been arising from the project.

1.2 General Information on Building Construction Project

The plot area of the project is 17,433.10 m^2 and total Built up area is 50,548.37 m^2.

Table 1.1: Construction Area Details

Description	Area (m^2)
Plot area	17,433.10
Deductions	2,833.35
Net plot area	14,599.75
Total proposed F.S.I area	21,798.69
Total Non-F.S.I. area	28,749.68
Total construction area	50,548.37

Sr.	Particulars	Building A	Building B	Building C	Building D	Building E	Total
1	**FSI**	3,191.55	3,191.55	4,706.14	4,867.09	5,443.65	21,399.98
2	**Excess balcony**					398.71	398.71
3	**Staircase**	213.73	213.73	94.38	97.46	136.84	756.14
4	**Lift area**	10.24	10.24	7.82	10.24	10.24	48.78
5	**Balcony area**	564.08	564.08	692.78	846.45	928.18	3,595.57
6	**Lobby area**	487.30	487.30	922.57	645.70	817.96	3,360.83
7	**Terrace area**		1,199.46	970.89	418.09	703.25	3,291.69
8	**Refuge area**	73.25	73.25	25.60	72.57	99.69	344.36
9	**Podium area**	1,464.70		3,023.17	1,474.18	1,763.76	7,725.81
10	**Lift M. room**	10.24	10.24	7.82	10.24	10.24	48.78
11	**Built up Area of residential buildings**						40,921.87
12	**Area of club house**						310.06
13	**Area of Transformer room**						20
14	**Area of undergrounds tanks**						100
16	**Area of Security cabin**						25
17	**Area of Parking below podium**						7,197.37
18	**Terrace (11th floor of each building)- A=296.80+B=296.80+C=427.47+D=449.06+E=503.94**						1,974.07
	Total built up area of the project						**50,548.37**

1.3 Environmental Clearance Process

We have applied for environment clearance under the Office Memorandum dated 28.01.2022 having proposal no. SIA/MH/INFRA2/411979/2022 dt.17.05.2022. The details area as per mentioned in points no. 1.1 of project summary.

1.4 Terms of Reference (ToR)

Form 1 & 1A has been submitted for the project. As per the EIA notification project falls under the 8(a) B2 category. EIA report is prepared as per EIA guidance manual by Administrative Staff College of India, Hyderabad, February 2010, Standard terms of reference by MoEF&CC, April 2015 and Additional ToR received in the 165th SEAC-III meeting & the 259th SEIAA meeting dated 20.04.2023.

Table 1.2: Standards Terms of Reference

Sr.	Terms of Reference (ToR)	Chapter	Page no.
1.	Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis will be done based on latest satellite imagery for land use with raw images. Check on flood plain of any river.	Chapter 3	91
2.	Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/villages and present status of such activities.	Chapter 3, 7	105 & 164
3.	Examine baseline environmental quality along with projected incremental load due to the project.	Chapter 3	74
4.	Environmental data to be considered in relation to the project Development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.	Chapter 3	76
5.	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area. Any obstruction of the same by the project.	Chapter 2	45
6.	Submit the details of the trees to be cut for the project.	Chapter 4	120
7.	Submit the present land use and permission required for any conversion such as forest, agriculture etc.	Chapter 3	91
8.	Submit roles and responsibilities of the developer etc. for compliance of environmental regulations under the provisions of EP Act.	Chapter 10	194
9.	Ground water classification as per the Central Groundwater Authority.	Chapter 3	89
10.	Examine the details of Source of water, water requirement, use of treated waste-water and prepare a water balance chart.	Chapter 2	57
11.	Rainwater harvesting proposals will be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water. Examine details.	Chapter 2	65
12.	Examine soil characteristics and depth of ground	Chapter 3	97

Sr.	Terms of Reference (ToR)	Chapter	Page no.
	water table for rainwater harvesting.		
13.	Examine details of solid waste generation treatment and its disposal.	Chapter 2, 7	62 165
14.	Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption. Energy conservation and energy efficiency.	Chapter 5	128
15.	DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.	Chapter 4	114
16.	Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region will be analyzed with measures of preventing traffic congestion and providing faster trouble-free system to reach different destinations in the city.	Chapter 5	130
17.	A detailed traffic and transportation study will be made for existing and projected passenger and cargo traffic.	Chapter 7	176
18.	Examine the details of transport of materials for construction which will include source and availability.	Chapter 5	127
19.	Examine separately the details for construction and operation phases both for Environment Management Plan and Environment Monitoring Plan with cost and parameters.	Chapter 10	185
20.	Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.	Chapter 7	137

Table 1.3: Additional ToR in the 165th SEAC-III meeting & the 259th SEIAA meeting

Sr.	Terms of Reference (ToR)	Reply	Page no.
A.	**Project Description**		
1.	Project description, its importance and benefits.	Project description is given in chapter 2 & its importance and benefits are given in chapter 8.	41 178
2.	Project site details (location, topo-sheet of the study area of 10 Km, Coordinates, google map, layout map, land use, geological features and geo hydrological status of the study area, drainage). hydro geological survey report with graphs & data.	Coordinates-Chapter 1-Table 1.7 google map- Chapter 1-Figure 1.1 layout map- Chapter 2-Figure 2.7: land use-Chapter 3- Section 3.7 hydro geological survey report-Chapter 7- Section 7.13	35 33 51 91 177

Sr.	Terms of Reference (ToR)	Reply	Page no.
3.	Land use as per the approved Master Plan of the area, Permission/approvals required from the land-owning agencies, Planning / Development Authorities, Local Body, Water supply & Sewerage Board, etc.	Land use study of the 10 km study area is given in Chapter 3- Section 3.7 Permission/approvals required from the land-owning agencies, Planning / Development Authorities, Local Body, Water supply & Sewerage Board, etc.-Chapter 1-Table 1.8	91 38
4.	Land acquisition status, R & R details.	Land acquisition status is attached as Annexure-XIV.	
5.	Forest and Wildlife and eco-sensitive zones, if any in the study area of 10 km. Any sensitive areas in impact zone such as archaeological structures, reserved forest, noise sensitive zones etc. Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986.	No eco-sensitive zone in the 10 km study area.	
6.	High Tension lines or Hazard lines if any on the plot.	No high-tension lines or Hazard lines passing through the plot.	
7.	Plan showing HFL/CRZ lines.	No HFL/CRZ lines.	
8.	Permissions granted by State Government in tabular and chronological form. Comparative statement of components approved and components constructed including the configuration as per earlier EC (if applicable) and proposed development.	We have received water, drainage, sewage disposal permission from PMC. We have mentioned the permission details in Chapter 1, Table no. 1.8 of the EIA report Project statement is given in Chapter 2, Table no.2.1 of the EIA report.	38 42
9.	PP to submit the detailed master plan indicating already completed construction and proposed construction. PP to submit the certificate from registered architect for completed work, built up area and configuration.	Detailed project layout plan is given in Chapter 2, Figure 2.7 in the EIA report. Architect certificate is attached as Annexure XII.	51
10.	Project cost shall be based on government notified stamp duty ready reckoner at time of application including cost of land and construction including civil, MEP works, environment services, site/land development, horticulture/landscape works etc. complete.	The project cost was calculated based on ready reckoner.	42
B.	**Base Line Data**		
11.	Baseline environmental study for ambient air (PM_{10}, $PM_{2.5}$, SO_2, NOx & CO), water (both surface and ground), noise and soil for one month (except monsoon period) as per MoEF&CC/CPCB	We have carried out the baseline environmental study for ambient air, water, noise and soil in the 10 km study	75

Sr.	Terms of Reference (ToR)	Reply	Page no.
	guidelines at minimum 5 locations in the study area of 10 km, The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory duly notified under the Environment (Protection) Act,1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.	area. Location of the baseline study area is given in Chapter 3, Table 3.1 of EIA report.	
12.	Detail on flora and fauna and socio-economic aspects in the study area. Details of tree cutting, tree transplantation and survival report of existing trees including conformity to prevailing Tree Act.	The details of flora and fauna are given in Chapter 3, Table 3.19 to Table 3.20 of the EIA report. Socio-economic aspects of the study area are given in Chapter 3, Section 3.12 of the EIA report.	101 105
13.	Likely impact of the project on the environmental parameters (ambient air surface and ground water, land, flora and fauna and socio-economic, etc.)	Impact of the project on the environmental parameters like ambient air surface and ground water, land, flora and fauna and socio-economic, etc. is given in chapter 4.	109
14.	Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc.	Water permission is attached as annexure XVI.	
15.	Socio-economic infrastructure details including public transport arrangements on the site; PP to mention details of socio-economic in EIA.	The details of socio-economic infrastructure including public transport is described in Section 3.12 of Chapter 3.	105
16.	PP to submit contour map with slopes, drainage pattern of the site and surrounding area. Layout showing natural water courses on site; total runoff calculation before and after development.	The contour plan is given in Figure 2.2 of chapter 2. Total run off calculations is given in Table 2.15 & also in Hydrological survey report & it attached as Annexure IX.	41 69
17.	PP to submit details of existing trees, proposed to be cut, proposed to be transplanted along with tree survival report conforming to prevailing Tree Act.	Tree details are given in chapter 3, Table 3.20, chapter 7, Table 7.11 Tree survival report is attached as Annexure X	102, 163
18.	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated.	Land use study of the 10 km study area is given in Chapter 3- Section 3.7	91
19.	Proximity to Areas declared as 'Critically Polluted' should also be indicated and	No 'Critically Polluted' are in the 10 km study area.	

Sr.	Terms of Reference (ToR)	Reply	Page no.
	where so required, clearance certifications from the prescribed Authorities, such as the SPCB should be secured and furnished to the effect that the proposed Activities could be considered.		
20.	Similarly, for Coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t. CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain Approval of the concerned Coastal Zone Management Authority).	The project is not coming under the CRZ area.	
21.	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	The total water requirement of project is around 185 m^3/day. Source of water is from Pune Municipal Corporation. The water requirement details are given in chapter 2, Table 2.10	57
22.	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Water source is Pune Municipal Corporation. We are not extracting the water.	
23.	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	Rainwater harvesting details of the project is given in chapter 2.	65
24.	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	Impact of the project on the water quality, both surface and groundwater are given in chapter 4, Section 4.6.	114
25.	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.	Hydro Geological report is attached as Annexure IX.	
26.	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the	No stream passing through the plot.	

Sr.	Terms of Reference (ToR)	Reply	Page no.
	same on the hydrology should be examined.		
27.	Information on site elevation, working depth, groundwater table etc. should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.	Chapter 2 Ground water level; Chapter.3 Summer Season – 11.00 m. to 14.00 m. BGL. (12.50 m. Average) Rainy Season – 5.00 m. to 6.00 BGL. (5.50 m. Average) Winter Season – 7.50 m. to 10.00 m. BGL. (8.75 m. Average) Details schematic diagram is given in Hydro Geological report, it is attached as Annexure X.	
C.	**Traffic Impact Study in detail**		
28.	Traffic Management Plan for the development – Internal circulation indicating road width and turning radius. Cross section of roads at four places showing clear road width, distance left from building line, spaces left for plantation, footpath, service lines etc.	Traffic analysis report is attached as Annexure V.	
29.	Traffic Volume Counts and Turning Movement Counts on all the external surrounding roads of the proposed project showing the time period taken.	Traffic analysis report is attached as Annexure V.	
30.	Topographic details of roads and intersection of the surrounding roads where counts are taken, actual geometry on ground to be shown with dimensions.	Traffic analysis report is attached as Annexure V.	
31.	Traffic generation values of similar development to be given by actual count by actual count as support data for assumption made to the particular project.	Traffic analysis report is attached as Annexure V.	
32.	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.	Traffic analysis report is attached as Annexure V.	
33.	Parking statement mentioning parking as per DCR & parking provided actually.	We have provided the parking area as per the DCR. Parking details are given in	55

Sr.	Terms of Reference (ToR)	Reply	Page no.
		chapter 2, Table 2.9.	
34.	Basement ventilation plan: Fire Tender Movement Plan showing clear road and turning radius. Cross section of roads at four places including UGT, OWC and DG set location showing clear road width and distance left from building line & spaces left for plantation, parking, service lines, foot paths, etc.	Basement ventilation plan is given chapter 2, Figure 2.13 Fire Tender Movement Plan showing clear road and turning radius is given in chapter 2, Chapter 7, Figure 2.26, Figure 7.5.	56 72 147
D.	**Environmental Impact and Management Plan**		
35.	Identify sources of air pollution, indicate mitigation measures to reduce Air pollution/Noise pollution.	We have given the source of air & noise pollution with mitigation measures to reduce Air pollution/Noise pollution in Chapter 4 of the EIA report.	109
36.	Debris management plan including (a) debris required for refilling, (b) contour plan, (c) details of site where excess debris will be disposed, capacity of the site and NOC of plot owner. PP shall also ensure that debris disposed on other plot shall not be disposed on another plot. If to be disposed on another plot, the same shall be carried out as per prevailing environmental laws.	Debris management plan is given in chapter 7.	169
37.	Management of solid waste and the construction & demolition waste for the project vis-a-vis the Solid Waste Management Rules 2016 and the Construction & Demolition Rules, 2016. Transport, collection, storage and disposal for all types of wastes like hazardous waste, non-hazardous waste, solid waste, E– waste, and debris/excess earth etc. PP to provide the detailed solid waste management plan along with marked locations on the master plan. Design details of waste processing equipment such as OWC/biogas plants confirming to the technical requirements to meet the quality products.	Solid waste management plan details are given in Chapter 2 section 2.5.4, Chapter 7, Section 7.8.	62 165
38.	Waste water management (treatment, reuse and disposal) for the project and also the study area. Design of all STP's along with BOD load, oxygen requirement calculations and sizing of the tanks with respect to the design criteria. PP to submit detailed calculation for the disinfection of the treated STP water; PP to submit cross sectional drawing of STP's showing dimensions and ground level; PP to provide ozonation for tertiary treatment. PP to mark the area required	Waste water management details are given in chapter 2, Section 2.5.3. STP design details are given as Annexure II.	57

Sr.	Terms of Reference (ToR)	Reply	Page no.
	for all STP's on master layout with dimensions.		
39.	PP to show internal storm water drain and sewer line arrangements up to final disposal point.	Internal storm water drain is given in chapter 2, Figure 2.15 and sewer line arrangements up to final disposal point is given in chapter 2	58
40.	Provision of mandatory RG area on virgin land and submit the drawing with calculations, ensuring entire mandatory RG is provided on the plot where residential buildings are proposed.	We have provided the mandatory RG area 2,045.85 m^2 RG area details is given in chapter 7, section 7.6.2. Landscape plan is given in Figure 3.9 of chapter 3.	162 103
41.	A detailed phase wise development plan with safety planning where occupancy has been given.	Project was completed in a single phase.	
42.	If any site-specific structures such as creation of water body, alteration of natural storm water, large alteration of slopes, creation of green areas abutting to water bodies / natural storm water drain / river etc., is involved, detailed environmental protection approach for the same shall be provided.	There won't be any alteration of any structure in the operation phase.	
43.	Separate chapter on Renewable energy in EIA report. PP to submit terrace plan for installing solar panels& calculations of energy saving; Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project. Report on ECBC compliance.	Energy Conservation Building Code (ECBC) Report is attached as Annexure IV.	
44.	Provide details of Solar PV and Solar water heater in the specific format. PP to carryout shadow analysis for identifying the roof-top area for providing solar panels Minimum 5% of the total connected load shall be provided with Solar PV.	Overall energy saving details is 20.33%. Renewable energy saving is 13.21%. Shadow analysis report is attached as Annexure IV.	130
45.	Environmental status report including analysis reports of all environmental pollution reduction facilities if any commissioned.	The environmental status report is attached as Annexure XI.	
46.	PP to submit Disaster management plan.	Disaster management plan is given in Chapter 7, Section 7.3 of the EIA report.	137
47.	Preparation of site specific, executable and auditable environment management plan (EMP)	Site specific environment management plan is given in Chapter 9 of the EIA report.	180
48.	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in	Tree details are given in chapter 3, Table 3.20, chapter 7, Table 7.11 Tree survival report is	102, 163

Sr.	Terms of Reference (ToR)	Reply	Page no.
	mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.	attached at Annexure V Landscape plan is given in Figure 3.9 of chapter 3	103
49.	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Project benefit is given in chapter 8.	178
E.	**Environmental Modelling and additional Studies**		
50.	Fugitive dust modelling by using local meteorological data.	Fugitive dust modelling is attached.	
51.	Ecological footprint calculation using LCA approach.	Ecological footprint calculation using LCA approach is attached as Annexure VII.	
52.	Estimation of Carbon footprint of the project and its analysis to be included.	Carbon footprint is attached as Annexure VI.	
53.	Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection of data and sample analysis shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986 or Environmental Laboratory accredited by NABL, or a laboratory of council of Scientific and Industrial Research (CSIR) institution working in the field of environment.	Ecological damage assessment is attached as Annexure I.	
54.	Gate mass balance analysis for environmental parameters related to solid/liquid waste material coming to site, waste generated and its treatment and disposal from site.	Gate mass balance analysis is attached as Annexure VIII.	
55.	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	The environment management plan during the operation phase is given in chapter 15, Table 15.1. Budget allocation is given in chapter 15, section 15.2.	218
56.	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may	In the remediation plan, we have covered the socio-economic points.	218

Sr.	Terms of Reference (ToR)	Reply	Page no.
	be given with time frames for implementation.		
57.	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	The environment management plan during the operation phase is given in chapter 15, Table 15.1.	218
58.	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	A public hearing is not required for this project.	
59.	PP to refer "approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance" available on the portal: "ecmpcb.in".	As per the approach paper, we have prepared the damage assessment.	
F.	**NOCs, Undertakings, CER and Litigations**		
60.	NOC's required: a) CFO, b) Water supply with quantity, c) Drainage, d) Non-biodegradable waste disposal, e) Aviation f) HRC, G) PESO, H) Defense/NAD etc.	CFO NOC, Water supply NOC, Drainage NOC and Nonbiodegradable waste disposal NOC is attached as Annexure XVI.	
61.	Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, Emergency Services including emergency lifts, etc.	Undertaking to provide DG set backup to all Pollution Control Devices, Water Supply, and Emergency Services including emergency lifts is attached as an annexure-XIII.	
62.	Include condition of "maintenance of all Pollution Control Equipment's and functioning of Environment Monitoring Cell in PP's MoU with society/maintenance agencies /vendors	Society is doing the maintenance of all Pollution Control Equipment's and functioning of Environment Monitoring Cell.	
63.	PP to submit details of CER activities in consultation with the affected people in the project area as per MoEF&CC circular dt. 01.05.2018, along with details of fund utilization & agreement or consent of executor.	As per MoEF&CC OM 25.02.2021. CER implemented as per EMP	
64.	PP to submit Roles and Responsibilities of developer etc. for compliance of environmental regulations under the provisions of EP act.	The role and responsibilities of the developer are given in chapter 10.	185
65.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	Yes Court case details- NGT Western zone bench at Pune – Case no.65/2019	
G.	**Specific Term of Reference**		

Sr.	Terms of Reference (ToR)	Reply	Page no.
66.	The State Government/SPCB shall take action against the project proponent under the provisions of section 15 read in conjunction with Section 19 of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.	Yes, we agree with the condition.	
67.	As per extant regulations at the time of scoping, if it is viewed that the project activity is otherwise permissible, Terms of Reference (TOR) shall be issued with directions to complete impact assessment studies and submit Environment Impact Assessment (EIA) report and Environment Management Plan (EMP) in a time bound manner.	Yes, we agree	
68.	Such cases shall be subject to appropriate: (a) Damage Assessment (b) Remedial Plan and (c) Community Augmentation Plan.	We have prepared the Damage Assessment, Remedial Plan, and Community Augmentation Plan.	217
69.	Assessment of ecological damage with respect to air, water, land and other environmental attributes shall be done before arriving at quantum environment remediation and natural and community resource augmentation.	Yes, we agree with the condition.	
70.	The methodology of calculating this quantum shall be as specified in format for Assessment of Environmental damages in the paper titled "Approach for Assessment for Environment Damage and Estimation of Remediation Costs for Building Construction Projects Initiated Without Mandatory Environment Clearance" 2018.	As per the Approach paper, we have prepared the damage assessment.	
71.	Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived, which shall be based on cost of project derived from prevailing rates of construction and land of government approved ready reckoner, due to violation. The cost of the Project (capital cost and recurring cost) as prevailing in Annual Statement of Rates / District Schedule of Rates/ Government Ready Reckoner Rates as well as the cost towards implementation of EMP should be clearly spelt out.	We have prepared considering the remediation plan and natural and community resource augmentation. Chapter 15, section 15.1.	218
772.	The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall	We will submit the bank guarantee as per the remediation plan.	

Sr.	Terms of Reference (ToR)	Reply	Page no.
	be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP in a period of one year, followed by recommendations of the EAC and approval of the regulatory authority.		
73.	The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.	The baseline monitoring was done though the NABL lab.	
74.	The remediation plan and the natural and community resource augmentation plan shall be prepared as an independent chapter in the EIA report by the accredited consultants.	We have prepared a separate chapter 15 for the remediation plan and the natural and community resource augmentation plan.	218
75.	It should be clearly stated whether the proponent if it is a Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.	We are working on the Environment Policy.	
76.	Besides the above, the below mentioned general points are also to be followed: All documents to be properly referenced with index and continuous page numbering. Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports	Yes, we agree.	

Sr.	Terms of Reference (ToR)	Reply	Page no.
	should be available during appraisal of the Project. Where the documents provided are in a language other than English, an English translation should be provided.		
77.	In case of continued violation after issue of TOR, the ToR/Environmental Clearance shall be terminated forthwith.	Yes, we agree.	
	Project Specific emerged points		
1.	PP to submit the DP Plan.	DP plan is attached as Annexure XVI.	
2.	PP to submit the detail Architect Certificate stating current status of the construction along with building wise construction done (FSI, Non-FSI & Total built up area) on site along with the chronology.	Architect Certificate is attached as Annexure XII	
3.	PP to submit the all-approvals details (CC, OC etc.) regarding project under consideration.	All approval details are given in table 1.8	38
4.	PP to submit the details of Court case/litigations w.r.t. the project and project location, if any.	Court case details- NGT Western zone bench at Pune – Case no.65/2019	
5.	PP to submit details of implementation of points mentioned in point number 68 along with financial requirements for same with EIA	We have prepared the Damage Assessment, Remedial Plan and Community Augmentation Plan. Chapter 13 to Chapter 15.	

1.5 Validity of Environmental Clearance

We are in process of Environment Clearance.

1.6 Post-Environmental Clearance Monitoring

We have not yet received environment clearance for the project, but after received the environment clearance we will submitted six-monthly EC Compliance & Monitoring report to the regional office of MoEF&CC, Nagpur and RO & HQ of MPCB offices.

1.7 Transferability of Environmental Clearance

Not applicable

1.8 Generic Structure of Environmental Impact Assessment (EIA) Report

We have collected base line data for the period of January 2023. EIA report is prepared as per EIA guidance manual by Administrative Staff College of India, Hyderabad, February 2010, Standard terms of reference by MoEF&CC, April 2015 and Additional ToR received in the 165th SEAC-III meeting & the 259th SEIAA meeting dated 20.04.2023. EIA report contains monitoring data, project description, assessment of impacts, preparation of environmental management plan, damage and disaster management plan. The report is organized in following fourteen chapters:

Chapter 1 Introduction

This chapter describes Environmental clearance and ToR for project, objectives, methodology for EIA and also brief description of project.

Chapter 2 Project Description

This chapter gives a brief description of the location, layout of the 'Bramha Exuberance' project site at Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra. Also, it includes identification of natural hazard prone areas like, earthquake, flood, landslide, manpower requirement etc.

Chapter 3 Description of the Existing Environment

This chapter presents details of the baseline environmental status for Ambient air quality, noise, traffic, surface and ground water quality, soil quality, flora, fauna and socio-economic status etc.

Chapter 4 Anticipated impacts and mitigation measures

This chapter discusses the anticipated impact and mitigation measures for land, water, air, noise, biological, socio-economic, environment and solid waste, hazardous waste, construction and demolition waste impacts of the project during construction and operation phases.

Chapter 5 Alternative technologies

This chapter discusses the alternative technologies implemented for green building, resource conservation and recycling and energy conservation technologies used for project.

Chapter 6 Environmental Monitoring Programme

This chapter describes the details about the post project environmental monitoring programme.

Chapter 7 Additional Studies

This chapter presents the Disaster management plan, Solid waste management plan, and Debris management plan.

Chapter 8 Project Benefits

This chapter presents the benefits of the 'Bramha Exuberance'' project.

Chapter 9 Environmental Cost Benefit Analysis

Not applicable

Chapter 9 Environmental Management Plan

This chapter presents the environment management plan for anticipated impacts and remedial measures.

Chapter 10 Summary and Conclusions

This chapter deals with the project description and projects benefits, environmental examinations along with additional studies include Environmental management plan and post project monitoring program, Environmental Risk Assessment (ERA) and Public Health and Safety issues related to the project.

Chapter 11 Details of consultant engaged

This chapter covers the details of environmental consultants, NABET accreditation details.

Chapter 12 Nature of Violation

Chapter 13 Assessment of Ecological Damage Report

Chapter 14 Remediation Plan and Nature and Community resource Augmentation Plan

Objectives of the study

1.9 The objectives of the EIA study are:

- To describe the scope of the project and associated works;
- To establish the existing environmental status of the project site;
- To identify and quantify pollution sources and determine the significance of impact on receptors;
- To identify, predict and evaluate environmental and social impact expected during the construction and use phases in relation to the existing civic infrastructure and receptors present, if any;
- To develop mitigation measures so as to minimize pollution, environmental disturbance and nuisance during construction and use;
- To design and specify Environment Management Plan (EMP) monitoring schedule for implementation and the effectiveness of the mitigation measures adopted.

1.9.1 Methodology of the study

Inspection survey is carried out to understand the nature of the development of residential project 'Bramha Exuberance' to conduct visual site inspection, to decide the sampling locations and program.
Sampling locations were identified on the basis of the following criteria:

- Predominant wind direction in the study area;
- Existing topography;
- Location of existing activities;
- Accessibility, availability of power, security of monitoring instruments and
- Samples collected at various locations were identified in the inspection survey to establish environmental quality existing at project site. The impacts of development of the project are identified. The appropriate Environment Management Plan (EMP) is defined to mitigate adverse environmental impact.

The samples were collected during post-monsoon i.e., from January 2023. The sampling locations and the parameters studied during the survey are given in **Table 1.4**

Table 1.4: Parameters studied during the survey

Sr.	Attribute	Parameters	Frequency of Monitoring
1	Ambient air quality	PM_{10}, $PM_{2.5}$, SO_2, NO_2, Lead, Ammonia, Benzene, benzo(a) pyrene, Arsenic, Nickel, Ozone, and CO	Ambient Air Quality was monitored at 8 locations are for 24-hours twice a week.
2	Meteorology	Surface: Wind speed and direction, temperature, relative humidity and rainfall	Primary data: Hourly readings during the study period of months at project site were taken. Secondary data collection from IMD, Pune.
3	Noise levels	Noise levels in dB(A)	Continuous 24-hourly monitoring at 8 locations during the study period.
4	Water Quality	As Per IS: 10500	Once in Study Period (1 months)
5	Soil characteristics	Parameters related to agricultural & afforestation potential	Sampling 8 location was monitored.
6	Land use	Land use for different categories	Based on data published in Primary Census abstract 2011 and satellite imagery.
7	Socio-economic aspects	Socio-economic characteristics of local population	Based on data collected from Census 2011
8	Geology	Geology of the area	Based on data collected from secondary sources
9	Hydrology	Drainage pattern, nature of streams, aquifer characteristics recharge discharge areas.	Based on data collected from secondary sources
10	Traffic study	Traffic density/ pattern	Survey at 3 locations

Sr.	Attribute	Parameters	Frequency of Monitoring
11	Ecology	Existing terrestrial and aquatic flora and fauna.	Based on the data collected from secondary sources

1.10 Identification of Project Proponent

Table 1.5: Identification of Project Proponent

Name of Project	Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra by BramhaCorp Ltd.
Type of Project	Residential Project
Category	8(a), B2 Category EIA is done by considering it as a violation case as per MoEF notification dated 14.03.2017
Project Proponent	BramhaCorp Ltd.
Proponent	Mr. Sachin Shah
Designation (Owner/Partner/CEO)	Owner
Registered Address	The Residency Club, 3 Queen's Garden Road, Pune Maharashtra 411001
Mobile	020-41423333
Email	ec@bramhacorp.in

1.11 Brief Description of Project

The project is located at Sr. No.13, H. No. 1, 2, & 3 of Village- Kondhwa Khurd, Taluka- Haveli, Pune, Maharashtra. The geographical location of the project site is **18°28'31.22"N** latitude and **73°53'42.44"E** longitude.

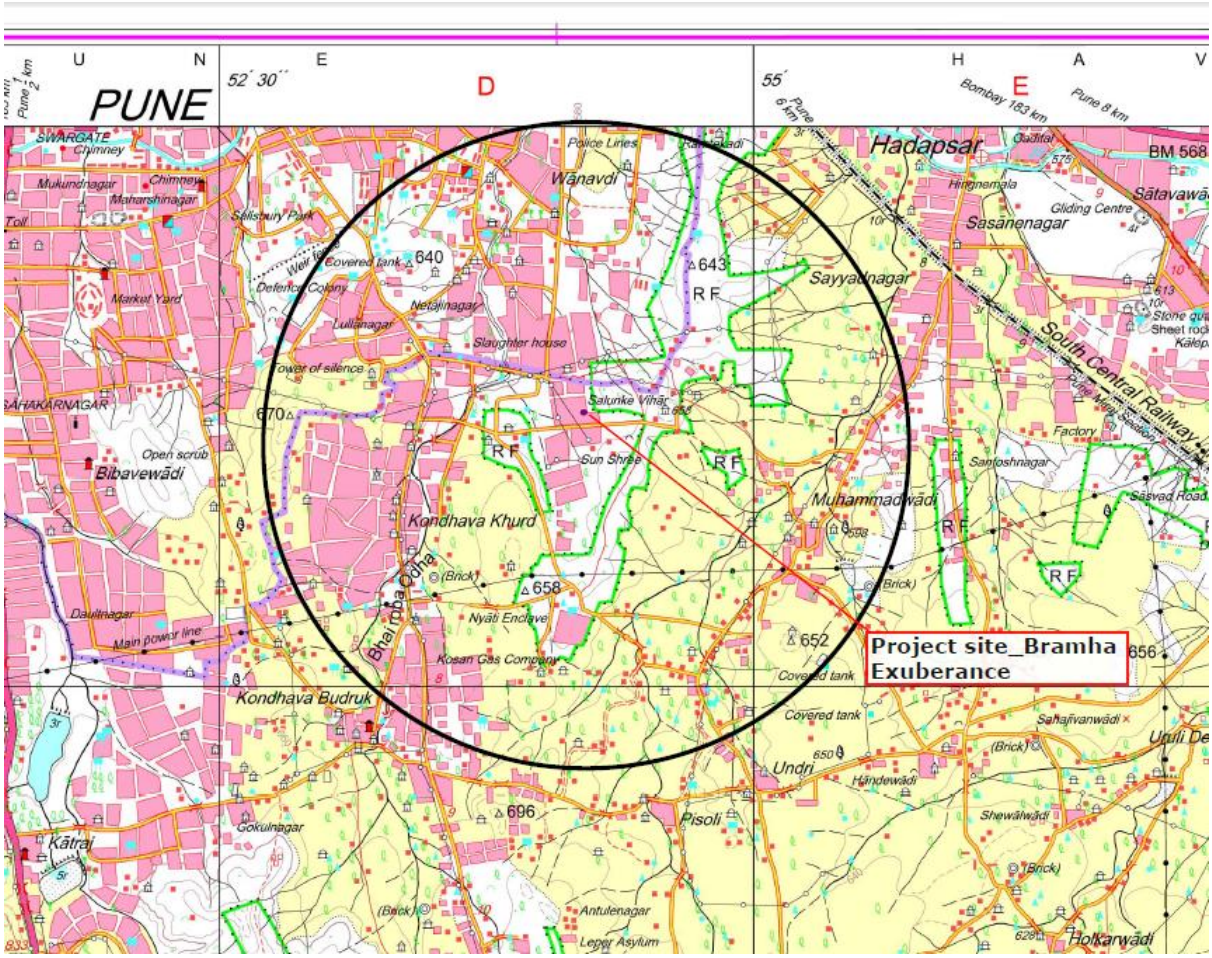
The proposed project site is approachable by **20 m** wide DP Road. The site is about **8.1 km** away from Pune railway station, **14.8 km** from Pune Airport. The project is planned in the gross plot admeasuring approximately **50,548.37 m²** area (as in proposed expansion). Location map is shown in **Figure 1.1**. Co-ordinates at all corners of the project site are mentioned in Error! Reference source not found.**7**

Table 1.6: Co-ordinates of 4 corners of the Project Site

Details	Latitude	Longitude
Corner 1	18°28'32.64"N	73°53'37.61"E
Corner 2	18°28'31.53"N	73°53'46.96"E
Corner 3	18°28'28.99"N	73°53'47.42"E
Corner 4	18°28'30.82"N	73°53'37.31"E

Figure 1.1: Location map

Figure 1.2: Toposheet of project site



Present status (Standard ToR point no. 7)

The details of present status of the project and site photograph is given in Error! Reference source not found.**7 and Figure 1.,** respectively.

Table 1.7: Present status of site

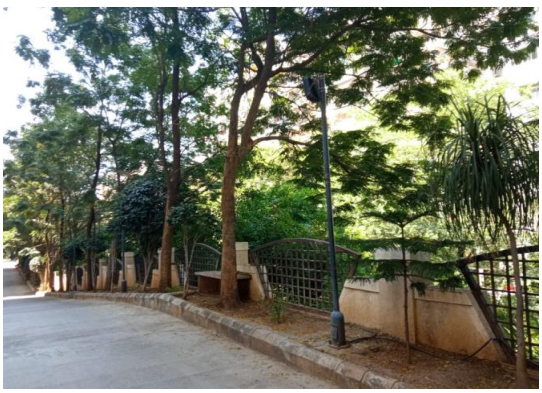
Building	Configuration	Tenements (nos.)	Population (nos.)	Height (m)	Status
A	LP + P +11 floors	43	215	34.90	Completed (2009)
B	LP + P +11 floors	43	215	34.90	Completed (2009)
C	LP + P +11 floors	55	308	34.90	Completed (2019)
D	LB + LP + P + 11 floors	54	302	34.90	Completed (2009)
E	LP + P +11 floors	54	324	34.90	Completed (2009)
Club House	G + 1			7	Completed (2009)
	Total	**249**	**1,432 (1364 + 86 visitors)**		

Figure 1.3: Present status photograph

Project Entry Gate

Completed wing

Completed wing	**Completed wing**
Club House	**Completed wing with parking facility**
Corporation water supply network	**Parking arrangement and proper fighting system**
Solar PV Panels	**Parking area at Ground / Stilt level**

Internal driveway	**Vermin composting pits**
Ground water recharge with RH	**STP**
Fire Pumping Station	**Provision of proper Fire-fighting system**
	
DG Set	**Tree Plantation - near plot boundary**

1.11.1 Permissions

Following permissions and NOC's have been received from the component Authorities given in Error! Reference source not found.**8**

Table 1.8: Permissions and NOC Documents

Documents	File No.	Authority	Date
SWATCH NOC	-	SWACH Seva Sahakari Sanstha Maryadit, Pune	02.06.2023
Application for Consent to establish	MPCB-CONSENT-0000164434	Maharashtra Pollution Control Board	08.03.2023
Property Card	मालमत्ता पत्रक- 61183, नगर भूमापन क्रमांक: 737/1	महाराष्ट्र शासन, नगर भूमापन अधिकारी, क्र. 2, पुणे	18.11.2021
	मालमत्ता पत्रक- 61184, नगर भूमापन क्रमांक: 737/2	महाराष्ट्र शासन, नगर भूमापन अधिकारी, क्र. 2, पुणे	18.11.2021
	मालमत्ता पत्रक- 61185, नगर भूमापन क्रमांक: 737/3	महाराष्ट्र शासन, नगर भूमापन अधिकारी, क्र. 2, पुणे	18.11.2021
Articles of land agreement	दस्तऐवजाचा अनुक्रमांक – हवल 12, 00803/2005	हवेली क्र. 12 चे दुय्यम निबंधक, पुणे महानगरपालिका	09.02.2005
	दस्तऐवजाचा अनुक्रमांक – हवल 12, 00800/2005	हवेली क्र. 12 चे दुय्यम निबंधक, पुणे महानगरपालिका	09.02.2005
Water NOC	जावक क्रमांक – 136 (Building - C)	Pune Municipal Corporation	17.07.2018
	जावक क्रमांक – 34 (Building - D)	Pune Municipal Corporation	02.05.2009
	जावक क्रमांक – 1119 (Building - E)	Pune Municipal Corporation	16.10.2007
	जावक क्रमांक – 118 - ब (Building - A & B)	Pune Municipal Corporation	11.05.2007
Fire NOC	Out W. No: FB/1924	Chief Fire Officer, Pune Municipal Corporation	04.08.2018
	Out W. No. FB/1726	Chief Fire Officer, Pune Municipal Corporation	15.10.2007
Garden NOC	जावक क्रमांक उकाजा/2066	वृक्ष अधिकारी, उद्यान कार्यालय, पुणे महानगरपालिका	25.09.2009
Drainage NOC	जावक क्रमांक - 2905 (Part- Wing C)	Pune Municipal Corporation	13.08.2018
	जावक क्रमांक - 213 (Part-Wing D)	Pune Municipal Corporation	02.05.2009
	जावक क्रमांक - 1884 (Part- Wing E)	Pune Municipal Corporation	17.10.2007
	जावक क्रमांक - 884 (Part-Wing A & B)	Pune Municipal Corporation	06.07.2007
Plinth Certificate	जावक क्रमांक - 422 (Part-Wing C)	Assistant Engineer, Building Control Department, Pune Municipal Corporation	09.12.2009

Documents	File No.	Authority	Date
	जावक क्रमांक – BCO/14/01/325 (Part Wing D)	Assistant Engineer, Building Control Department, Pune Municipal Corporation	17.10.2006
	जावक क्रमांक – BCO/14/01/0488 (Part Wing B)	Assistant Engineer, Building Control Department, Pune Municipal Corporation	20.03.2006
	जावक क्रमांक – BCO/14/01/389 (Part Wing A)	Assistant Engineer, Building Control Department, Pune Municipal Corporation	02.02.2006
Revised Amalgamation Plan	DPO-2692/VI/21	Pune Municipal Corporation	30.06.2006
Revised Amalgamation Plan	DPO-5191/VI/39	Pune Municipal Corporation	14.09.2005
Amalgamation Plan	DPO-1725	Pune Municipal Corporation	05.02.1991
Revised sanction Plan	CC-0819/17	Pune Municipal Corporation	21.06.2017
Revised sanction Plan	CC-3213/15	Pune Municipal Corporation	30.12.2015
Revised sanction Plan	CC-1169/14	Pune Municipal Corporation	15.07.2014
Revised sanction Plan	CC-3954/13	Pune Municipal Corporation	04.03.2014
Revised sanction Plan	CC-4370/11	Pune Municipal Corporation	17.03.2012
Revised sanction Plan	CC-0138/09	Pune Municipal Corporation	13.04.2009
Revised sanction Plan	CC-1847/06	Pune Municipal Corporation	28.08.2006
Revised sanction Plan	CC-1246/06	Pune Municipal Corporation	07.07.2006
Revised sanction Plan	CC-3387/05	Pune Municipal Corporation	30.12.2005
Sanction Plan	CC/2342/05	Pune Municipal Corporation	21.09.2005
Revised sanction Plan	CC-3387/09	Pune Municipal Corporation	30.12.2005
Revised Commencement certificate	CC/0819/17	Pune Municipal Corporation	21.06.2017
Revised Commencement certificate	CC/3213/15	Pune Municipal Corporation	30.12.2015
Revised Commencement certificate	CC/1169/14	Pune Municipal Corporation	15.07.2014
Revised Commencement certificate	CC/3954/13	Pune Municipal Corporation	04.03.2014
Revised Commencement certificate	CC/4370/11	Pune Municipal Corporation	17.03.2012
Revised Commencement certificate	CC/0138/09	Pune Municipal Corporation	13.04.2009
Revised Commencement	CC/3582/06	Pune Municipal Corporation	08.01.2007

Documents	File No.	Authority	Date
certificate			
Revised Commencement certificate	CC/1847/06	Pune Municipal Corporation	28.08.2006
Revised Commencement certificate	CC/1246/06	Pune Municipal Corporation, Pune	07.07.2006
Revised Commencement certificate	CC/3387/05	Pune Municipal Corporation, Pune	30.12.2005
Commencement certificate	CC/2342/05	Pune Municipal Corporation, Pune	21.09.2005
Completion Certificate	Part-5 (Wing C Part) File no. OCC/1333/18	Pune Municipal Corporation, Pune	18.01.2019
Completion Certificate	Part-4 (Wing C Part)) File no. OCC/0717/18	Pune Municipal Corporation, Pune	01.09.2018
Completion Certificate	Part-3 (Wing D- 9, 10, 11 floor) File no. 421	Pune Municipal Corporation, Pune	04.12.2009
Completion Certificate	Part-2 (Wing D- 1 to 8 floor) File no. 350	Pune Municipal Corporation, Pune	05.10.2009
Completion Certificate	Part-1 (Wing A, B, E) File no. BCO/14/7/14	Pune Municipal Corporation, Pune	22.10.2007

Chapter 2
Project Description

2.1 General

This chapter presents the salient features of the project including the infrastructure required for the functioning of the residential project. Overall suitability of the site and proposed activity in light of the existing environment is also covered in this section.

2.2 Description of the project

The proposed project is located in at Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BrahmaCorp Ltd. The project is providing the development of residential project with relevant amenities and services.

The main purpose and benefits of the project are:

- To create good standards of working environment.
- To meet the growing demand for comfortable and updated Residential Buildings in an environmentally sustainable manner in the area.
- The project will uplift the socio-economic status of the area.
- The project is generating employment to skilled and unskilled population in the surrounding area.

The proposed development includes site formation works and construction of building/structures, access roads, drains and sewer connections.

2.2.1 Project cost

The estimated project cost is approximately Rs.27.33 Crore, including all residential construction as well as other infrastructures like roads, drainage, landscape, amenities etc.

Table 2.1: Project cost

Net Project Cost	Rs. 27.33 Crore

Land use (Standard ToR point no.1)

The total built up area of proposed project is 50.548.37 m^2. Project statement is given in **Table 2.1** & the FSI and Non-FSI area details given in **Table 2.2**.

Table 2.1: Statement of the Project

Sr.	Description	Details	Unit
1	Project name	"Bramha Exuberance"	-
2	EIA category	8 (a)	-
3	Plot area	17,433.10	m^2
4	Deductions	2,833.35	m^2
5	Net plot area	14,599.75	m^2
6	Proposed FSI area	21,798.69	m^2
7	Non FSI area	28,749.68	m^2
8	**Total built up area**	**50,548.37**	m^2
9	Project cost	Rs. 27.33	Crore
10	Total No. of Tenements	249	Nos.
11	Total population	1,432	Nos.
12	Total water requirement	185	m^3/day
15	Fresh water requirement	123	m^3/day
16	Flushing water requirement	62	m^3/day
17	Sewage generation	173	m^3/day
18	STP capacity	70	m^3/day
19	Total solid waste generation	699	kg/day
20	Bio-degradable waste	419	kg/day
21	Non-Bio-degradable and Inert Waste	280	kg/day
25	STP dry sludge	1.7	kg/day
26	RWH Pits	2	Nos.
27	Parking area	4,458	m^2
28	Two-Wheeler	214	No.
29	Four-Wheeler	411	No.
30	RG area	2,045.82	m^2
31	No. of trees	392	No.
32	Connected Load	1,438	kW
33	Maximum Demand	1,007	kW
34	DG set number & capacity details	1 x 82.5	No. x kVA
35	EMP Capital cost during operation phase	88.91	Rs. Lakh
36	EMP O & M cost during operation phase	8.60	Rs. Lakh/year

Total construction area of proposed project is **50,548.37 m²**. Total FSI area is **21,798.69 m²**. Non FSI area as per existing EC is **28,749.68 m²**. The area statements are given in **Table 2.2**. Built up area of buildings is given in **Table 2.3**.

Table 2.2: Area Statement - FSI and Non FSI area

Sr.	Details	Area	Unit
1	Plot area	17,433.10	m^2
2	Deduction	2,833.35	m^2
3	Net plot area	14,599.75	m^2
4	Proposed FSI area	21,798.69	m^2
5	Non FSI area	28,749.68	m^2
6	Total built up area	50,548.37	m^2

Sr.	Particulars	Building A	Building B	Building C	Building D	Building E	Total
1	**FSI**	3191.55	3191.55	4706.14	4867.09	5443.65	21399.98
2	**Excess balcony**					398.71	398.71
3	**Staircase**	213.73	213.73	94.38	97.46	136.84	756.14
4	**Lift area**	10.24	10.24	7.82	10.24	10.24	48.78
5	**Balcony area**	564.08	564.08	692.78	846.45	928.18	3595.57
6	**Lobby area**	487.30	487.30	922.57	645.70	817.96	3360.83
7	**Terrace area**		1199.46	970.89	418.09	703.25	3291.69
8	**Refuge area**	73.25	73.25	25.60	72.57	99.69	344.36
9	**Podium area**	1464.70		3023.17	1474.18	1763.76	7725.81
10	**Lift M. room**	--	--	--	--	--	--
11	**Built up Area of residential buildings**						40921.87
12	**Area of club house**						310.06
13	**Area of Transformer room**						20
14	**Area of undergrounds tanks**						100
16	**Area of Security cabin**						25
17	**Area of Parking below podium**						7197.37
18	**Terrace (11th floor of each building)-A=296.80+B=296.80+C=427.47+D=449.06+E=503.94**						1974.07
	Total built up area of the project						**50548.37**

Table 2.3: Built up Area of Buildings

Building Name	No. of Tenements	Height in mt.	FSI area in m^2	Non FSI area in m^2	Total construction area in m^2
A	43	34.90	3191.55	4,806.71	7,998.26

Building Name	No. of Tenements	Height in mt.	FSI area in m^2	Non FSI area in m^2	Total construction area in m^2
B	43	34.90	3191.55	5,140.35	8,331.9
C	55	34.90	4706.14	60,59.14	12,148.86
D	54	34.90	4867.09	5,583.2	10,450.29
E	54	34.90	5443.65	6,705.21	10,765.28
Club house				310.06	310.06
UGT				100	100
Security cabin				25	25
Transformer room				20	20
Total	**249**		**21,798.69**	**28,749.68**	**50,548.37**

2.2.2 Remote Sensing Satellite Imagery

Satellite image of the project site is shown in **Figure 2.1**

Figure 2.1: Satellite image of the project site

2.2.3 Contour Map (Standard ToR point no.V)

The Development is located on a plain contour having higher level of 628.5 m to lower level 614.5 m. Contour plan is shown in **Figure 2.2**.

Figure 2.2: Contour map

Table 2.4: Contour level details

Maximum contour level	628.5 m
Minimum contour level	614.5 m
Level difference	14.0 m

Levelling was done by excavation and backfilling.

2.3 Site Selection

The project site is in a residential Zone. Contour level difference is 14 m. The plot is away from forest area or any type of reservations. It is not a flooding area. The ground water table is observed at the depth of around 5-6 m.

In the immediate vicinity, the site is bounded on the 4 sides by:

- East: Residential buildings
- West: Residential buildings
- North: Residential buildings
- South: Residential buildings

No national Park, Eco sensitive area, Bird & Tiger/wildlife sanctuaries, Reserved Forest is located within the study area.

Accessibility

Availability of proper road access to the project site.

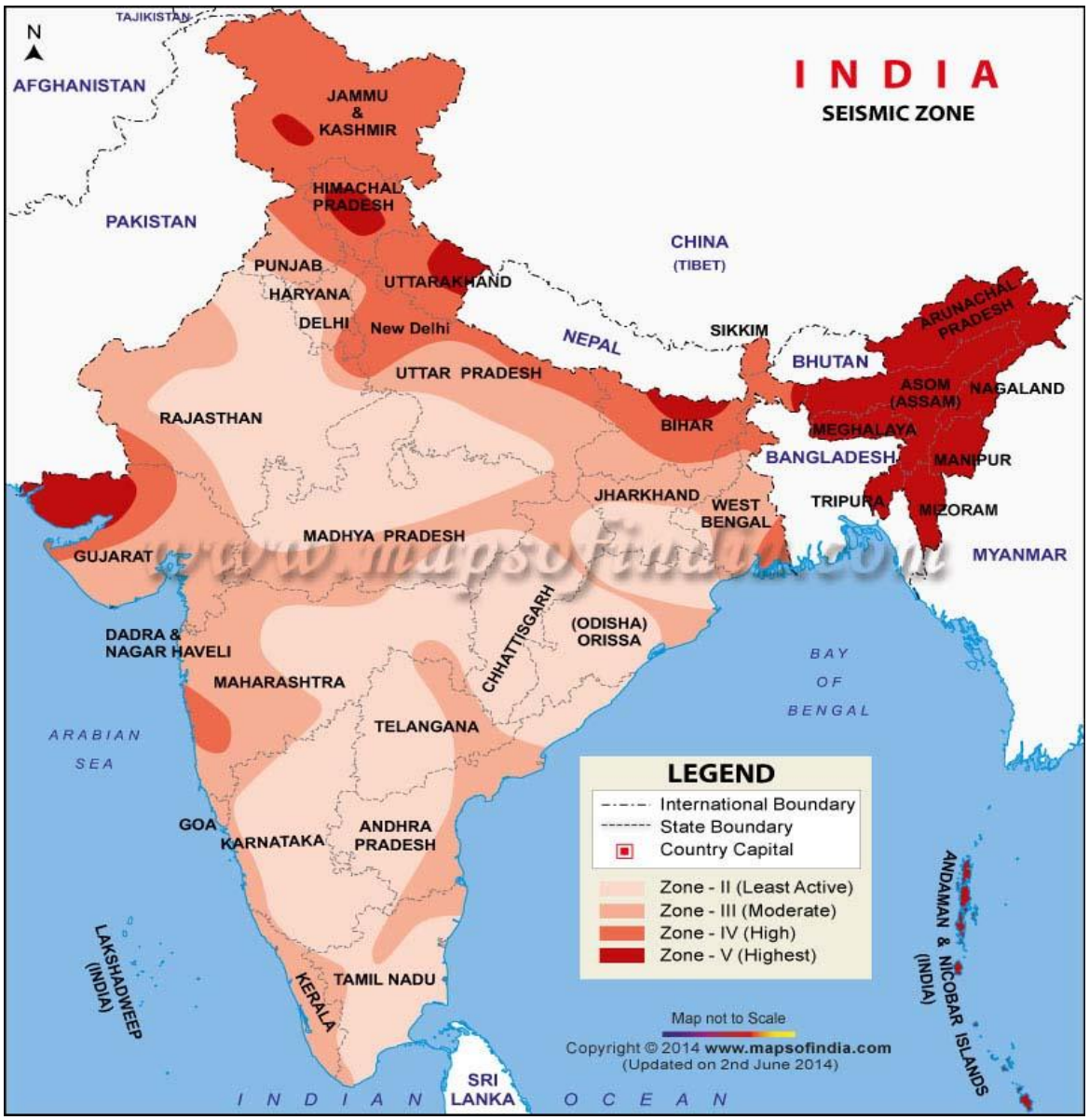
- Land suitability based on topographical and geological conditions.
- Availability of water and electricity from government boards, local bodies and independent sources.
- The proposed site is at **18°28'31.22"N** latitude and **73°53'42.44"E** longitude. The proposed site is located at about **8.1 km** from Pune Railway station and about at **14.8 km** from Pune International Airport. The site is about **7.7 km** from Pune City.

2.3.1 Land Use Zoning in Natural Hazard Prone Areas

Earthquake Prone Areas

The project site is in Seismic zone III, with less chances of earthquake. The Seismic zones of India are shown in **Figure 2.3**. Pune lies close to the seismically active zone Pune has experienced some moderate-and many low-intensity earthquakes in its history.

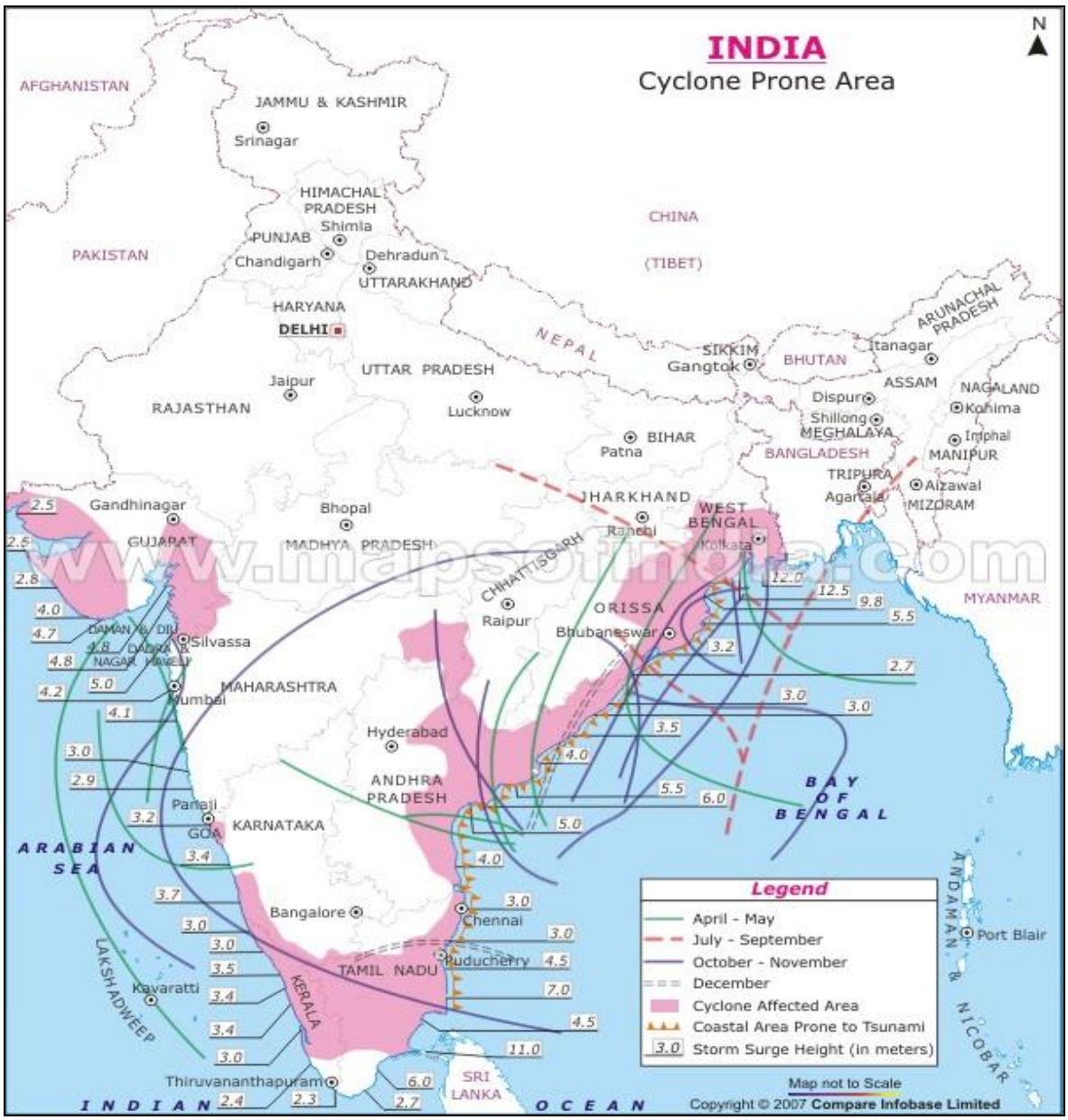
Figure 2.3: Seismic Zones of India



Cyclone Prone Areas

The project site is not in cyclone prone areas. **Figure 2.4** is showing cyclone prone areas.

Figure 2.4: Cyclone Prone Areas of India



Flood Prone Areas

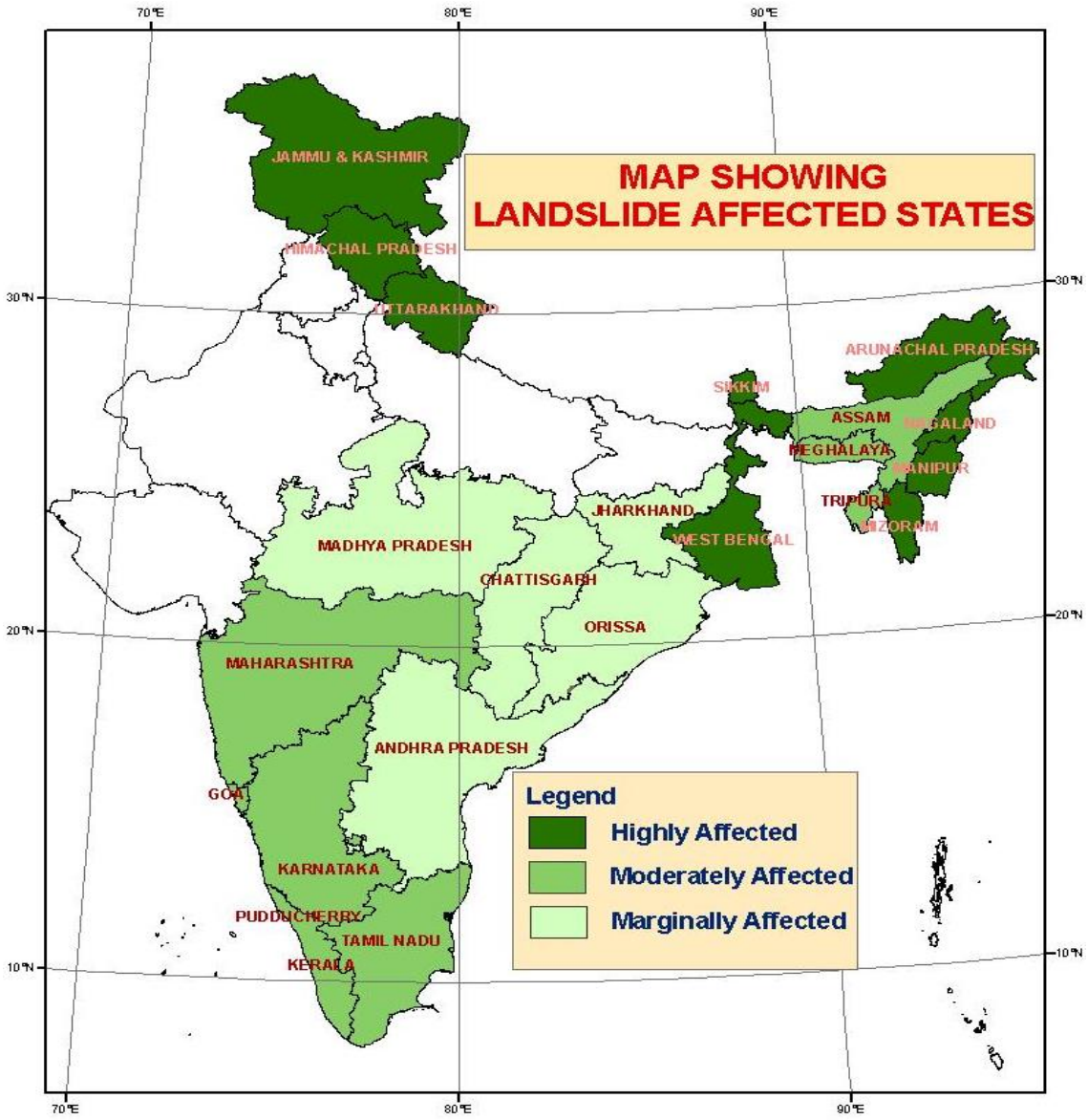
The states falling under "India Flood Prone Areas" are West Bengal, Orissa, Andhra Pradesh, Kerala, Assam, Bihar, Gujarat, Uttar Pradesh, Haryana and Punjab. The project is located in Maharashtra state hence, it does not come under Flood prone areas. **Figure 2.5** showing India's Flood Prone areas is as follows;

Figure 2.5: Flood Prone Areas of India

Land Slide Prone Areas

The "Bramha Exuberance'" project is in Maharashtra state, which comes under moderately affected landslide areas. **Figure 2.6** showing landslide zones of India is as follows.

Figure 2.6: Showing Landslide Zones of India



2.4 Manpower requirement

Operation phase will have opportunities of employment for poor section of the society generally in the form of helpers, drivers, cleaners etc.

During the project, a workforce is needed which includes both skilled and unskilled people. The workers from areas outside the region may impact the local culture, habits and economics. These effects have both positive and negative aspects and they are managed by the project proponents & developers from their experience in other similar projects.

2.5 Project Implementation Schedule

Documents	File No.	Authority	Date
Water NOC	जावक क्रमांक – 136 (Building - C)	Pune Municipal Corporation	17.07.2018
	जावक क्रमांक – 34 (Building - D)	Pune Municipal Corporation	02.05.2009
	जावक क्रमांक – 1119 (Building - E)	Pune Municipal Corporation	16.10.2007
	जावक क्रमांक – 118 - ब (Building - A & B)	Pune Municipal Corporation	11.05.2007
Fire NOC	Out W. No: FB/1924	Chief Fire Officer, Pune Municipal Corporation	04.08.2018
	Out W. No. FB/1726	Chief Fire Officer, Pune Municipal Corporation	15.10.2007
Garden NOC	जावक क्रमांक उकाजा/2066	वृक्ष अधिकारी, उद्यान कार्यालय, पुणे महानगरपालिका	25.09.2009
Drainage NOC	जावक क्रमांक - 2905 (Part- Wing C)	Pune Municipal Corporation	13.08.2018
	जावक क्रमांक - 213 (Part- Wing D)	Pune Municipal Corporation	02.05.2009
	जावक क्रमांक - 1884 (Part- Wing E)	Pune Municipal Corporation	17.10.2007
	जावक क्रमांक - 884 (Part- Wing A & B)	Pune Municipal Corporation	06.07.2007

2.5.1 Project Components

The proposed Residential Project **"Bramha Exuberance"** is located at Village- Kondhwa Khurd, Taluka-Haveli, District-Pune, Maharashtra. Project includes residential accommodation having easy accessibility.

The proposed maximum height of the residential building is **34.90 m**. The buildings are designed to utilize maximum natural light and ventilation.

The building details are given in **Table 2.5**

Table 2.5: Building Details

Building	No. of Floors	Height (m)
A	LP + P +11 floors	34.90
B	LP + P +11 floors	34.90
C	LP + P +11 floors	34.90
D	LB + LP + P + 11 floors	34.90
E	LP + P +11 floors	34.90
Club House	G + 1	7

Project proposed layout is shown in **Figure 2.7**.

Table 2.6: Tenement Details

Building name	Tenement details
A Building	43 no.
B Building	43 no.
C Building	55 no.
D Building	54 no.
E Building	54 no.
Total	**249 no.**

Figure 2.7: Master Layout plan with services

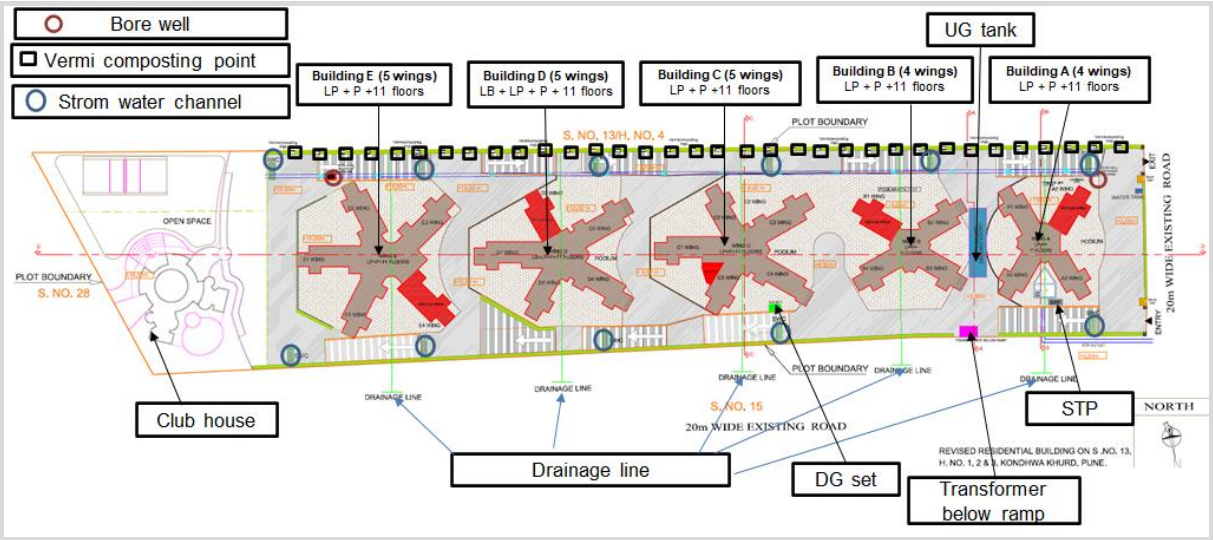
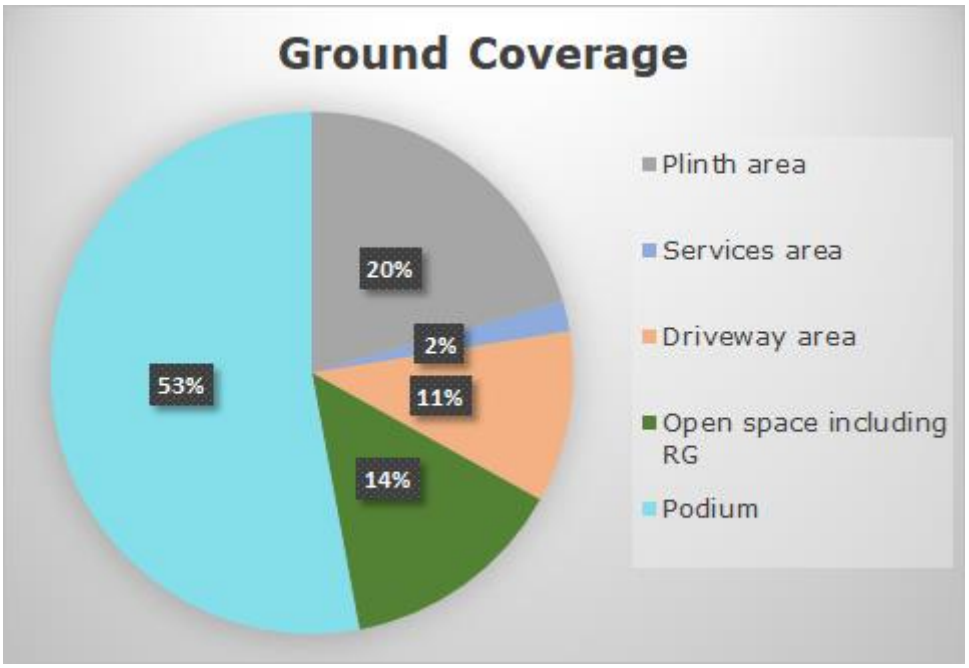


Table 2.7: Ground Coverage details

Building	Area (m^2)	(%)
Net plot area	14599.75	
Plinth area-Building A, B, C, D, E	3007.72	21
Services area a. Pump room - 44.27 m^2 b. DG set – 6.65 m^2 c. Vermicompost pits – 56.5 m^2 d. UGT tank – 65 m^2 e. Recharge pits – 7.20 m^2 f.Transformer room - 25 m^2 g. Security cabins – 20 m^2 h. STP – 45 m^2	269.62	2
Driveway area	1550.74	11
Open space	2045.85	14
Podium	7725.81	53
	14599.74	**100**

Figure 2.8: Pie Graph showing Ground coverage Details



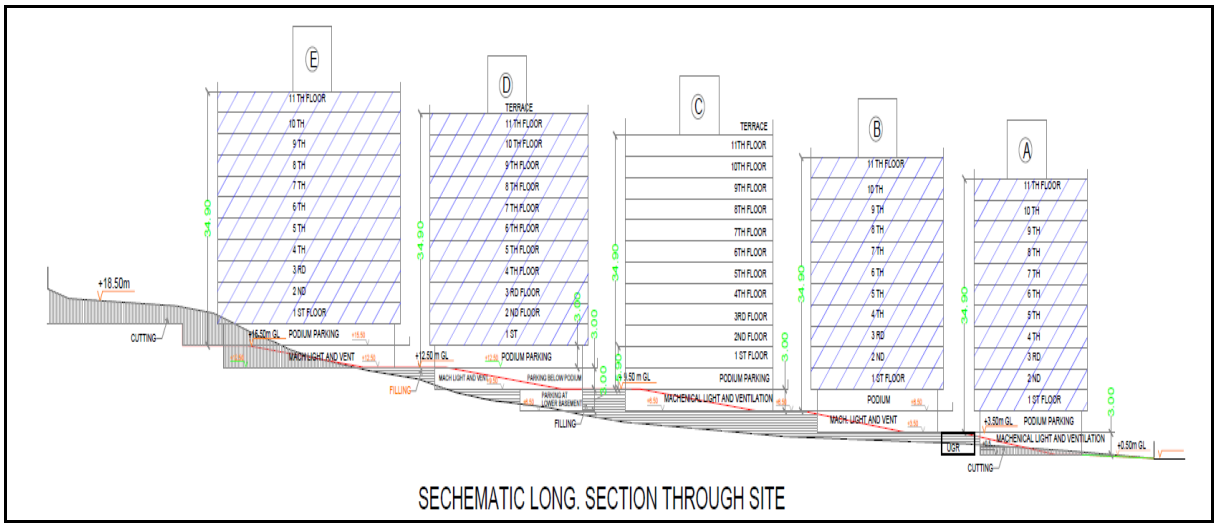
2.5.2 Tenement Settlement facilities, parking needs, etc.

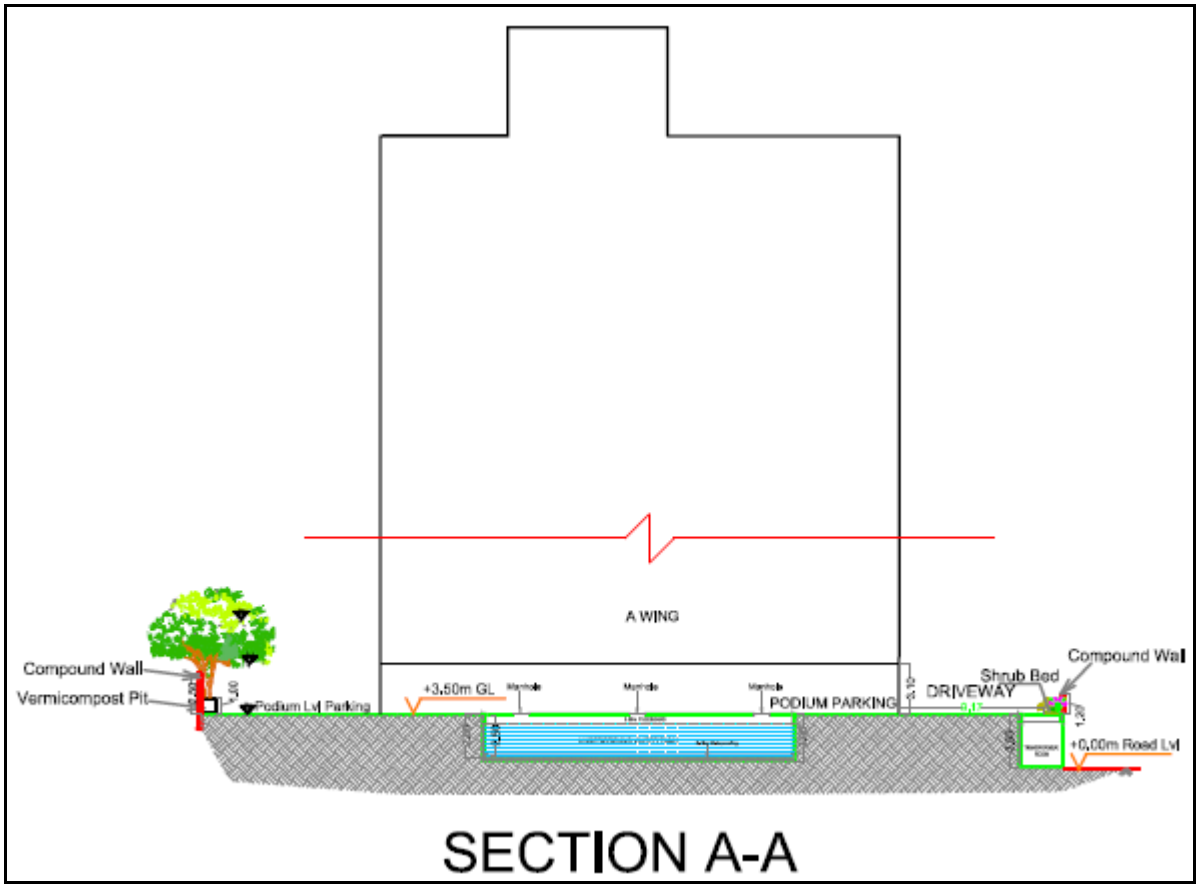
The total population during operation phase of the project will be around **1432 no**. The tenement & population details of the project are given in **Table 2.8** and building height details in **Table 2.5**.

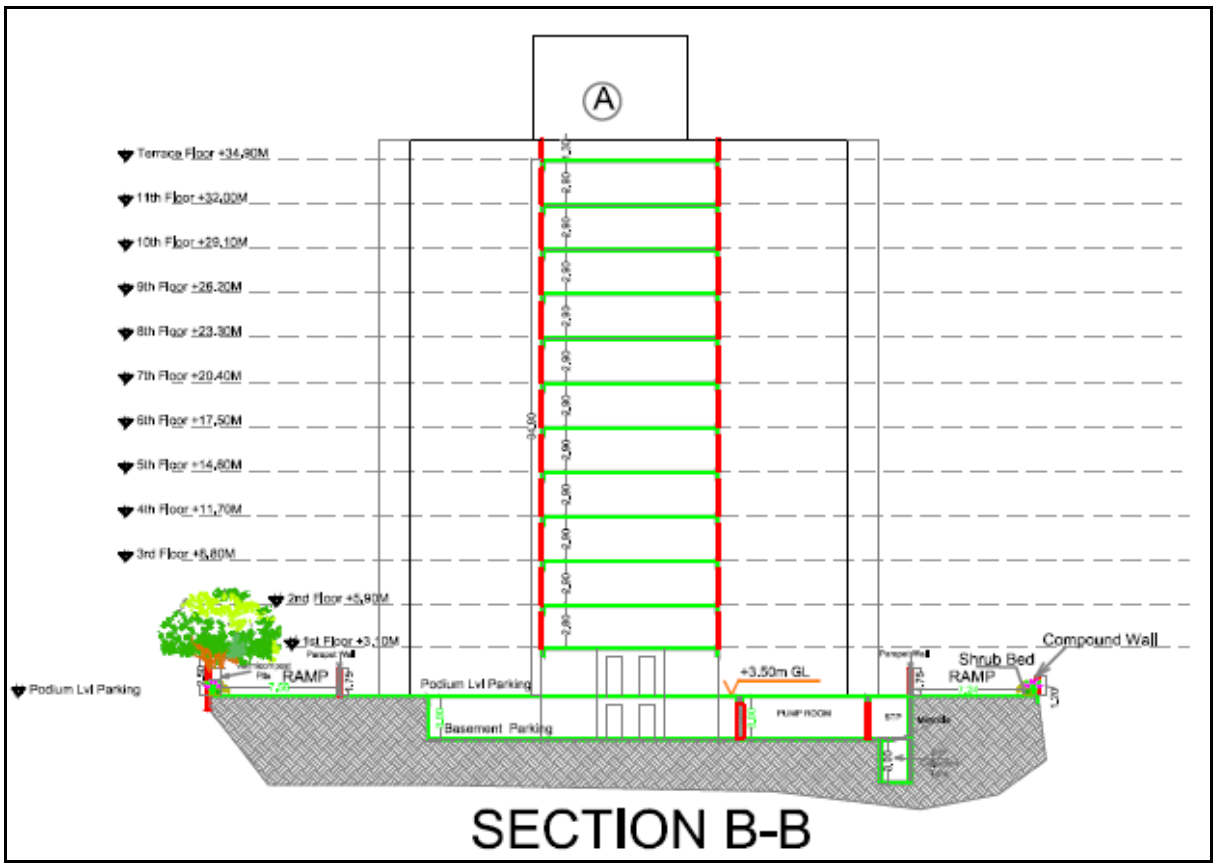
Table 2.8: Tenement & Population details

Building type	Tenements (nos.)	Population (nos.)
A	43	215
B	43	215
C	55	308
D	54	302
E	54	324
Total	**249**	**1,432 (1364+86 visitors)**

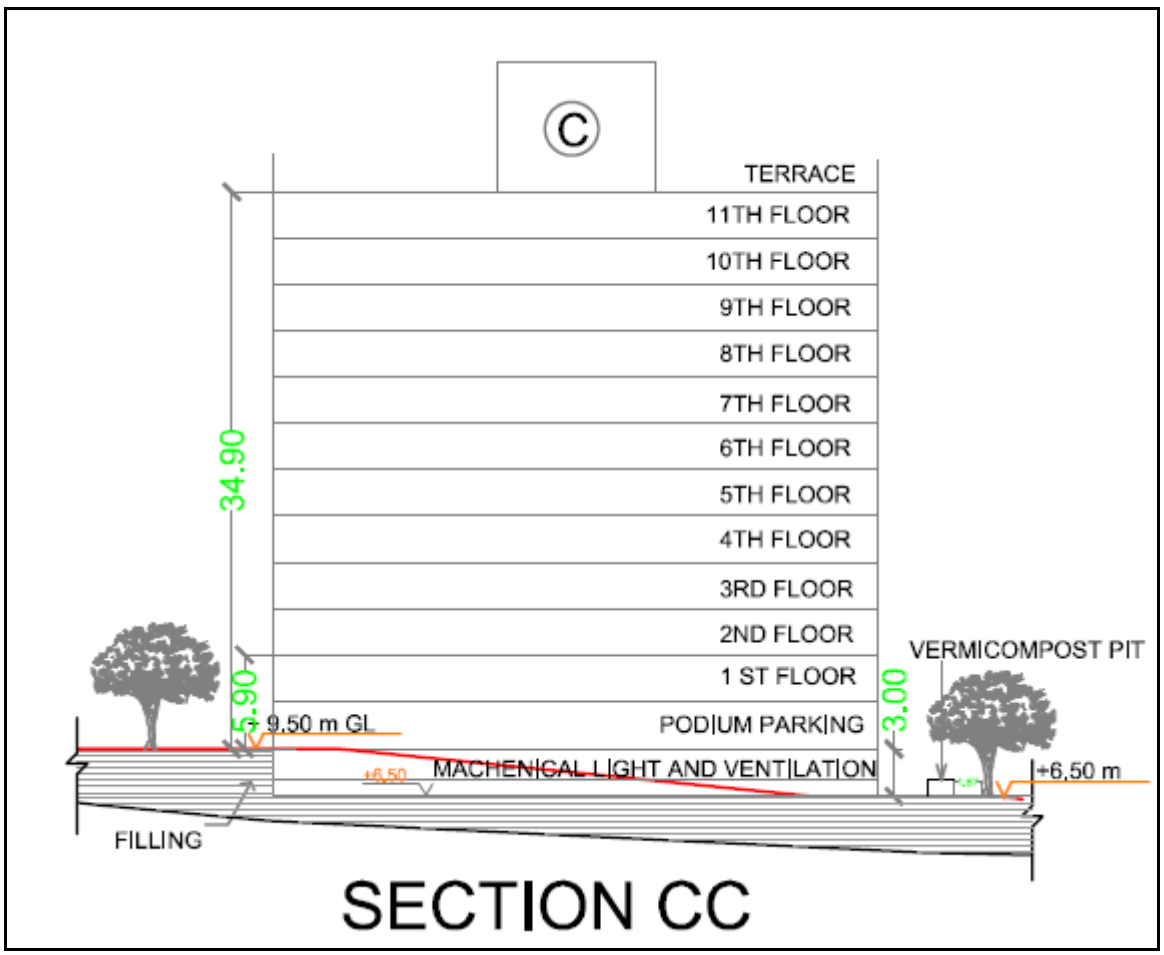
Figure 2.9: Buildings cross section







SECTION B-B



SECTION CC

Parking Details

The parking details and plan is given in **Table 2.9** and **Figure 2.10**, **Figure 2.11**

Table 2.9: Parking details

Sr.	Details	Required as per DCR	Actual Provided	Area per parking (m^2)
1.	Two-Wheeler	388 No.	411 No.	1,233
2.	Cycle	388 No.	393 No.	550.2
2.	Four-Wheeler	140 No.	214 No.	2,675

Details	No. of Vehicles	Parking area (m^2)	Driveway (m^2)	Total required Parking area + Driveway (m^2)	Area /vehicle (m^2)	As per MoEF Manual (m^2)
4-wheeler parking						
Basement floor parking	11	137.5	248	385	35	35
Below podium floor parking	106	1325	1,855	3,180	30	30
Podium floor parking	97	1212.5	1,698	2,910	30	30
2 Wheelers parking	411	1233	493	1,726	4.2	4.2
Cycle parking	393	550.2	1,100	1,651	4.2	4.2
Total		**4,458**	**5,394**	**9,852**		

Figure 2.10: Parking layout below podium

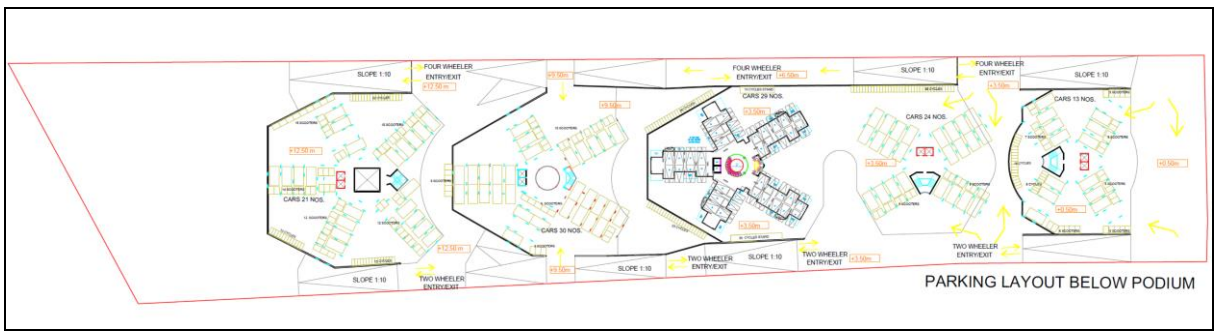


Figure 2.11: Parking layout at podium

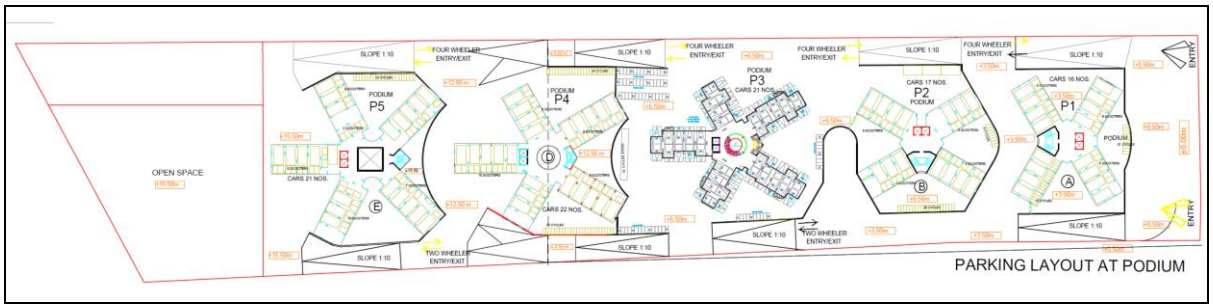


Figure 2.12: Road Cross Section

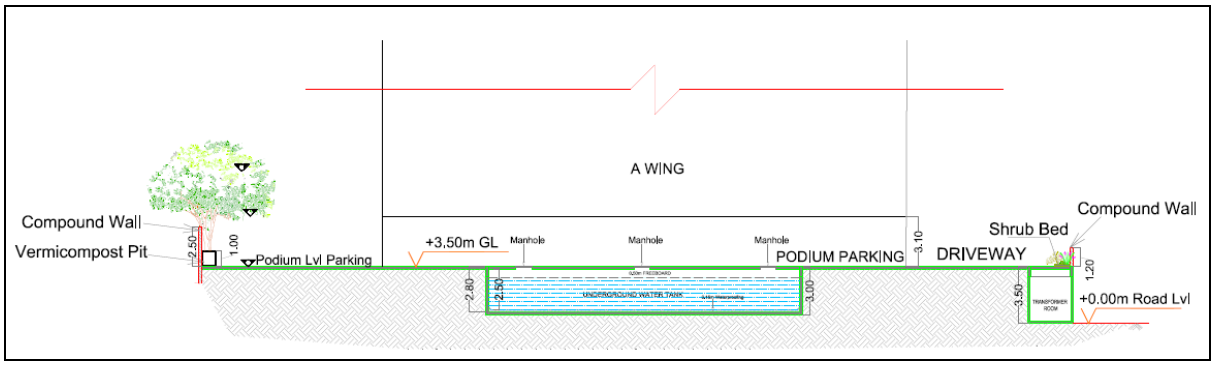
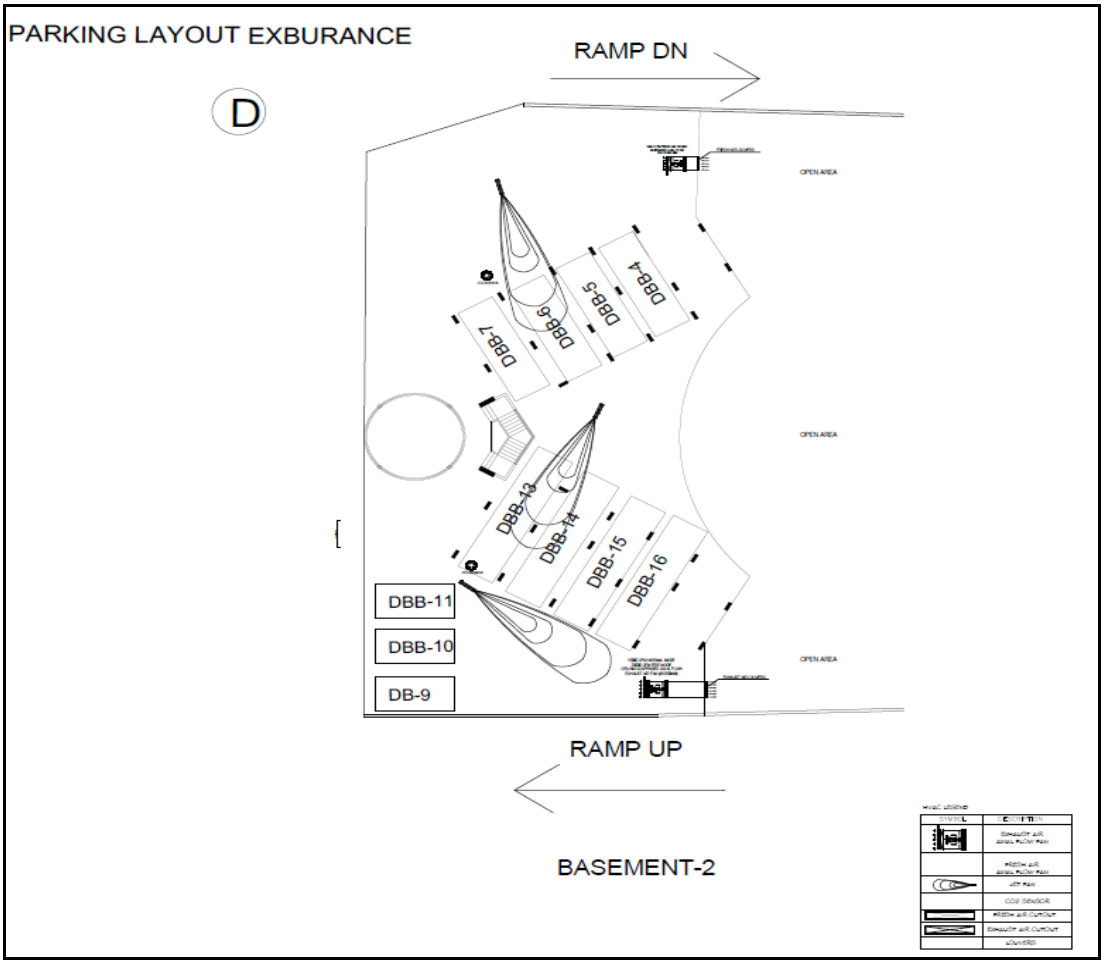


Figure 2.13: Basement ventilation plan



CAR PARKING BASEMENT VENTILATION CALCULATION AS PER ANSI/ASHRAE Standard 62-1989,													
							Axial Fans						
Sr. No.	Description	Area In sq.ft.	Area In sq.mtr.	Height In feet.	Height mtr.	Volume Cubic Feet	6 ACPH CFM	12 ACPH CFM	Exhaust fan CFM		Fresh Air Fan CFM	Jet Fans Ø 300mm	Co 2 Sensor
									Normal CFM	Fire CFM			
1	BASEMENT	10222	950	9'8"	3.0	100176	10000	20000	10000	20000	10000	3	2

Project Infrastructure and utilities planned

The infrastructure facilities planned for the proposed project at Pune are highlighted below.

Water Supply

The total water requirement of project is around **185 m^3/day.** Source of water is from Pune Municipal Corporation. NOC for water supply has been obtained from PMC. The total fresh water requirement for the project is **123 m^3/day**. Water usage is shown in **Table 2.10** shows the enhancement of water requirement and usage over the total requirement. All treated waste was used after proper disinfection though the treated water was mainly be used in no human contact activities.

Table 2.10: Water utilization details

	Dry Season (KLD)	Wet Season (KLD)
Total water budget	185	185
Fresh water requirement	123	123
Domestic water	123	123
Flushing water	62	62
Gardening	17	9
Sewage generation	173	173

2.5.3 Sewage system

The sewage generated from the proposed project will be approximately, 173 m^3/day. Proponent provided 70 KLD STP at project site. All sewage is connected to municipal sewer line. STP technology used for the proposed project is Moving Bed Bioreactor (MBBR).

STP process and location is shown in **Figure 2.16** and **Figure 2.14** respectively, while STP details and characteristic is shown in **Table 2.11** and **Table 2.12**, respectively. STP details are attached as **Annexure II**.

Table 2.111: STP details

Details	As per Sanction plan	Unit
STP capacity	70	m^3/day
Total sewage generated	173	m^3/day

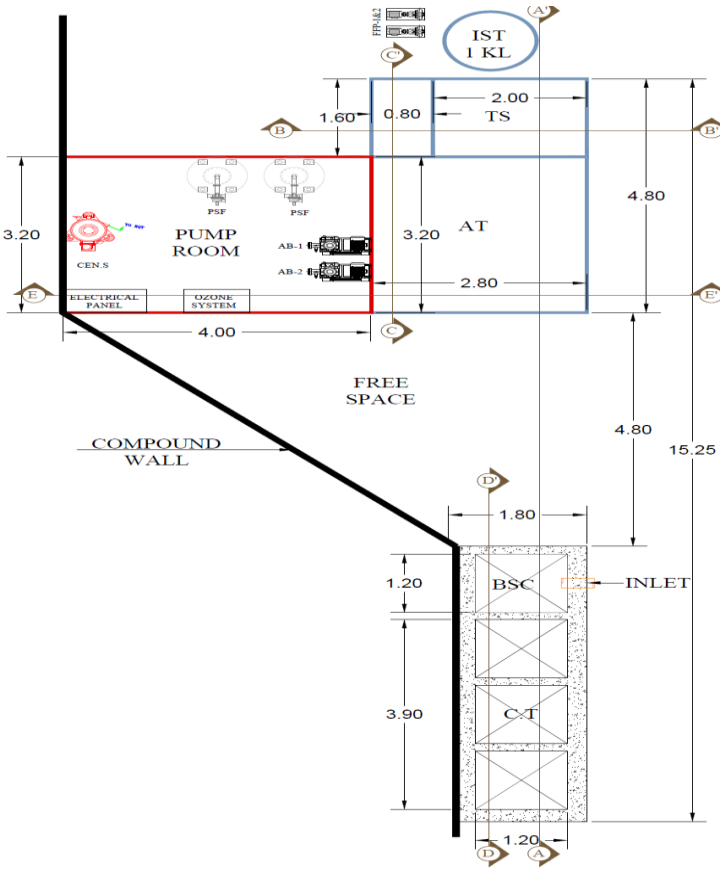
Water to municipal sewer	173	m^3/day

Table 2.12: Expected characteristics of raw and treated water

Parameters	Raw Sewage	Treated Sewage
pH	6.5 - 8.0	7.0 - 7.5
Total Suspended Solids	180-250 mg/l	<10 mg/l
BOD	300 – 350 mg/l	<10 mg/l
COD	500 – 600 mg/l	<30 mg/l
Oil & Grease	10-15 mg/l	NIL

Figure 2.14: STP location

Figure 2.15: Cross section of STP



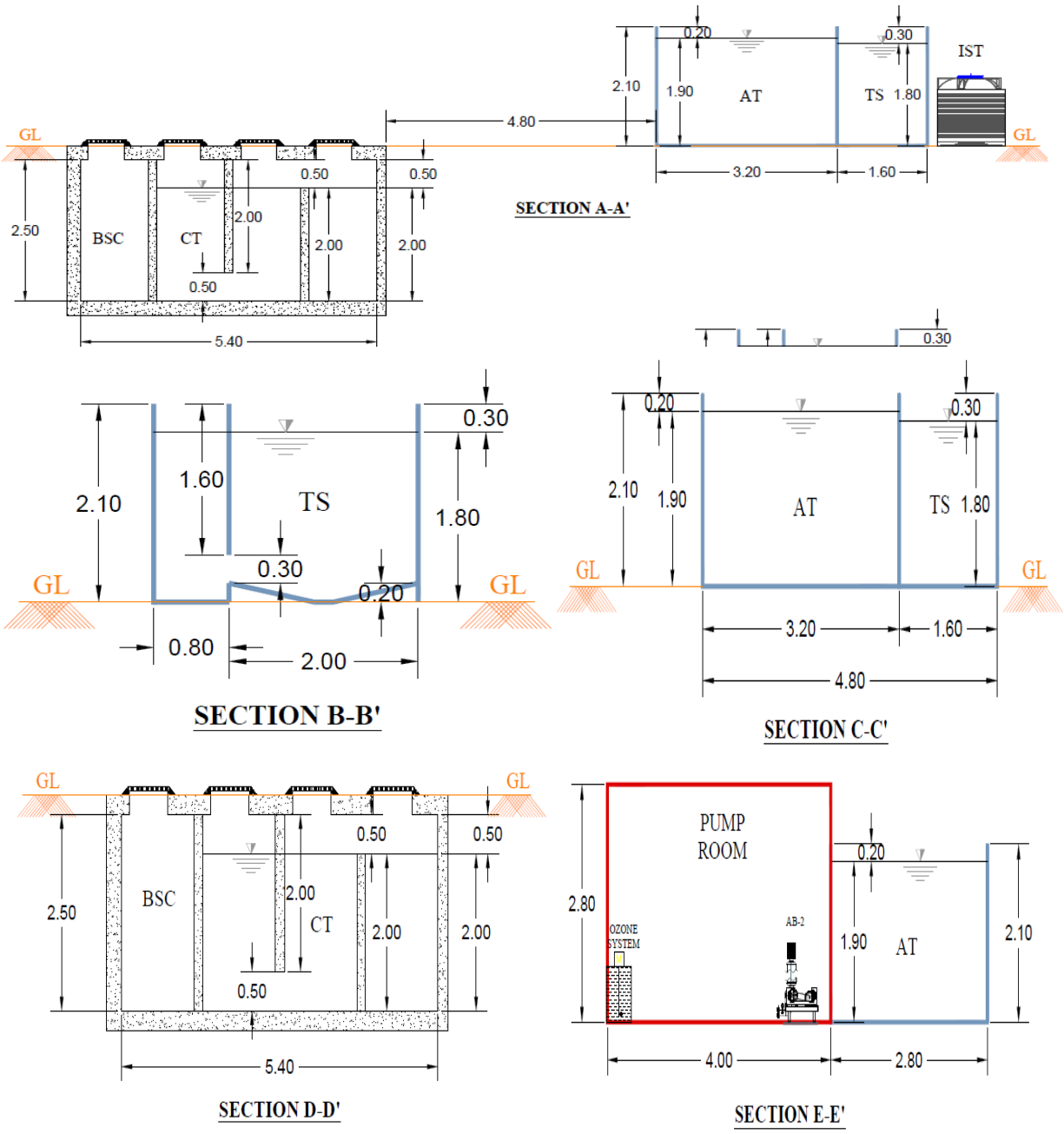
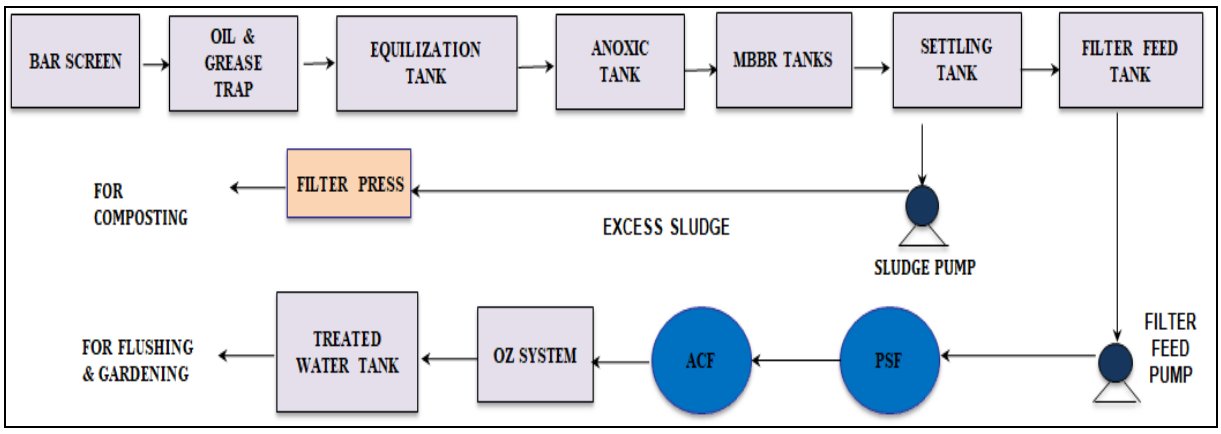


Figure 2.16: Flow diagram of Moving Bed Bioreactor (MBBR)



Sewage Treatment Process

PROCESS DESCRIPTION

SCREEN CHAMBER

The sewage generated through domestic activities enters the screen chamber containing suspended as well as floatable solids. The chamber is fitted with MS, perforated screen, having required perforations. Floating objects larger than 20 mm are prevented from flowing to equalization tank and are to be removed periodically from the screen manually. The gritty material gets collected in the grit sump of screen chamber which also needs to be removed periodically. Cleaning of the tank is done manually by labour.

OIL & GREASE CHAMBER

The sewage from screen chamber flows to this tank. The oil entrained in the sewage being light in density than water floats on the surface and is prevented from finding its way into equalization tank by the baffle plate provided near the water level on the outlet side. The sewage then overflows to equalization tank. Oil collected on the surface of water to be removed periodically by manual means.

EQUALISATION TANK

The sewage flow entering into the tank varies in quality and quantity. The equalization tank helps in having more or less uniform quality of flow and the constant pumping at uniform rate helps in making the reaction in MBBR tank more predictable. The air is continuously circulated in equalization tank by using air blowers to avoid aseptic conditions in tank. The sewage from equalization tanks is pumped to MBBR tank for biological treatment.

MBBR TANK

The water from equalization tank is passed to this MBBR tank for biological treatment. The air is provided in this tank for continuous mixing of the sewage through the air blower to provide the oxygen for the growth of microorganism in this tank. The air supply is continuous to avoid the anaerobic condition and maintain the growth of microorganisms. This is also avoiding the problem of odour in and around the aeration tank. In MBBR tank, we are providing MBBR media. MBBR tank works on attached growth principle. The micro-organisms grown into the tank will get attached to the MBBR media to form colonies. These bacterial colonies will be rich in nature and effectively convert the organic matter into Carbon Dioxide and water by reducing the COD and BOD of sewage. Waste water from this tank is then pass through to tube settler for settling the excess biomass and suspended matter.

TUBE SETTLER

The overflow of MBBR tank is then passed to the tube settler where all the larger particles get settle down and removed from the bottom of the tube

settler in the form of sludge. The sludge settled at the bottom is sent to filter press by Filter press feed pump and clear water is collected from the upper part of tube settler and flows to Clarified Treated Water Tank.

CLARIFIED TREATED WATER TANK

Clarified treated water from tube settler is collected in this tank.

SLUDGE DEWATERING EQUIPMENT (Teknobag Draimad)

The sludge is pumped by using special sludge transfer pump to Teknobag Draimad. This pumping is done at uniform rate for every batch to form semi solid sludge. The liquid (filtrate) from the Teknobag Draimad is returned to equalization tank. The dried sludge is discharged to storage facility for the disposal or land filling.

TERTIARY TREATMENT Tertiary treatment comprises of the following:

1. PRESSURE SAND FILTER (PSF) FOR THE CLARIFIED TREATED SEWAGE

The treated water from collection tank would be pumped into this filter for tertiary treatment by using filter feed pumps. The Pressure Sand filter has a graded sand supporting pebbles. The PSF media has special surface properties due to which the small colloidal particles get attached to the surface. Manual Multiport valve is used for operation of the filter. Filter backwash is carried out once a day for removing adhered particle on the media in filter.

2. ACTIVATED CARBON FILTER (ACF)

The treated sewage from Dual media filter would get further treated in ACF for removal of odour and colour. ACF has Activated Carbon, one of the most widely used media for absorption of impurities. The Activated carbon is employed for- • Removal of Organics • Removal of Odor. The Activated carbon media has finite capacity of absorption and shall exhaust on prolonged usage depending upon the inlet impurity load. Manual Multiport valve is used for operation of the filter. Filter backwash is carried out once a day for removing adhered particle on the media in filter.

3. OZONTATOR

The filtered water is then passed through a venturi throat which creates a vacuum and pulls the ozone gas into the water or the air is then bubbled up through the water being treated. Since the ozone will react with metals to create insoluble metal oxides. Ozone is effect over a wide pH range and rapidly reacts with bacteria, viruses, and protozoans and has stronger germicidal properties. Ozone has a very strong oxidizing power with a short reaction time. The treatment process does not add chemicals to the water. Ozone can eliminate a wide variety of organic and microbiological impurity taste and odour problems.

4. FILTERED WATER COLLECTION TANK

The treated water after ozonation is collected here for recycle or reuse purpose within the premised.

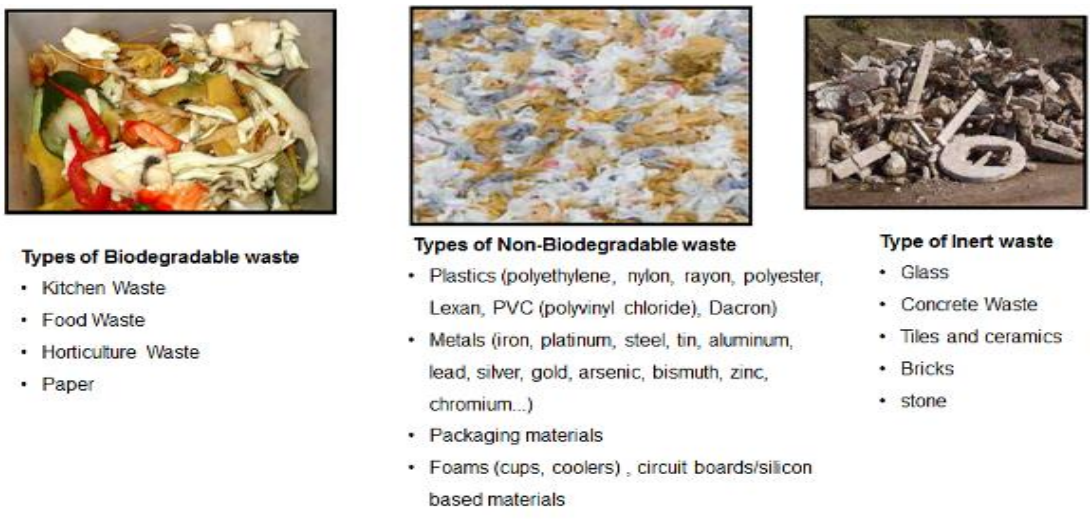
Brief Description of Moving Bed Bioreactor technology (MBBR)
The MBBR is one of the "fill and draw" versions of the conventional activated sludge system. In contrast to the continuous flow alternative, all treatment processes, i.e., fill, react, settle, and decant are occurred in a single reactor and in a well-defined and continuously repeated time sequence as shown in figure below.

In the "fill' phase, wastewater goes into the MBBR tank which already comprises of a pre- determined amount of sludge (bacteria). For this phase, initial degradation process occurs while wastewater is in contact with bacteria. After the "fill" phase, treatment process is switched to "react" phase wherein the wastewater is completely mixed with bacteria by diffused aeration to perform complete degradation of organic substances. The "settle" phase is initiated after the "react" phase to accomplish separation between treated wastewater and biomass. After complete separation between treated wastewater and biomass, the "decant" phase is started to decant the treated sewage. After the decanting process, the treatment process is switched again to the "fill" phase to start new cycle. Excess sludge wastage can be done in the "decant" phase or can be performed as a separate sludge draw-off phase of the treatment cycle.

The Moving Bed Bioreactor technology (MBBR) comprising of two concrete process basins where influent wastewater is directed into each aeration basin. Inflow to the two basins is controlled by influent shut off valves programmed to operate at pre-designed cycles via a cycle control center.

2.5.4 Solid Waste

Figure 2.17: Classification of solid waste generation



The garbage is collected manually from each of the building, and transported to collection spot. This garbage is segregated as dry waste and wet waste. The management would focus on segregation of waste at the source. The biodegradable waste/ Organic waste is sent to vermicomposting pits and converted manure is used for gardening after treatment. Compost is used as manure. The Inorganic/Non-Bio-degradable waste is sent to authorised recycler for further handling and purpose. We have made agreement with authorized vendor for disposal of Non bio degradable, Inert waste & E waste.

Out of the total solid waste generated, **280 kg/day** is dry waste and inert waste& while remaining **419 kg/day** is wet quantity (biodegradable). E-waste is not expected to generate.

- **Dry waste**: The Inorganic/Non-Bio-degradable waste, Inert waste is sent to authorised recycler for further handling and purpose.
- **Wet waste**: Wet waste is used at site in Vermicomposting pits to produce manure. &Used manure for gardening
- **STP Sludge (Dry sludge)**: Dry sludge was used as manure for plantation & gardening purposes inside the premise.

Vermicomposting

Concept:

Vermicomposting is a natural process whereby earthworms convert waste material with rigid structures into compost. The compost produced in this green process is traditionally and popularly used as a natural fertilizer for enhancing plant growth. Earthworms belong to the phylum Annelida, subclass Oligochaeta.

This process is mainly required to add nutrients to the soil. Compost is a natural fertilizer that allows an easy flow of water to the growing plants. The earthworms are mainly used in this process as they eat the organic matter and produce castings through their digestive systems.

Process:

- To prepare the vermicompost, a concrete tank has used according to the availability (Size- based on the number of raw materials available)
- Collect the dried biomass (garden waste, animal waste, municipal waste, etc.) and chop them.
- Mix the chopped dry material with cow dung in a 1:3 ratio and keep them aside for 15-20 days for partial decomposition.
- Add a thin layer of soil /sand (2-3 inches) at the bottom of the tank.

- Now prepare the bedding by adding the partially decomposed cow dung and dried waste mixture. Distribute it evenly on the soil.
- Continually add the mixture up to a depth of 0.5-1 foot.
- Now release the earthworms in the tank (1000-2000 earthworms / square meters). Cover the mixture with gunny bags/ straw/ plastic.
- Monitor the bin for the availability of food to the earthworms and add the food (fruit and vegetable peels, other kitchen waste) when necessary (make sure not to add excess food)
- Do water regularly to maintain moisture.
- Monitor the composting tank to maintain temperature and moisture
- Beds turned in every 30 days for aeration and proper decomposition.
- The compost is ready in 45-50 days.

Project specific solid waste details:

Solid waste generated from proposed project is **699 kg/day**. Out of which **419 kg/day** is biodegradable component and **280 kg/day** is non-biodegradable waste.

Table 2.13: Solid waste generation calculation details

Details	Information	units
Population	1432	Nos.
Total waste generation	699	kg/day
Biodegradable waste	419	kg/day
Non-Biodegradable waste & Inert Waste	280	kg/day
STP sludge	1.7	kg/day

Figure 2.18: Location of Vermicomposting pits & section

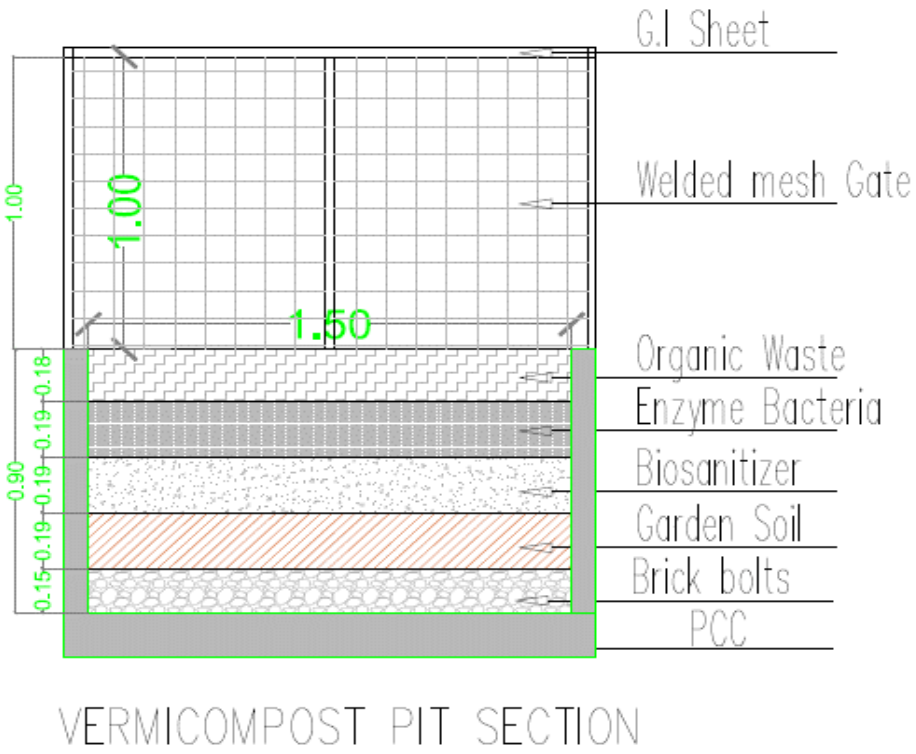


Figure 2.19: Vermicomposting pits photograph

2.5.5 Rain water harvesting (Standard ToR point no. 11)

Rainwater harvesting can serve as a solution to the water problem in the water crisis area by capturing the runoff. It helps in utilizing the primary source of water and prevents the runoff from going into sewer or storm drains, thereby serving dual purpose i.e. making water available for future use and reducing the burden on treatment plants. Recharging the water aquifer helps in improving the quality of existing groundwater through dilution. Rainwater harvesting thus comprises of two sections:

- Rooftop rainwater & surface runoff is discharged into rainwater harvesting tanks after filtration. These RWH pits are located in the basement area for beneficial use in future
- The overflow from the RWH pits will help artificial recharge of ground water.

In the proposed project rain-water harvesting is with a view to recharge the ground water table. Rainwater from terrace and pathways is harvested through a network of storm water drains and diverted to the recharge pits.

The rainwater harvesting unit have been implemented with care not to endanger the stability of complex structure or earthwork. It is designed such that no dampness is caused in any part of the walls or foundation of the complex or those of an adjacent complex.

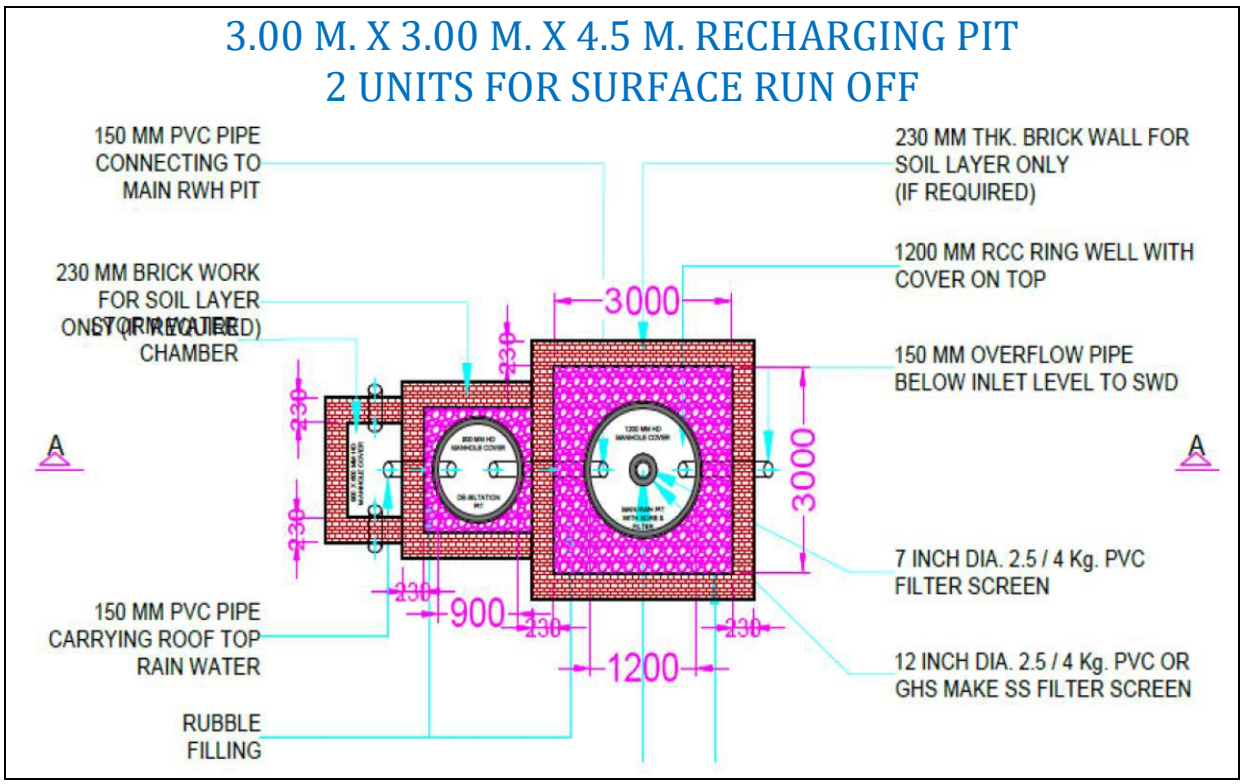
As far as possible the recharged water is used for non-drinking and non-cooking purposes such as washing, gardening etc. If at all it needs to be used for drinking and cooking purposes, proper filter arrangements and the separate outlet for by-passing the first rainwater will be provided. Water is used for drinking only when proper disinfection and water purification arrangements are done.

Surface runoff is used to recharge the ground water sources through recharge pits for further use. **Figure 2.20** shows Rainwater harvesting system.

Figure 2.20: Rain water harvesting

Total of 2 nos. of recharge pits are constructed on the proposed site. Rooftop rainwater and surface runoff both is harvested through recharge pits. Location of recharge pits are shown in **Figure 2.21**. Size of the recharge pit will be 3'x3'x4.5".

Figure 2.21: Section of the surface drain recharge pits



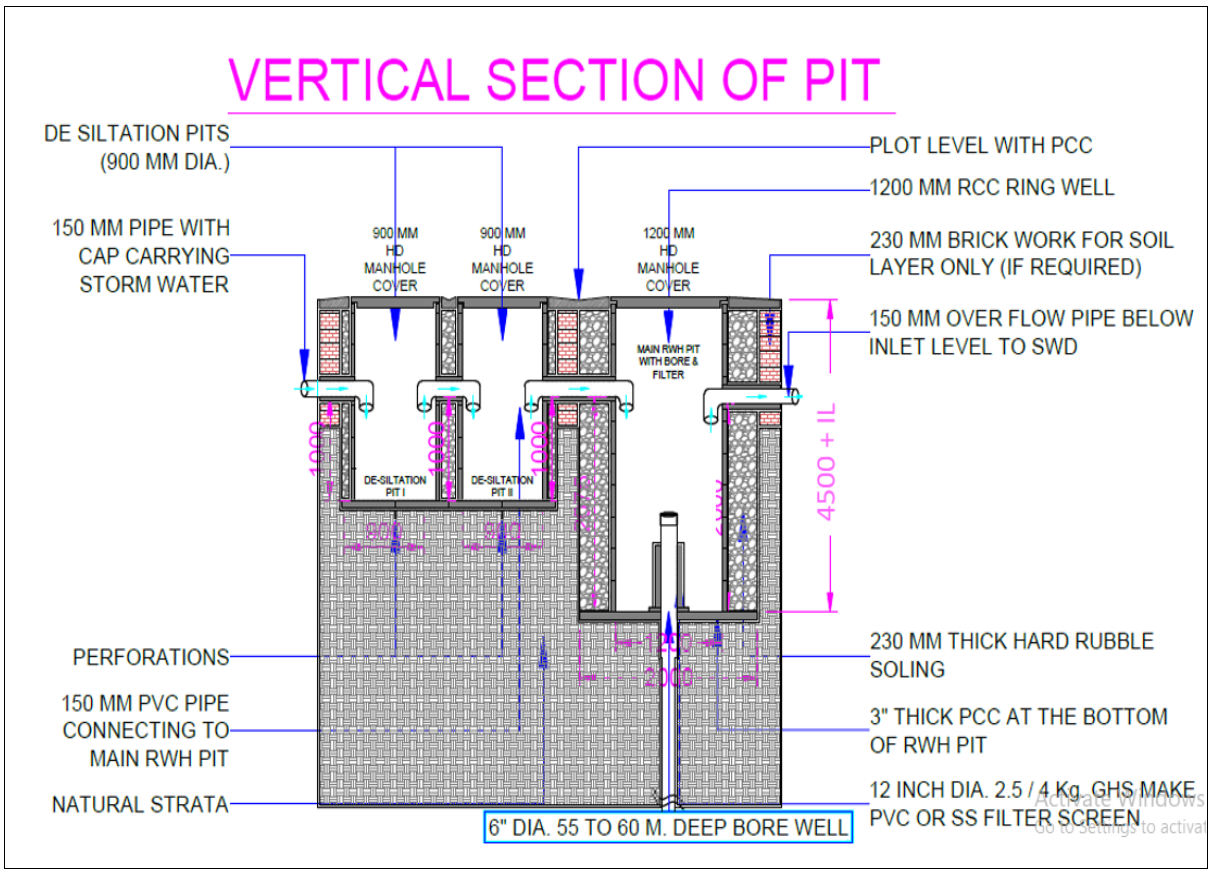
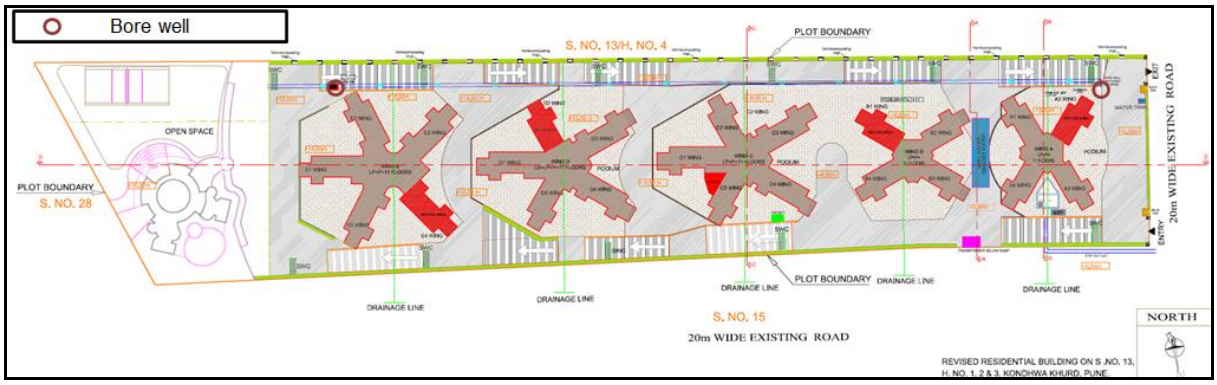


Figure 2.21: Location of Recharge pits



Storm water collection & disposal

Storm water drainage line is constructed at site. Storm water management plan developed incorporates following best management practices:

- Regular check-up and cleaning of storm drains
- Covering waste storage areas
- Avoiding use of pesticides and herbicides before wet season
- Secondary containment and dykes in fuel/oil storage facilities.
- Conducting routine inspections to ensure cleanliness
- Preparing spill response plans, particularly for fuel and oil storage areas
- Good housekeeping in the above areas

Calculation of storm water is given below in **Table 2.14**. Storm water drainage system is designed considering 100% paved area and to accommodate total rainwater as run-off.

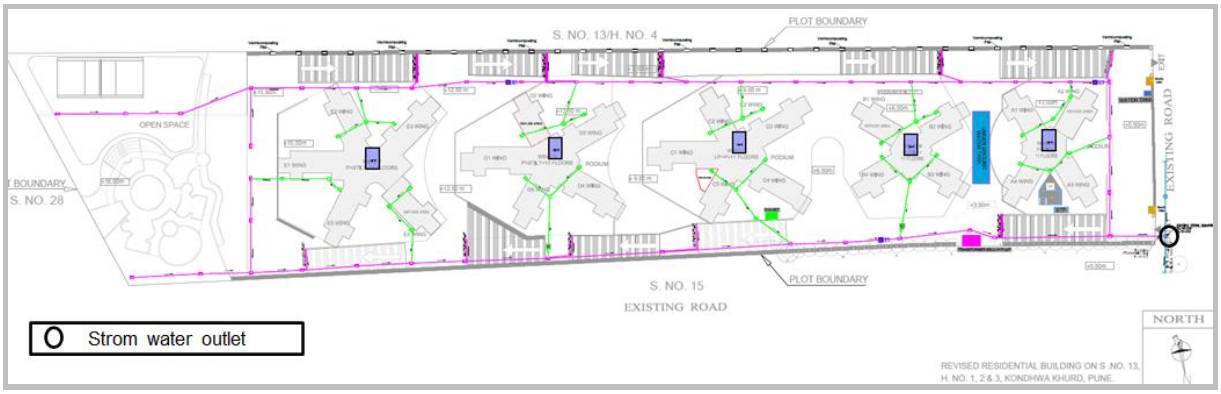
Table 2.14: RWH Details

Sr. no	Description	Quantity	Unit
	Total plot area	17,433.10	m^2
	Total Deductions	2,833.35	m^2
	Net area under consideration	14,599.75	m^2
	Annual average rain fall	50	mm
1.	**Rain water discharge from Roof Area**		
	Total Roof Area	2,948.08	m^2
	Run-off Coefficient	0.85	
	Quantity of rain water collected from roof	125.29	m^3

2.	**Storm water runoff from Paved Surfaces**		
	Internal roads, paved, services area (open to sky)	9,605.82	m^2
	Run-off Coefficient	0.7	
	Quantity of storm water collected from paved areas	336.20	m^3
3.	**Storm water runoff from Landscape Areas**		
	Total Landscape area on Mother Earth	2,045.85	m^2
	Run-off Coefficient	0.4	
	Quantity of storm water collected from paved areas	40.92	m^3
	Total Storm Water Discharge	**502.41**	**m^3/hr**
	Water collected in 5 min. of peak rain fall	**83.74**	**m^3/5 Min**
	Volume of one recharge pit	**41.94**	**m^3**
	Number of recharge pits required	**2.00**	**No.**
	No. of RWH pits	**2**	**No.**

% of Harvesting against Incremental Rise After Development	**108.53**

Figure 2.22: Storm water plan



2.5.6 Power supply

The power supply necessary for the proposed project is estimated as Total Connected load is **1438 kW**. Total demand load is **1007 kW**. The power supply is available from **MSEDCL**. The network of power supply in this region is well established and the project proponents would provide separate sub- stations as per requirement. Standby power supply for meeting emergency requirements is available by installing **1 no. of DG sets having capacity of 82.5 kVA.**

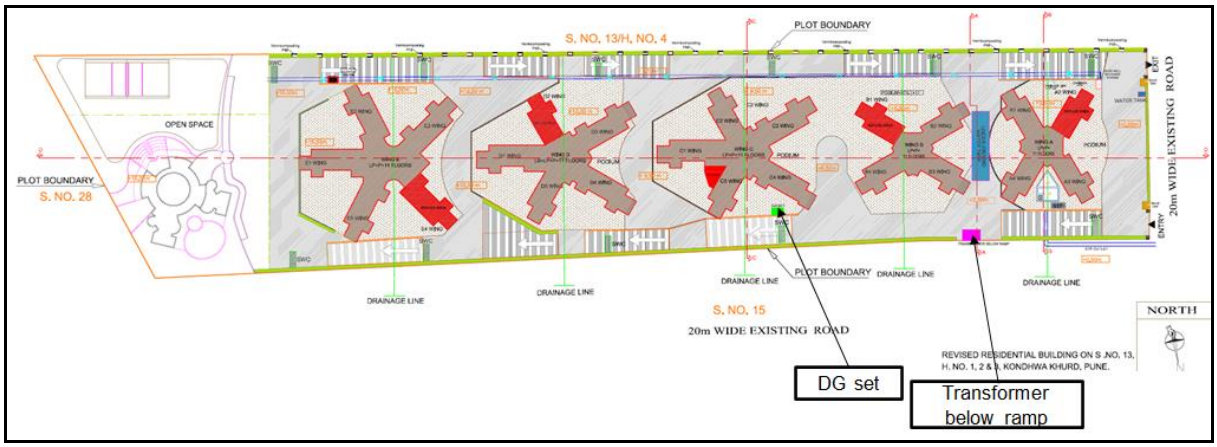
DG set capacity and numbers are: **1 no. X 82.5 kVA**

Table 2.15: Power Supply during operational phase

Details	Total
Demand load	1,007 kW
Connected load	1,438 kW
DG set	1 no. x 82.5 kVA
Transformer no.	2 no. x 630 kVA
Fuel used	Diesel

Figure 2.23: DG set photograph

Figure 2.24: DG set location plan



Fire fighting

Adequate firefighting facilities and safety measures provided at the proposed project as per the norms laid down by Chief Fire Officer (CFO). CFO NOC has been obtained from Pune Municipal Corporation (PMC).

Fire tender access

20 m wide DP road, 6 m and 7.5 m internal driveway. This will be helpful for the fire tender movement.

Fire suppression

It is proposed only for common areas of the residential buildings. Stand pipe system will be provided at each level.

Firefighting equipment's provided:

Table 2.16: Disaster management resource

Sr.	Fire-fighting equipment description	Quantity
1	Fire water tank underground	50 m^3
2	Fire water tank overhead	Total Capacity 50 m^3 (Firefighting OHT of capacity 50 m^3 as per Fire NOC)
3	Fire tank capacity	As per fire NOC
4	Fire hydrant system	As per fire NOC
5	Water sprinkler system	As per fire NOC
6	Fire extinguishers	ABC Type On each floor and in machine room
7	Smoke detection system	As per fire NOC
8	Fire alarm system	Manual Call point and talk back P.A. System
9	CCTV security system	Entry/Exit gates, Each building and Driveway
10	Emergency power (DG set)	1 nos. X 82.5 kVA
11	Refuge floors	8^{th} floor
12	Fire resistant doors	Staircase of each floor
13	Signage	At Entry/Exit points and prominent locations
14	Lightening arrestors	As per fire NOC
15	Staircase	5 no. of staircases with total area 756.14 m^2
16	Lifts	Total 10 no. of Lifts

The fire tender movement plan is given in **Figure 2.26**

The nearest fire station is **Kondhwa Khurd Fire Station**, **Pune**. The proposed site is around **950 m** away from the fire station. The road map of proposed project is shown in **Figure 2.26**. It will take about **4 minutes** to reach the proposed site.

Figure 2.25: Road map of the proposed project from Kondhwa Khurd Fire Station, Pune

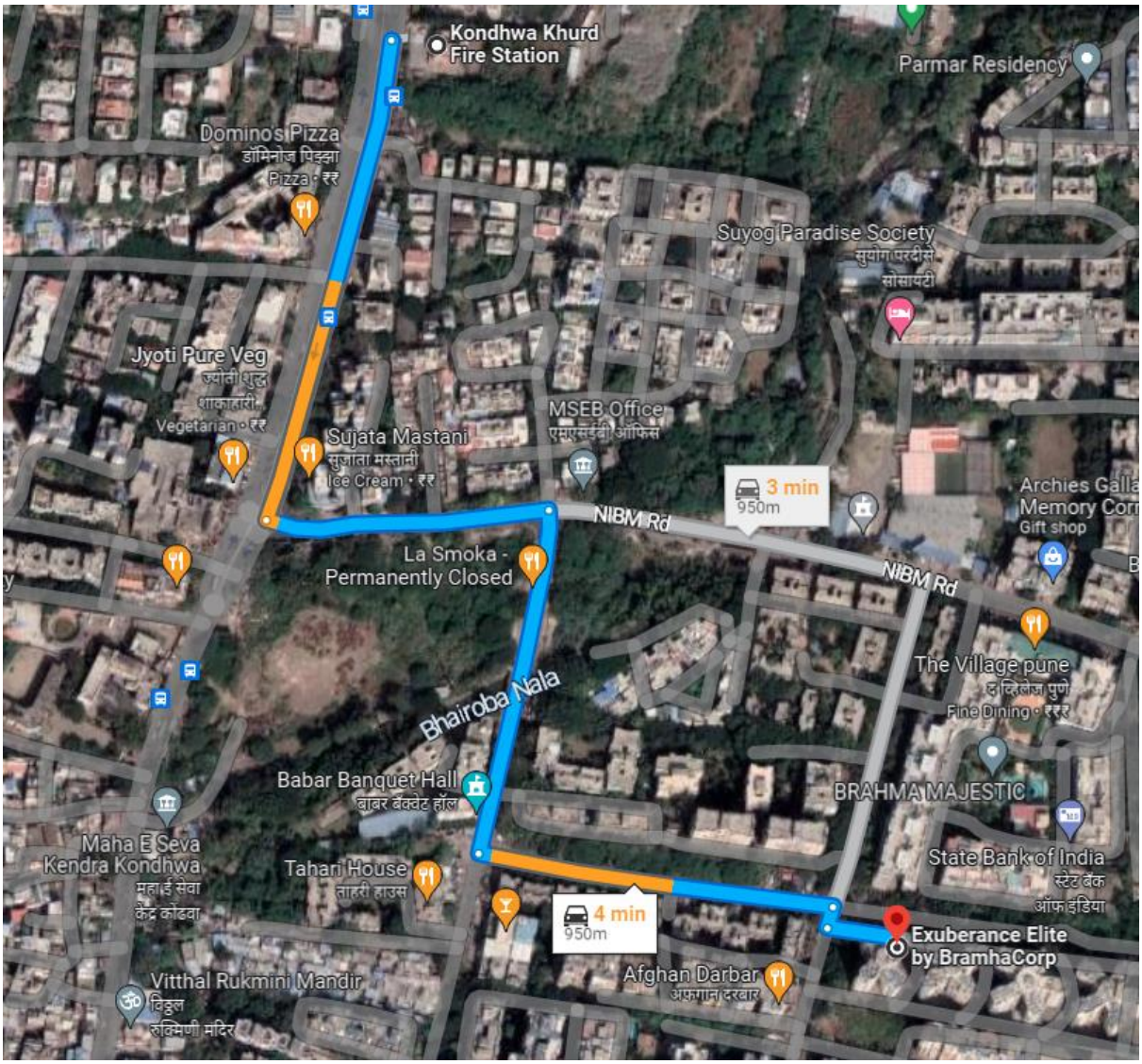


Figure 2.26: Fire tender movement plan

The above fire tender plan clearly depicts 6 m, 7.5 m wide internal road. These will be helpful for the fire tender movement.

2.5.7 Environmental assessment of building, planning and use

Environmental issues are addressed in planning of proposed project through various factors as follows:

- All public areas will have LED lamps for lighting. The longer façade of the building facing north-south. This is best orientation considering solar passive design principle. This orientation is favourable considering reduced solar gains.
- External windows is of aluminium with glass panes. Timber is used only for internal door frames.
- Sewage generation: **173 m^3/day** during operational phase
- Sewage treatment plant is recommended for treating domestic sewage.
- Rainwater harvesting scheme is proposed with **2 no**. of recharge pits for collection and reused of rainwater.
- Approximate solid waste generation: **699 kg/day** during Operational phase
- Fly-ash was used in concrete work. AAC Blocks were used for wall construction.
- Aluminium shuttering systems (MEVA, DOKA, MIVAN Formwork) was used for all typical frame construction, avoiding use of timber for shuttering.
- R.C.C. frame structure with open footing on hard murram.
- All R.C.C. walls have putty filling on internal and external side avoiding cement plaster.
- All internal brick masonry walls with gypsum plaster and all internal doors with timber frame wooden flush doors
- Project is designed to meet requirements of seismic zone III.
- Energy efficient building services and equipment, public area lighting and exterior lighting. Installation of solar PV panels for generation renewable energy from project site.
- Parking arrangements for Residential building are provided.
- Arrangements for service roads for walking, standby power supply, floor washing, and storage of biodegradable and non-biodegradable waste.
- Separate internal pathways for pedestrians, ramps for disabled persons, road painting, signage and speed breakers as required or insisted upon by the local authority.

Chapter 3
Description of the Environment

3.1 Introduction

Baseline environmental status forms the basis for evaluation of the proposed development on the existing conditions. This can be broadly grouped into physical, social, aesthetic and economic environment. Physical environment includes air, water, land, aquatic and terrestrial flora & fauna, civic infrastructure, public services, etc. Social environment includes demography, community facilities and services, community characteristics, employment centers, commercial facilities servicing the area etc. Aesthetic environment includes historical monuments, archaeological or architectural sites at and in the vicinity of the proposed project activity. Economic environment covers employment levels, sources and levels of income, economic base of the area, land values, land ownership etc.

3.2 Scope of Baseline Studies

For the present EIA study, the attributes of environment considered are:

- Air environment (Meteorology, ambient air quality, noise levels, traffic pattern and traffic density);
- Water environment
- Land environment (Geology, Geo-hydrology, land use, solid waste disposal etc.);
- Biological environment (Flora, fauna, vegetation, ecosystem); and
- Socio-economic environment (Demography, occupational structure, educational, medical facilities, literacy etc.)

It is important to define the study area for conducting the Environmental Impact Assessment Study which could reflect the changes due to the proposed developmental activity. In the present project, area of study has been identified as **10 km** radius of the site. Hence, the environmental parameters are studied to establish an existing environmental scenario of an area covering 2 km radius, which is considered as an impact zone. The area covering 10 km radius is considered for biological and socio-economic study.

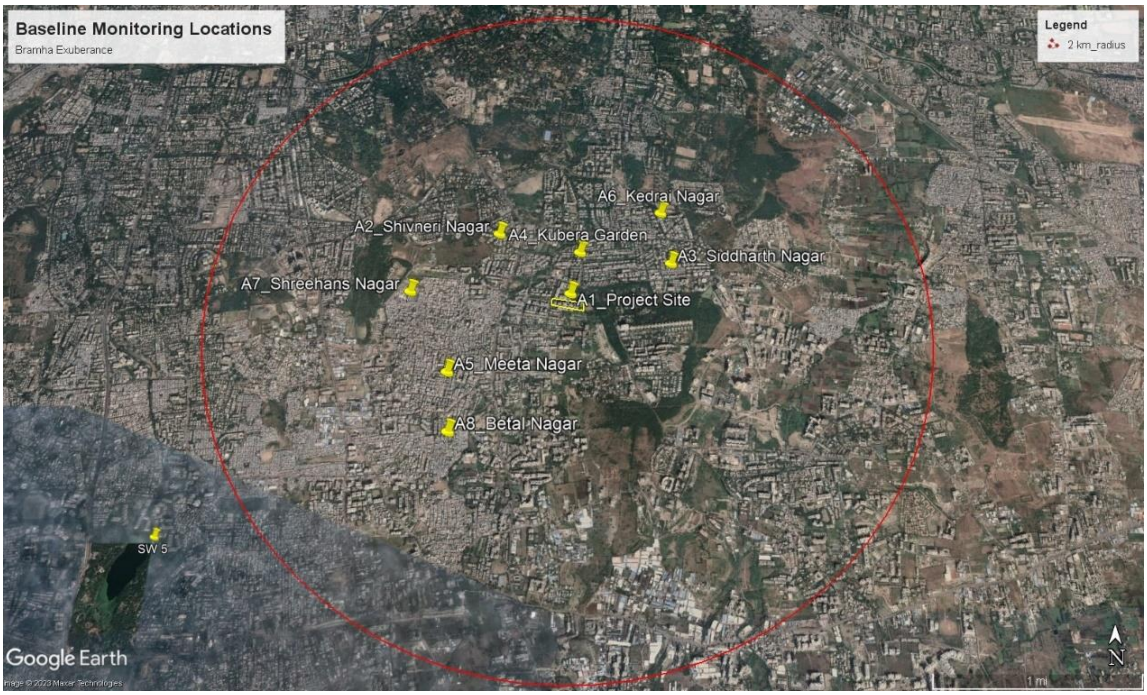
Following section of the report is given the baseline environmental scenario in the study area with respect to the above stated environmental attributes along with its monitoring details, results obtained, data analysis and conclusions.

Table 3.1: Details of Project Site

Sr.	Environmental Attributes	Sampling Locations
1.	Meteorology	Indian Meteorological Department, Pune
2.	Ambient Air Quality	Sampling at Eight Locations
	A1	Project site
	A2	Shivneri Nagar
	A3	Siddharth Nagar
	A4	Kubera Garden
	A5	Metta Nagar
	A6	Kedrai Nagar
	A7	Shreehans Nagar
	A8	Betal Nagar
3.	Noise Levels	Sampling at Eight locations
	N1	Project site
	N2	Shivneri Nagar
	N3	Siddharth Nagar
	N4	Kubera Garden
	N5	Metta Nagar
	N6	Kedrai Nagar
	N7	Shreehans Nagar
	N8	Betal Nagar
4.	Ground Water Quality	Sampling at One location
	G1	Project Site
5.	Surface Water Quality	Sampling at Six locations
	SW1	Mutha River
	SW2	Katraj lake
	SW3	Jambhulwadi lake
	SW4	Pashan lake
	SW5	Mutha river canal
	SW6	Khadakwasla dam
6.	Geology and Geohydrology	General in 10 km study area
7.	Land Use Pattern	General in 10 km study area
8.	Soil Quality	Sampling at Eight locations
	S1	Project site
	S2	Shivneri Nagar
	S3	Siddharth Nagar
	S4	Kubera Garden
	S5	Metta Nagar
	S6	Kedrai Nagar
	S7	Shreehans Nagar
	S8	Betal Nagar

Sr.	Environmental Attributes	Sampling Locations
9.	Ecology	Primary data collection at site
10.	Socio-Economics	General in 10 km study area through Census Data of Year 2011

Figure 3.1: Study area map



3.3 Air Environment

3.3.1 Meteorology

Meteorology (weather and climate) is the key to understand the air quality. The essential relationship between meteorology and atmospheric dispersion involves the wind in the broadest sense of the term. Wind fluctuations over a very wide range of time accomplish dispersion and strongly influence other processes associated with them. Secondary data also plays an important role in identifying the general meteorological status of the region. Site-specific data can be compared with secondary data in order to identify changes, which may have taken place due to various developments in the area. Both primary and secondary meteorological data were collected.

Classification of months according to seasons is shown below:

- Summer Season – March to May
- Monsoon season – June to September
- Post Monsoon – October to November
- Winter season – December to February

Presentation of Secondary Data: The main source of secondary meteorological data for the study area is Indian Meteorological Department, Pune.

Climate

The climate of the district is on the whole agreeable. The winter season is from December to about the middle of February followed by summer season which last up to May. June to September is the south-west monsoon season, whereas October and November constitute the post-monsoon season. The minimum temperature is about 12°C and maximum temperature is about 39°C.

The detailed data on the microclimate of the site was collected for a period of one month (December 2022), representing the post monsoon season. A micrometeorological station was set up in the study area near the project site for collection of data at hourly intervals during the study period. Temperature, humidity, wind speed and direction, pressure, rainfall and cloud cover were monitored at hourly intervals.

Wind

Winds are generally moderate, but they greatly increase in force during the monsoon months. Winds during October and the southwest monsoon season are mainly from directions between south-west and north-west. In the rest of the year, winds blow from directions between north and east in the mornings and between west and north in the afternoons. It was observed that the predominant wind direction during winter season was from East to West, **2.47 m/s**. wind speed.

Cloud Cover

During the south-west monsoon months, the sky is generally heavily clouded or overcast. Cloudiness decreases after the withdrawal of the south-west monsoon towards the end of September. During the period December to March, clear or lightly clouded skies prevail generally. Later, cloudiness increases with the progress of the season.

3.3.2 Meteorological Data

Meteorological data for winter season (December 2022) of Pune have been collected from IMD for year 2021-2022. The parameters for which data have been collected are:

- Wind speed
- Wind direction
- Temperature
- Relative Humidity

A micrometeorological station was set up in the study area near the project site, for collection of data at hourly intervals during the study period. Temperature, humidity, wind speed and direction, and - rainfall were monitored and summarized.

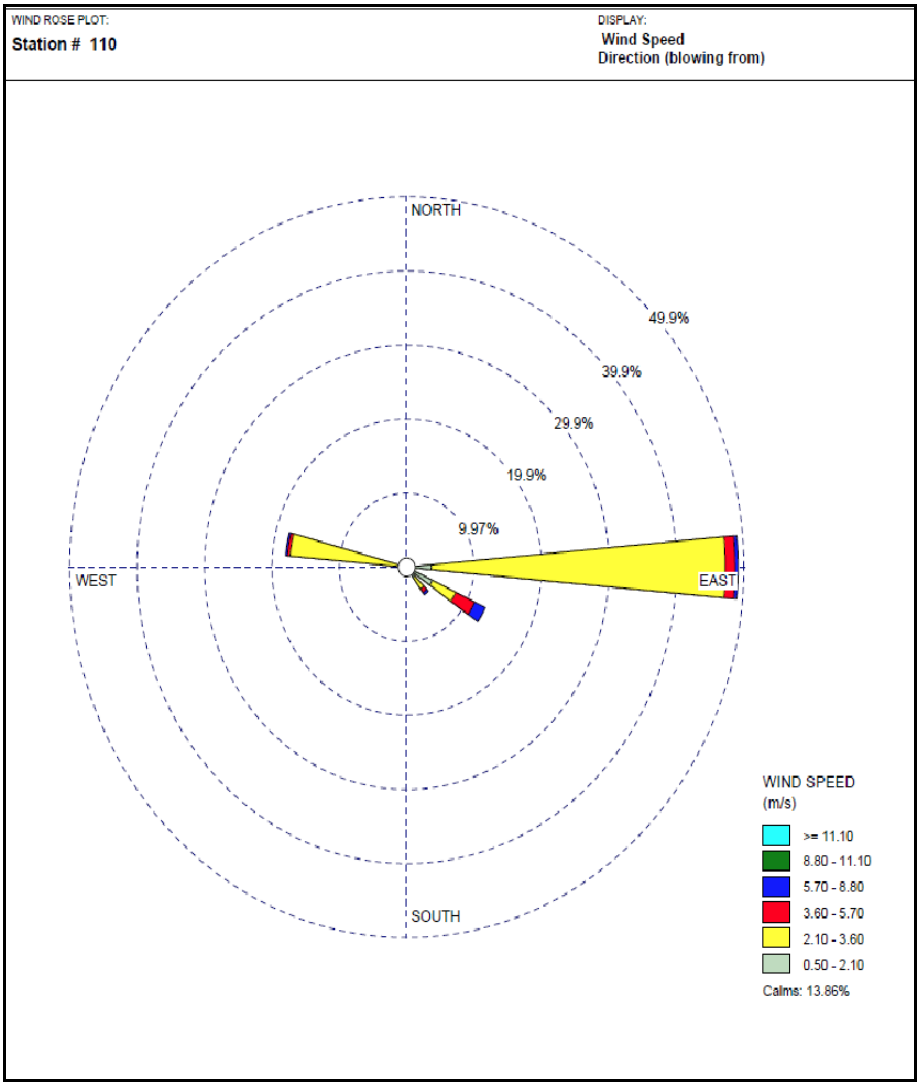
Meteorological Data of Post monsoon season (December 2022) Average / maximum and minimum meteorological data for period December, 2022 is represented in **Table 3.2.**

Table 3.2: Average/ maximum and minimum meteorological data

Study Period	Temperature ^{0}C		Predominant Wind Direction	Average Wind Speed (km/h)		Relative Humidity (%)	
	Max	Min		Max	Min	Max	Min
December	32	10	East	6	1	100	17

(Source: https://www.timeanddate.com/weather/india/pune)

Figure 3.2: Wind rose diagram



3.3.3 Ambient Air Quality

Air pollution can cause significant effects on humans, animals, vegetation and materials. The project construction is not a major contributor to the air pollution except for particulate matter emission during both; construction phase due to plant and machinery, and vehicular pollution during use phase. However, air environment monitoring covered the parameter, for which National Ambient Air Quality standards have been defined by the Ministry of Environment and Forests. Accordingly, parameters monitored were Particulate Matter<10µ (PM_{10}), Particulate Matter<2.5µ $PM_{2.5}$, Sulphur dioxide (SO_2), Nitrogen Oxide (NO_x), Ozone (O_3), Lead (Pb), Carbon monoxide (CO), Ammonia (NH_3), Benzene (C_6H_6), Benzo(a) Pyrene (BaP), Arsenic (As) and Nickel (Ni).

An assessment of baseline air quality was undertaken:

- To establish the status of exposure of the major sensitive receptors, and
- To identify the major air pollution sources and their impacts on the area surrounding the site.

This assessment was accomplished by reviewing historical ambient air quality data of the Pune city, examining sources of air emissions within a 2 km radius of the proposed project site and through site-specific background sampling programme. In this manner, background data collected was expected to be representative of all meteorological conditions.

The following sources of air emissions were identified within the impact zone:

- Vehicular and construction activities in the surrounding areas of the site; and
- Other sources of air pollution within the impact zone include domestic fuel combustion.

A well-devised air quality monitoring programme was undertaken to ascertain the major air pollutants [Particulate Matter<10µ (PM_{10}), Particulate Matter<2.5µ $PM_{2.5}$, Sulphur dioxide (SO_2), Nitrogen Oxide (NO_x), Ozone (O_3), Lead (Pb), Carbon monoxide (CO), Ammonia (NH_3), Benzene (C_6H_6), Benzo (a) Pyrene (BaP), Arsenic (As) and Nickel (Ni).

During the time of ambient air quality sampling (post monsoon season), the monitoring locations were selected by taking into consideration the long-term meteorological trends to obtain the predominant wind direction.

Season and Period of Monitoring

The ambient air monitoring work was carried out in the January 2023

Selected Sampling Locations

The locations for Ambient Air Quality Monitoring were decided based on the guidelines given in EIA manual from MoEF. For this EIA, the purpose is to ascertain the baseline pollutant concentrations in ambient air at dense residential areas & near road areas.

Monitoring stations were placed at sensitive receptors within 2 km radius from the project site. Monitoring stations were placed at the height of 3 meters at 8 places on Project Site; Shivneri Nagar, Siddharth Nagar, Kubera Garden, Bhatnagar Colony, Meeta Nagar, Kedari Nagar, Shreehans Nagar, Betal Nagar etc.

The monitoring stations were placed so as to cover all the upwind and downwind areas of the proposed development site. Air quality monitoring locations are described in **Table 3.3**

Table 3.3: Ambient air quality monitoring location details

Sr.	Station Code	Monitoring Location	Distance with Respect to Site (km)	Direction with Respect to Site
1.	A1	Project site	Within	-
2.	A2	Shivneri Nagar	1.10	NW
3.	A3	Siddharth Nagar	1.60	NE
4.	A4	Kubera Garden	0.95	N
5.	A5	Metta Nagar	2.00	SW
6.	A6	Kedrai Nagar	2.00	NE
7.	A7	Shreehans Nagar	2.00	W
8.	A8	Betal Nagar	2.00	SW

Air quality was monitored at eight locations for 24 hours, twice a week, for a total of 13 weeks as per the guidelines specified by the MoEF. The volumetric flow rate of each sampler was maintained at 1.1-1.2 l/min. The collected air samples are analysed by using standard procedures prescribed by Central Pollution Control Board (CPCB), Indian Standards: IS 5182 and American Public Health Association (APHA). Details of techniques used for analysis of air samples are given in **Table 3.4.**

Table 3.4: Techniques Used for Analysis of Air Quality

Sr.	Parameters	Code of Practice	Equipment/Instruments for Analysis	Minimum Detectable Limit
1.	SO_2	IS: 5182 (Part II)	APM 433 - Gaseous Sampler (Chemical Absorption)	3.0 µg/m^3
2.	NO_x	IS-5182 (Part-VI)	APM 433 - Gaseous Sampler (Chemical Absorption)	3.0 µg/m^3
3.	PM_{10}	IS-5182 (part-IV)	APM 550 - Dust Sampler (Gravimetric Method)	5.0 µg/m^3

Sr.	Parameters	Code of Practice	Equipment/Instruments for Analysis	Minimum Detectable Limit
4.	$PM_{2.5}$	IS-5182 (part-IV)	APM 550 - Dust Sampler (Gravimetric Method)	5.0 µg/m^3
5.	CO	IS-5182 (Part-22)	CO Analyser	10 mg/m^3
6.	O_3	IS-5182	APM 433 - Gaseous Sampler (Chemical Absorption)	2.0 ppb
7.	Pb	IS-5182	APM 550 - Dust Sampler (AAS Method)	0.1 ppb
8.	NH_3	USEPA method TO-1 or TO-2	Low volume sampling pump connected to Adsorption Tube / Tedlar bags	0.1 ppb
9.	C_6H_6	USEPA method TO-1 or TO-2	Low volume sampling pump connected to Adsorption Tube / Tedlar bags	0.1 ppb
10.	BaP	USEPA method TO-1 or TO-2	Low volume sampling pump connected to Adsorption Tube / Tedlar bags	0.1 ppb
11.	Ar	IS-5182	APM 550 - Dust Sampler (AAS Method)	0.1 ppb
12.	Ni	IS-5182	APM 550 - Dust Sampler (AAS Method)	0.1 ppb

Presentation of Air Quality Analysis Results

Ambient Air quality analysis results for the eight monitoring locations, which were selected to represent baseline conditions of the region, are given below:

Table 3.5: Ambient Air Quality monitoring results

Parameter	SO_2	NOx	PM_{10}	$PM_{2.5}$	O_3	Pb	CO	NH_3	C_6H_6	BaP	As	Ni
@ Hour	@24hr	@24hr	@24hr	@24hr	@8hr	@24hr	@8hr	@24hr	Yearly	Yearly	Yearly	Yearly
Limit	80	80	100	60	180.00	1.00	4.00	400.00	5.00	1.00	6.00	20.00
Unit	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	mg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	Ng/m^3
A1												
Min	5.03	9.54	49	20	18.6	0.02	0.52	12	NIL	NIL	NIL	NIL
Max	9.8	15.7	65	34	23	0.05	1.12	22	NIL	NIL	NIL	NIL
Average	7.35	11.87	54.43	25.32	20.55	0.03	0.78	17.95	NIL	NIL	NIL	NIL
98 percentiles	8.96	14.76	65.34	34.21	22.86	0.05	1.1	23	NIL	NIL	NIL	NIL
A2												
Min	5.2	10	49	16	14.3	0.02	0.5	13	NIL	NIL	NIL	NIL
Max	10.1	15.3	64	32	25	0.06	0.88	25	NIL	NIL	NIL	NIL
Average	7.81	12.42	54.32	24.67	20.8	0.03	0.68	17.86	NIL	NIL	NIL	NIL
98 percentiles	9.69	14.7	63	32	25.6	0.06	0.87	24.3	NIL	NIL	NIL	NIL
A3												
Min	5.43	5.45	48	15	16	0.02	0.5	11	NIL	NIL	NIL	NIL
Max	8.7	15	65	32	22	0.05	0.84	25	NIL	NIL	NIL	NIL
Average	7.54	12.28	54.6	22.67	19.98	0.02	0.63	16.96	NIL	NIL	NIL	NIL
98 percentiles	8.2	15	63.3	31	21.2	0.04	0.82	24.1	NIL	NIL	NIL	NIL
A4												
Min	5.18	7.5	49	16	19.6	0.02	0.5	12	NIL	NIL	NIL	NIL
Max	11	13	62	32	25	0.06	0.76	23	NIL	NIL	NIL	NIL
Average	7.18	11.34	55.08	22.58	20.12	0.03	0.6	16.42	NIL	NIL	NIL	NIL
98 percentiles	10.08	12.5	61.5	30.16	24.12	0.06	0.76	21.62	NIL	NIL	NIL	NIL
A5												
Min	5.7	10	46	11	19.6	0.02	0.3	12	NIL	NIL	NIL	NIL

Parameter	SO_2	NOx	PM_{10}	$PM_{2.5}$	O_3	Pb	CO	NH_3	C_6H_6	BaP	As	Ni
@ Hour	@24hr	@24hr	@24hr	@24hr	@8hr	@24hr	@8hr	@24hr	Yearly	Yearly	Yearly	Yearly
Limit	80	80	100	60	180.00	1.00	4.00	400.00	5.00	1.00	6.00	20.00
Unit	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	mg/m³	µg/m³	µg/m³	µg/m³	µg/m³	Ng/m³
Max	9.63	15.1	53	27	25	0.04	0.7	20	NIL	NIL	NIL	NIL
Average	7.75	12.22	53.67	21.13	20.82	0.02	0.57	15.71	NIL	NIL	NIL	NIL
98 percentiles	9.44	15.05	52.1	25.3	25	0.04	0.7	20	NIL	NIL	NIL	NIL
A6												
Min	5.23	10.1	40	11	17.5	0.02	0.5	12	NIL	NIL	NIL	NIL
Max	9.4	14.2	63	35	23	0.03	0.72	24	NIL	NIL	NIL	NIL
Average	7.41	12.03	54	21.71	20	0.02	0.6	16.67	NIL	NIL	NIL	NIL
98 percentiles	9.3	14.15	62.3	31.78	22.4	0.03	0.71	23.08	NIL	NIL	NIL	NIL
A7												
Min	6.12	6.2	50	11	19.6	0.02	0.5	11	NIL	NIL	NIL	NIL
Max	9.29	12.4	64	35	24	0.05	1.12	23	NIL	NIL	NIL	NIL
Average	7.48	10.5	55.72	23.97	21.6	0.03	0.67	15.21	NIL	NIL	NIL	NIL
98 percentiles	9.16	11.7	63	33	23.78	0.05	1	22.54	NIL	NIL	NIL	NIL
A8												
Min	5	7.3	47	11	19.6	0.02	0.5	11	NIL	NIL	NIL	NIL
Max	9.98	15	62	28	26	0.05	0.85	21	NIL	NIL	NIL	NIL
Average	7.24	11.91	55.83	22.13	20.77	0.02	0.62	16.17	NIL	NIL	NIL	NIL
98 percentiles	9.67	14.91	62	28	25.54	0.05	0.85	20.54	NIL	NIL	NIL	NIL

Table 3.6: National Ambient Air Quality Standards (NAAQS)

Sr.	Pollutants	Time weighted average	Concentration in Ambient Air (in µg/m³ except indicated)	
			Industrial, Residential and other areas	Sensitive Area
1	Sulphur dioxide (SO_2)	Annual Average*	50	20
		24 Hours**	80	80
2	Nitrogen oxide (NO_x)	Annual Average	40	30
		24 Hours**	80	80
3	Particulate Matter (Size less than 10µg) or PM_{10}	Annual Average	60	60
		24 Hours**	100	100
4	Particulate Matter (Size less than 2.5µg) or $PM_{2.5}$	Annual Average	40	40
		24 Hours**	60	60
5	Lead (Pb)	Annual Average	0.5	0.5
		24 Hours**	1	1
6	Carbon monoxide (CO)	8 Hour Average	2 mg/m³	2 mg/m³
		1 Hour Average	04 mg/m³	04 mg/m³
7	Ammonia (NH_3)	Annual Average	100	100
		24 Hours**	400	400
8	Benzene (C_6H_6)	Annual Average	5	5
9	Benzo (a) Pyrene (BaP)-particulate phase only	Annual Average	1	1
10	Arsenic (As)	Annual Average	6	6
11	Nickel (Ni)	Annual Average	20	20
12	Ozone (O_3)	8 Hour Average	100	100
		1 Hour Average	180	180

*Annual arithmetic means of minimum 104 measurements in a year taken twice a week 24 hourly at uniform interval.
**24 hourly/8 hourly values will be met 98% of the time in a year. However, 2% of the time they may exceed but not on two consecutive days

Table 3.7: Air pollution impact on human body

Air pollutant	Impacts
Sulphur dioxide (SO_2)	• Sulphur dioxide causes its irritant effects by stimulating nerves in the lining of the nose and throat and the lung's airways. • This causes a reflex cough, irritation, and a feeling of chest tightness, which may lead to narrowing of the airways. This latter effect is particularly likely to occur in people suffering from asthma and chronic lung disease.
Nitrogen Oxide (NO_X)	• Nitrogen dioxide is toxic to various animals as well as to humans • Its toxicity relates to its ability to form nitric acid with water in the eye, lung, mucus membrane and skin.
Particulate matter	• May cause Lung cancer, cardiovascular disease, respiratory diseases, premature delivery, birth defects, and premature death. • Effects on vegetation: 1. Particulate matter can clog stomata openings of plants and interfere with photosynthesis functions. 2. In this manner, high particulate matter concentrations in the atmosphere can lead to growth stunting or mortality in some plant species.
Ozone (O_3)	• It causes mucous membrane irritation, respiratory infections and lung infections.
Carbon Monoxide (CO)	• Carbon monoxide is a gas that is absorbed by haemoglobin in the blood after it has entered a human body, causing the blood to be less able to transport oxygen. • When carbon monoxide is absorbed in low concentrations, people will experience tiredness. • People that have heart conditions often experience chest pains. Higher concentrations of carbon monoxide cause bad vision, decreases in concentration, headaches, dizziness, nausea and confusion.

The salient observations of the results and their compliance to the 24-hourly average NAAQ standards are as follows:

- The peak PM_{10} value of 65.00 µg/m^3 was observed at Project site. The peak $PM_{2.5}$ value of 35.00 µg/m^3 was observed at Kedrai Nagar, Shreehans Nagar.
- The Sulphur dioxide levels monitored at all the locations confirm to the standard of 80 µg/m^3, with highest value of 11 µg/m^3 at Kubera Garden.
- The Oxides of Nitrogen levels monitored at all the locations confirm to the standard 80 µg/m^3, with highest value of 15.7 µg/m^3 at project site.
- The Carbon monoxide levels also complied with the stipulated standards of 2 mg/m^3. The CO levels at all the locations were within

the stipulated limit with highest value of 1,12 µg/m^3 at project site and Shreehans Nagar.

3.3.3 Air Quality Index (AQI)

An air quality index is defined as an overall scheme that transforms the weighed values of individual air pollution related parameters (for example, pollutant concentrations) into a single number or set of numbers.

Seven main parameters (SO_2, NOx, PM_{10}, $PM_{2.5}$, CO, NH_3, O_3) monitored at eight locations were considered to calculate AQI at the project site. **AQI=54** was found around the project site which falls under satisfactory category or band (51-100) according to the AQI scale given in National Ambient Air Quality Standards.

Referring to AQI index of an area, it can be predicted that how safe is the ambient of that particular area for the population residing in it. **AQI 54** in 'Bramha Exuberance'' project area shows that ambience is safe for a residence project. Extreme health issue will be mild discomfort only for sensitive people.

Date			Station	Project site
30-Jan-23			City	Kondhwa Khurd
			State	Maharashtra

Pollutants		concentration in µg/m^3 (except for CO)	Sub-Index	check	Air Quality Index
PM10	24-hr avg	54.43	54	1	
PM2.5	24-hr avg	25.32	42	1	
SO2	24-hr avg	7.35	9	1	
NOx	24-hr avg	11.87	15	1	AQI = 54
*CO (mg/m3)	max 8-hr	0.78	39	1	
O3	max 8-hr	20.55	21	1	
NH3	24-hr avg	17.95	4	1	

* Concentrations of minimum three pollutants are required; one of them should be PM10 or PM2.5
* The check displays "1" when a non-zero value is entered

Breakpoints for AQI Scale 0-500 (µg/m^3)

AQI Category (Range)	PM_{10} 24-hr	$PM_{2.5}$ 24-hr	NO_2 24-hr	O_3 8-hr	CO 8-hr (mg/m^3)	SO_2 24-hr	NH_3 24-hr	Pb 24-hr
Good (0-50)	0-50	0-30	0-40	0-50	0-1.0	0-40	0-200	0-0.5
Satisfactory (51-100)	51-100	31-60	41-80	51-100	1.1-2.0	41-80	201-400	0.6 –1.0
Moderate (101-200)	101-250	61-90	81-180	101-168	2.1- 10	81-380	401-800	1.1-2.0
Poor (201-300)	251-350	91-120	181-280	169-208	10.1-17	381-800	801-1200	2.1-3.0
Very poor (301-400)	351-430	121-250	281-400	209-748*	17.1-34	801-1600	1201-1800	3.1-3.5
Severe (401-500)	430 +	250+	400+	748+*	34+	1600+	1800+	3.5+

AQI	Associated Health Impacts
Good (0–50)	Minimal Impact
Satisfactory (51–100)	May cause minor breathing discomfort to sensitive people
Moderate (101–200)	May cause breathing discomfort to the people with lung disease such as asthma and discomfort to people with heart disease, children and older adults
Poor (201–300)	May cause breathing discomfort to people on prolonged exposure and discomfort to people with heart disease with short exposure
Very Poor (301–400)	May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases
Severe (401-500)	May cause respiratory effects even on healthy people and serious health impacts on people with lung/heart diseases. The health impacts may be experienced even during light physical activity

3.4 Noise Environment

Noise in general is a sound which is composed of frequency components of various loudness, which is distributed over the audible frequency range. The factors on which the sound is described as noise depends upon its degree of loudness, period of exposure, time of day and location at which it occurs.

The noise level measurements were carried out by measured (A-weighted) using precision noise level meter. The noise level survey was carried at all 8 locations located within the 2 km radius of the proposed project site. The major source identified in the study area is of vehicular traffic movement. Background noise levels were also monitored in residential and commercial areas.

3.4.1 Methodology for Noise Monitoring

Sound pressure level (SPL) measurements were automatically recorded with the help of an Integrated Sound Level Meter to give the equivalent noise level for every hour continuously for 24 hours in a day. In this

manner, 1 full day (i.e., 24-hourly values) of data was collected at each of the eight locations.

Selection of Noise Monitoring Locations

The locations selected for noise monitoring were:

Table 3.8: Noise monitoring location details

Station Code	Village	Distance from Project Site (km)
N1	Project site	Within-
N2	Shivneri Nagar	1.10
N3	Siddharth Nagar	1.60
N4	Kubera Garden	0.95
N5	Metta Nagar	2.00
N6	Kedrai Nagar	2.00
N7	Shreehans Nagar	2.00
N8	Betal Nagar	2.00

Results

The equivalent noise levels viz., Leq dB(A) day and Leq dB(A) night at all the noise monitoring locations are presented in **Table 3.9**. The equivalent noise levels obtained at these locations were compared with day time and night time Ambient Noise Quality Standards which are given in **Table 3.10.**

Table 3.9: Noise Monitoring Results

Location	Date Time Leq dB(A)	Night Time Leq dB(A)
Project site	53	42.6
Shivneri Nagar	51.06	41.1
Siddharth Nagar	50.6	42.3
Kubera Garden	52.1	43.4
Metta Nagar	51.1	42.6
Kedrai Nagar	51.9	43.2
Shreehans Nagar	52.2	42.6
Betal Nagar	52.7	42.4

Daytime will mean from 6.00 a.m. to 10.00 p.m.
Night time will mean from 10.00 p.m. to 6.00 a.m.
(*Note- Monitoring results of Nov. 3rd week (20.11.2017) considered as an average.)

Table 3.10: Ambient Noise Quality Standards

Area Code	Category of area/Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(A)	Industrial area	75	70

Area Code	Category of area/Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence zone	50	40

Day time will mean from 6.00 a.m. to 10.00 p.m.
Night time will mean from 10.00 p.m. to 6.00 a.m.

- Silence zone is defined as an area comprising not less than 100 meters around hospitals, educational institutions and courts. The silence zones are zones, which are declared as such by the competent authority.
- Mixed categories of areas may be declared as one of the four above-mentioned categories by the competent authority.

Observations

Noise Levels observed at the project site & other monitoring locations are within the permissible limits.

3.5 Surface Water

The water required for proposed residential development is source from Pune Municipal Corporation. Mutha river canal is located abutting to project site in north-west direction. Mutha river lies towards north-west direction at 9.8 km distance while Jambhulwadi lake lies towards 9.2 km in South-west. Also, Katraj Lake lies at 6.2 km towards the South-west and the Khadakwasla dam lies at 10 km towards the South-west and Pashan lake lies towards 10 km in South-west.

Baseline Water Quality

Baseline Water quality monitoring was carried out to assess the nature and magnitude of existing pollution in the study area. To establish the baseline status of water environment in the study area, samples were collected from surface water sources within 10 km distance from the project site as mentioned in the ToR.

Water Quality Analysis

Surface water and ground water quality monitoring was carried out at 6 location.

Methodology adopted for sampling of surface water is described below:

- Samples collected from well-mixed section of the river, below 30 cm of water surface using a weighted bottle.
- DO is determined in a sample collected in a DO bottle using a DO sampler. The DO in the sample is fixed immediately after collection, using reagents.

- For physical and chemical analysis, sample is collected separately in two litres jerry can and preserved at the site and transported to laboratory for analysis.
- For bacteriological analysis, sample is separately collected in a sterile glass bottle, preserved in ice and transported to laboratory.
- All the analyses were carried out using standard protocol 'Standard Methods for the Examination of Water and Wastewater (APHA)' 21st Edition.

Parameters Selected for Monitoring the Quality

The physico-chemical parameters selected to evaluate the water quality are Colour, Odour, pH, Turbidity, TDS, BOD, COD, Oil & Grease, Total Phosphorus, Dissolved Phosphorus, Ammoniacal Nitrogen, Total Nitrogen, Aluminium, Calcium, Magnesium, Arsenic, Cadmium, Chromium, Copper, Nitrate, Alkalinity and Total Hardness.

Surface Water Quality

Surface water samples from six locations were collected. Location details are given in **Table 3.11.**

The surface water analysis report is given in **Table 3.12.**

Table 3.11: Surface water sampling locations

Sr.	Station Code	Name of the Location	Distance from the site (km)
1.	SW1	Mutha River	9.8
2.	SW2	Katraj lake	6.2
3.	SW3	Jambhulwadi lake	9.2
4.	SW4	Pashan lake	10
5.	SW5	Mutha river canal	9.8
6.	SW6	Khadakwasla dam	10

Table 3.12: Surface water monitoring results of January 2023

Parameters	SW1	SW2	SW3	SW4	SW5	SW6	Unit	Method Reference
Physio Chemical Parameter								
Colour	1	2	1	1	1	1	Hazen	IS 3025(Part 4):1983, Reaffirmed 2006
Odour	Agreeable	Disagreeable	Disagreeable	Disagreeable	Disagreeable	Agreeable		IS: 3025 Part-05-2018
pH value	6.5	7.0	6.58	6.5	6.55	7.20		APHA 4500, 23rd Edition:2017
Turbidity	4.8	36.9	34.6	24.5	15	<1	N.T.U.	IS:3025(part10):2019
TDS	450	628	628	329	480	60	mg/L	IS :3025(part 16):2017
Biochemical Oxygen Demand (3 days, 27 ^{0}C)	8	59	66	56	31	10	mg/L	IS 3025 (Part 44), 2019

Parameters	SW1	SW2	SW3	SW4	SW5	SW6	Unit	Method Reference
Chemical Oxygen Demand	23	178	182	114	94	30	Mg/L	APHA 4500, 23rd Edition:2017
Aluminium	<0.025	<0.025	<0.025	0.01	<0.025	<0.025	mg/L	IS: 3025 Part-02 (2004)
Calcium	32	57.7	59.3	60.8	56	12.5	mg/L	IS: 3025 Part-02 (2004)
Copper (DL:0.02)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/L	IS: 3025 Part-02 (2004)
Magnesium	28	40	40.3	7.98	30	2.26	mg/L	APHA 3500- Mg, B, 23rd Edition:2017
Nitrate	3.12	3.18	3.12	6.10	6.97	2	mg/L	IS: 3025 Part-34 - 2019
Total Alkalinity	146	35.4	152	240	180	15	mg/L	IS:3025 Part-23:2019
Total Hardness	133	308	314	192	280	18	mg/L	IS:3025 Part-21:2019
Total Nitrogen (as N)	5.4	5.08	5.16	6.52	6.14	3.07	mg/L	IS 3025 (Part 21): 1983, Reaffirmed 2006
Ammonical Nitrogen (as NH_3-N)	1.5	3.21	2.42	3.18	3.64	1.15	mg/L	By Calculations
Total Phosphorus (as P)	0.7	0.78	0.78	1.42	0.92	0.78	mg/L	APHA, 22nd Ed., 2012, 4500 NH3, B & C, 4 -112, 4-110
Cadmium (DL:0.002)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/L	IS: 3025 Part-02 (2004)
Arsenic (DL:0.005)	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	mg/L	IS: 3025 Part-02 (2004)
Microbiological Parameter								
E. coli	4	<1.1	<1.1	<1.4	<1.1	<1.1	per/100 ml	IS 1622:1981
Total Coliform	26	12	18	14	7.8	12	MPN/100 ml	IS 1622:1981
Faecal Coliform	38	8.2	11	13	12	11	MPN Index/ 100ml	APHA, 22nd Ed., 2012,9221-E, 9-74

Surface water sample was collected at six different locations within the study zone. These samples were taken and were analysed for various parameters and compared with the standards IS: 2296 (Class C).

Details of surface water sampling locations are mentioned in **Table 3.11**. The surface water sample results are mentioned in the **Table 3.12**. On carrying out the surface water monitoring at the six different places within the 10 km area of the project site, it was observed that bacteriological analysis total coliform is present hence water is polluted hence its useful only after treatment for drinking purposes.

3.5.1 Ground water monitoring

Ground Water samples were collected from surrounding of project site which is commonly used for drinking purposes. These samples were taken as grab samples and were analysed various parameters and compared with the standards for drinking water as for IS: 10500:1991.

The parameters of ground water which were observed during study period are as follows: Colour, Odour, pH, Turbidity, TDS, SS, Dissolved Oxygen, Oil & Grease, Aluminium, Anionic Detergents, Boron, Calcium, Chloride, Copper, Fluoride, Iron, Magnesium, Manganese, Nitrate, Selenium,

Sulphate, Alkalinity, Total Hardness, Phenolic Compounds, Cyanide, Cadmium, Chromium, Arsenic, Lead, Mercury, Zinc.

The samples were also analysed for finding the concentration of heavy metals in terms of zinc, lead, manganese etc. Location details are given in **Table 3.13**. Ground water analysis report is given in **Table 3.14**.

Table 3.13: Ground water sampling locations

Sr.	Station Code	Name of the Location	Distance from the site (km)
1.	GW1	Surrounding project Site	Within

Table 3.14: Ground water analysis results

Parameter	January 2023	Unit	Method
Physical Parameter			
Odour	1	--	IS: 3025 Part-05-2018
Turbidity	8.6	NTU	IS:3025(part10):2019
TDS	0.3	mg/l	IS :3025(part 16):2017
Total Suspended Solids	432	mg/l	IS: 3025 Part-17 (R.A : 2006)
Color	1	Hazen	IS:3025 (part 4):2021
Chemical Parameter			
pH	Agreeable	--	APHA 4500, 23rd Edition:2017
Total Hardness	184	mg/l	IS:3025 Part-21:2019
Total Alkalinity	162	mg/l	IS:3025 Part-23:2019
Sulphate	35.2	mg/l	IS:3025 Part-24:2019
Nitrate as NO_3	15.2	mg/l	IS: 3025 Part-34 -2019
Fluoride	0.22	mg/l	IS:3025 Part-60-2019
Elemental Analysis			
Iron as Fe	0.17	mg/l	IS:3025(part 2):2019
Cadmium as Cd	N.D.	mg/l	IS: 3025 Part-02 (2004)
Chromium as Cr	N.D.	mg/l	IS: 3025 Part-02 (2004)
Copper as Cu	<0.08	mg/l	IS: 3025 Part-02 (2004)
Lead as Pb	N.D.	mg/l	IS: 3025 Part-02 (2004)
Zinc as Zn	0.180	mg/l	IS: 3025 Part-02 (2004
Arsenic as As	N.D	mg/l	IS: 3025 Part-02 (2004)
Aluminium as Al	<0.025	mg/l	IS: 3025 Part-02 (2004)
Microbiological Parameter			
Total Coliform	Absent	MPN/100ml	IS 1622:1981
E.coli.	Absent	per/100ml	IS 1622:1981
Remark(s): ➢ For Total Coliform & *E.coli*. Absent can be consider as Zero [Refer IS:1622 (R.A.1996), Table No.-3].			

The collected samples represent open well from nearby villages and bore well. The geological strata are mainly rocky with low permeability.

Ground water is mostly used for household activities including drinking.

TSS is significantly low indicating better water quality as compared to surface waters in the same locality.

All physico-chemical parameters are within the desirable limit of BIS 10500 for drinking purposes.

Heavy metals such as copper, lead, chromium, cadmium, zinc etc. were not found in any water sample.

3.6 Solid Waste

The population of the Pune city is approximately **94,29,408** persons (2011 census), which generates considerable amount of solid waste daily. Solid waste contains bio-degradable and non-biodegradable components. The dumping of garbage not only affects aesthetics of the area, but poses a health hazard. The constituents of solid waste can be broadly classified as biodegradable waste, paper, and plastic, glass, metal, bio resistant, inert and other. Bio resistant material includes leather, rubber and other synthetic material.

3.7 Land Environment

Land use and Land cover Classification:

The National Remote Sensing Agency (NRSA), Government of India, conducted a land use survey using Remote Sensing Techniques in the year 1988-89 at the behest of the Planning Commission for classifying land by visual interpretation techniques and digital techniques. NRSA's output resulted in a two-level system of classification, comprising seven primary land use / land cover categories. Some of these primary categories required further delineation, leading to a second level of classification that resulted in further sub-categories.

This system of classification has been the basis for our land use / land cover studies. Whilst these categories are generally found relevant with respect to describing land use and land cover classes in the Indian context, sometimes modifications are required, and made, to include additional sub-categories, which are more relevant in describing the land use and land cover for a particular study.

Methodology

- Study and collection of relevant documents and maps.
- Interpretation of Satellite Imagery.
- Checking of Imagery.
- Field Survey for Ground Truthing.
- Generation of Final Landuse and Landcover Map.

Data Acquisition

- Procuring of remote sensing data using the licensed software, ArcGIS Earth and Google Earth Pro, having high resolution (< 1.0 m) imagery.
- Topographical maps as base maps.
- District Resource Map as base maps.
- Rapid Reconnaissance Survey of the study area by technical team to get preliminary notion of the entire area aiding in interpretation of the data.

Interpretation of Data

The downloaded imagery was interpreted considering the basic elements of interpretation such as size, shape, texture, pattern, location, association, shadow, aspect and resolution along with ground truth and ancillary information collected during the preliminary reconnaissance survey.

Field Survey/Ground Truthing

The aim of ground truth studies is to confirm whether the interpreted land uses are correct thus improving the quality of the output. It also allows interaction with local parties and stakeholders, thereby giving background information on the land use. Ground truth was carried out to check the discrepancy of the interpreted data. The survey consisted of traversing the study area, cross-checking of identified features with those represented on the map. Field notes were kept in the form of log sheets that recorded information pertaining to co-ordinates and identified land uses. Additional features identified or remarks made against existing interpretation were also recorded.

GPS readings were taken during the surveys wherever it was felt that additional confirmation in interpretation of the data and also observations of land features were noted. Additionally, spot checks were also done to confirm the land use / land cover interpretation even where confidence of interpretation was high.

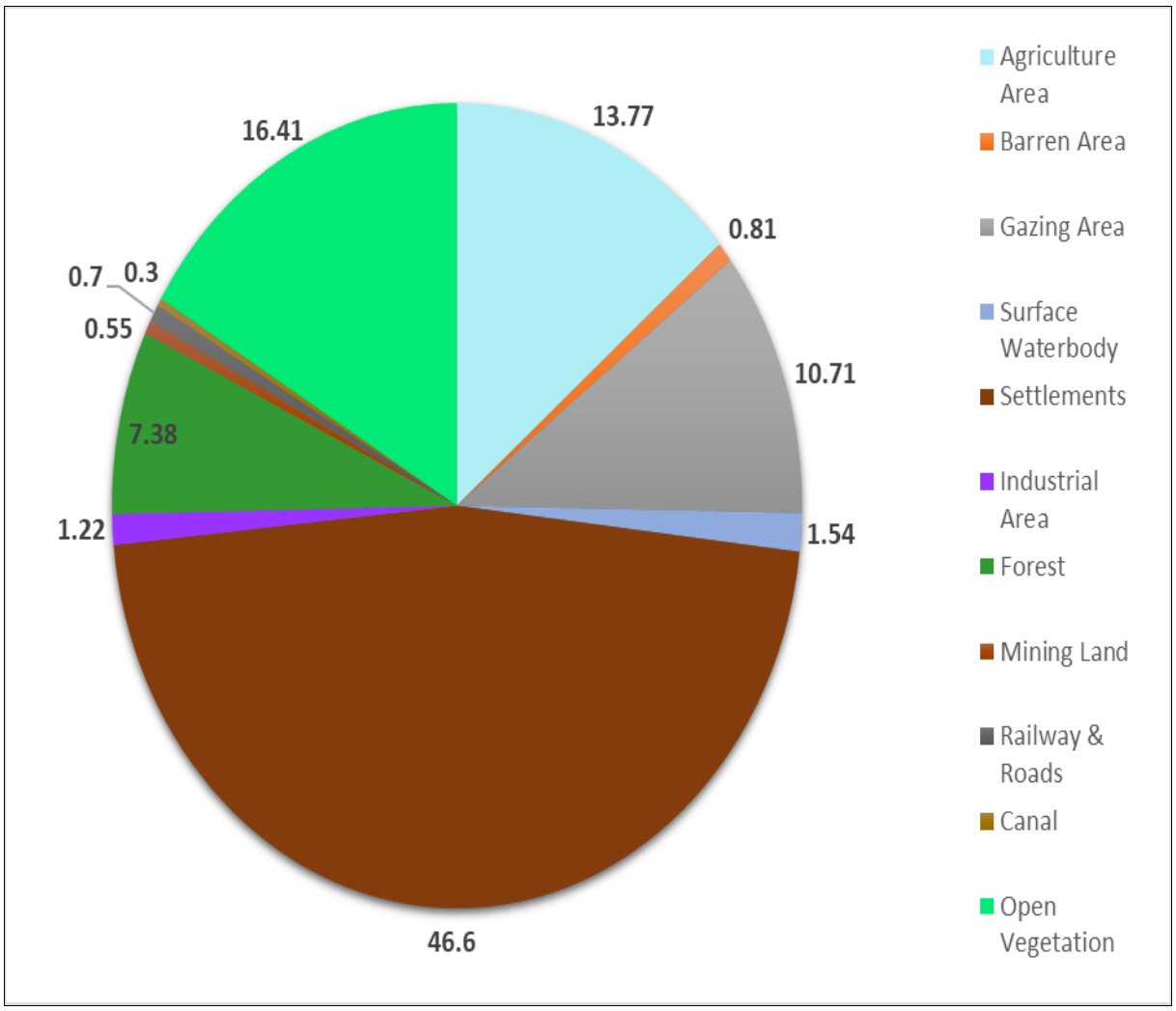
Class wise Area Statistics of Brahma Exuberance Project

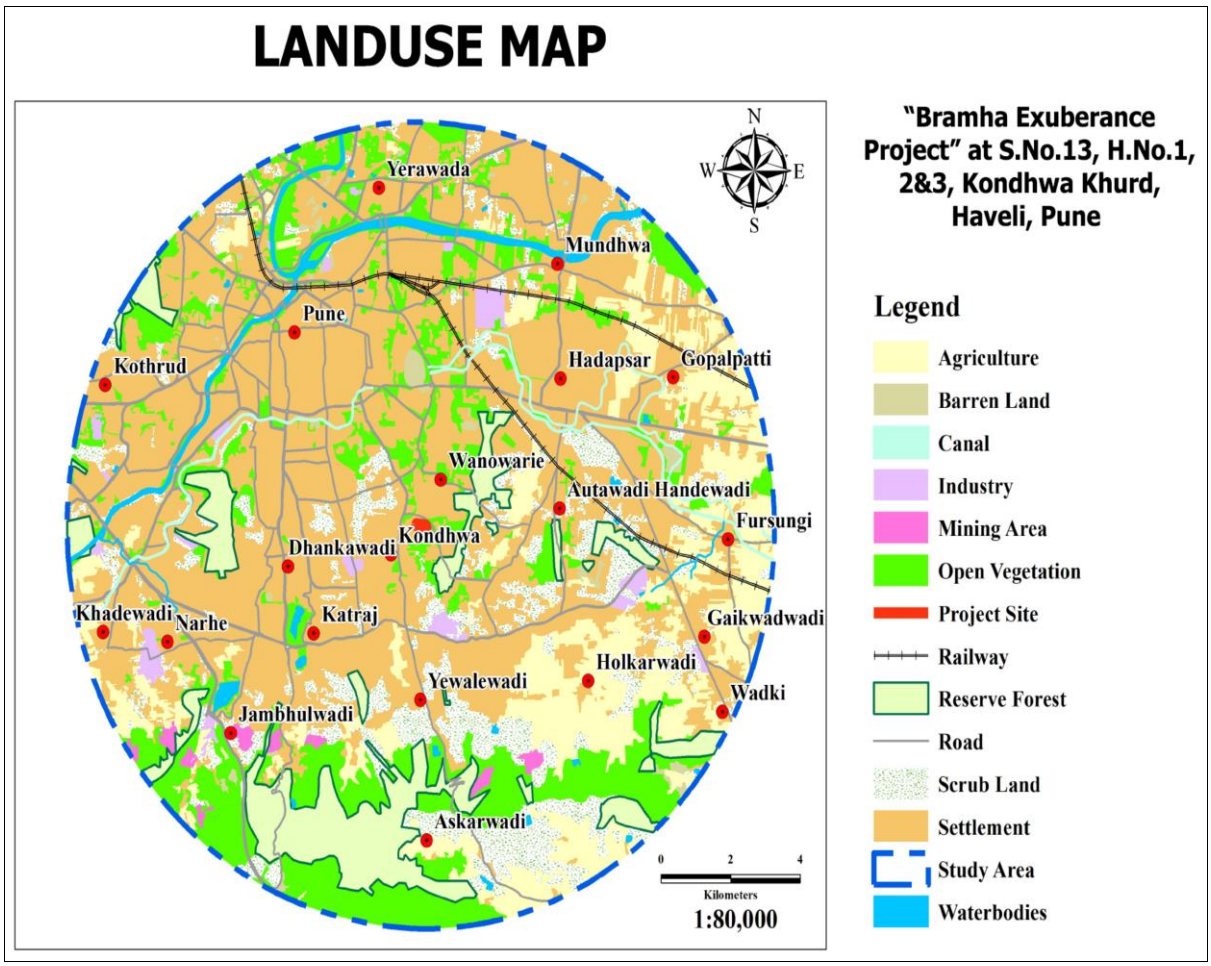
Table 3.15: Land use Pattern within 10 km Radius of the Study Area

Sr. No.	Landuse and Landcover Classification	Area (km^2)	Area %
1	Agriculture Area	43.09	13.77
2	Barren Area	2.54	0.81

Sr. No.	Landuse and Landcover Classification	Area (km²)	Area %
3	Gazing Area	33.53	10.71
4	Surface Waterbody	4.83	1.54
5	Settlements	145.85	46.60
6	Industrial Area	3.82	1.22
7	Forest	23.10	7.38
8	Mining Land	1.72	0.55
9	Railway & Roads	2.20	0.70
10	Canal	0.94	0.30
11	Open Vegetation	51.36	16.41
	Total	312.98	100

Figure 3.3: Land Use Category of Study Area





3.8 Geology

Pune is the second largest district of Maharashtra State in respect of area. The district has a geographical area of 15,642 sq. km., which is 5.08% of the total area of State. It is situated in the western part of the State and lies between north latitude 17°54' and 19°24' and east longitudes 73°2 9' and 75°10' and falls in parts of Survey of India degree sheets 47-E, 47-F, 47-I, 47-J, 47-K, 47-N and 47-O. It is bounded by Ahmednagar district in the north and east. Satara and Solapur districts in south and south east, respectively and Thane and Raigarh districts in north west and west, respectively.

For administrative convenience it is divided in 14 talukas namely Pune City, Haveli, Khed, Ambegaon, Junnar, Shirur, Daund, Indapur, Baramati, Purandhar, Bhor, Velhe, Mulsi and Maval. The hydrogeology and Geomorphology maps published by geological survey of India for Pune are presented in **Figure 3.4 & 3.5**.

Figure 3.4: Hydrogeology of Pune

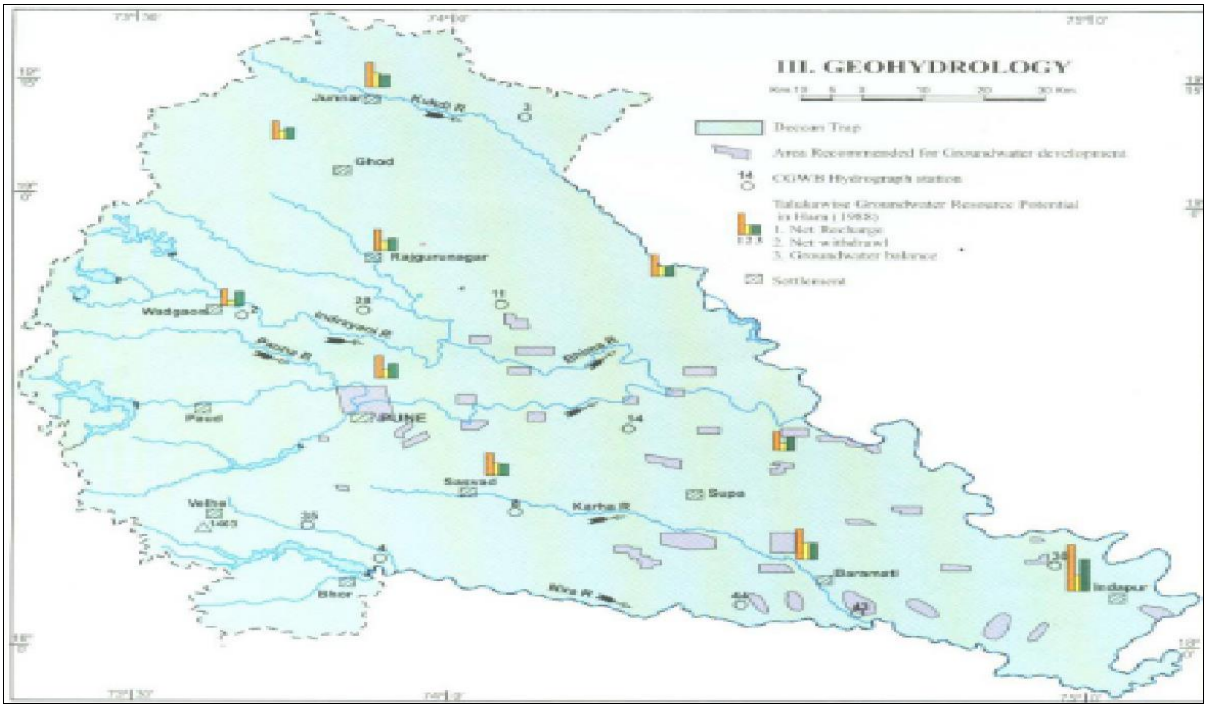


Figure 3.5: Geomorphology of Pune

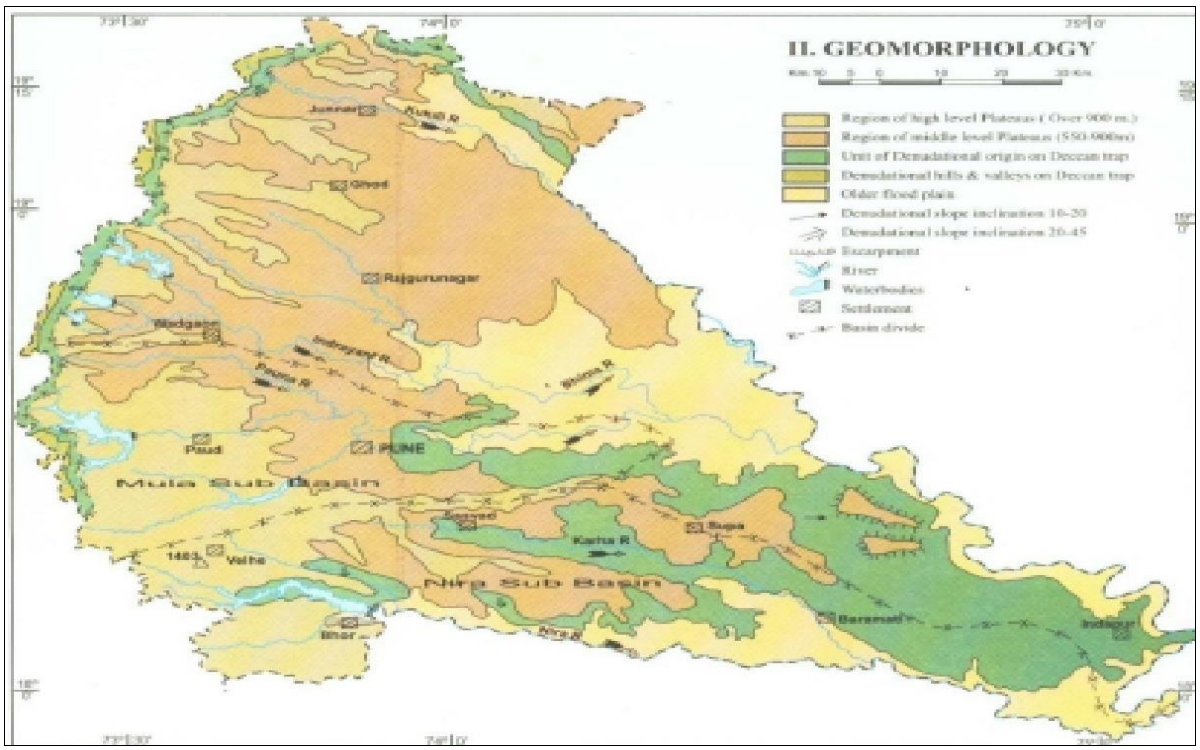
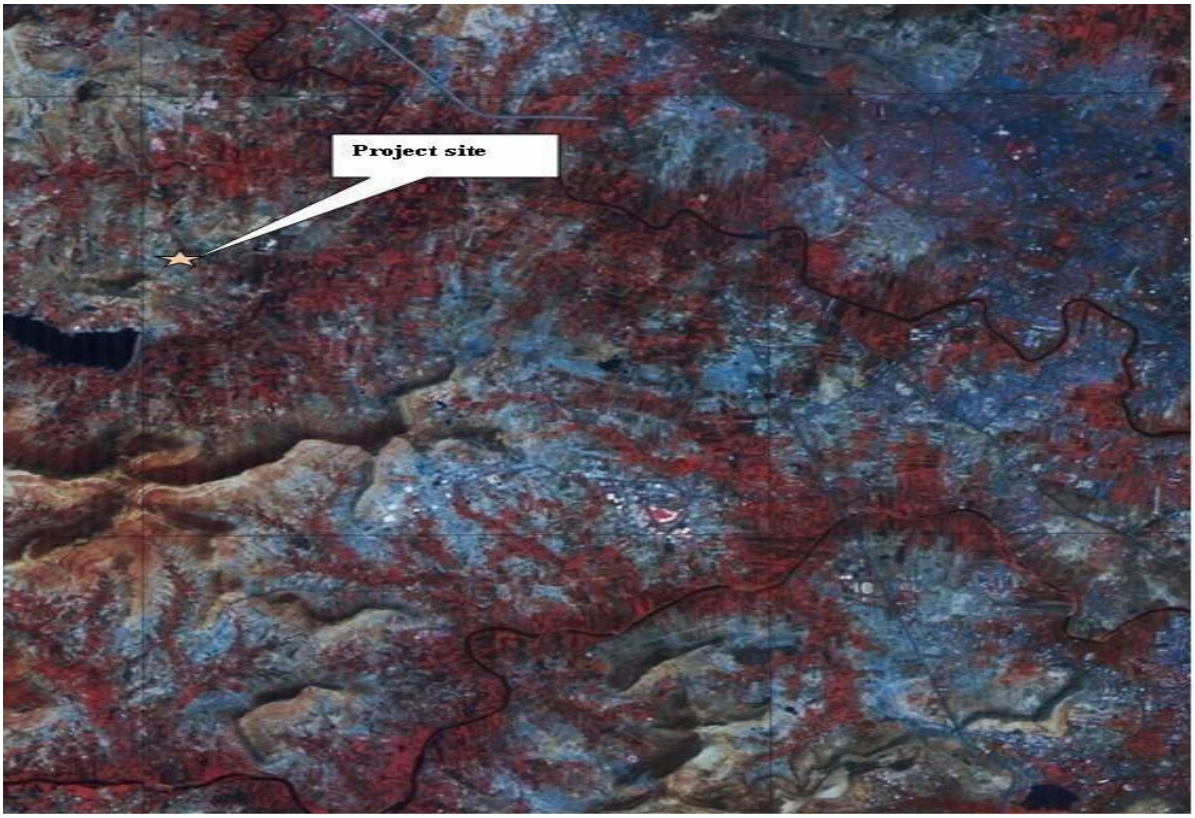


Figure 3.6: Satellite imaginary at Pune city



Physiology and Soil Type

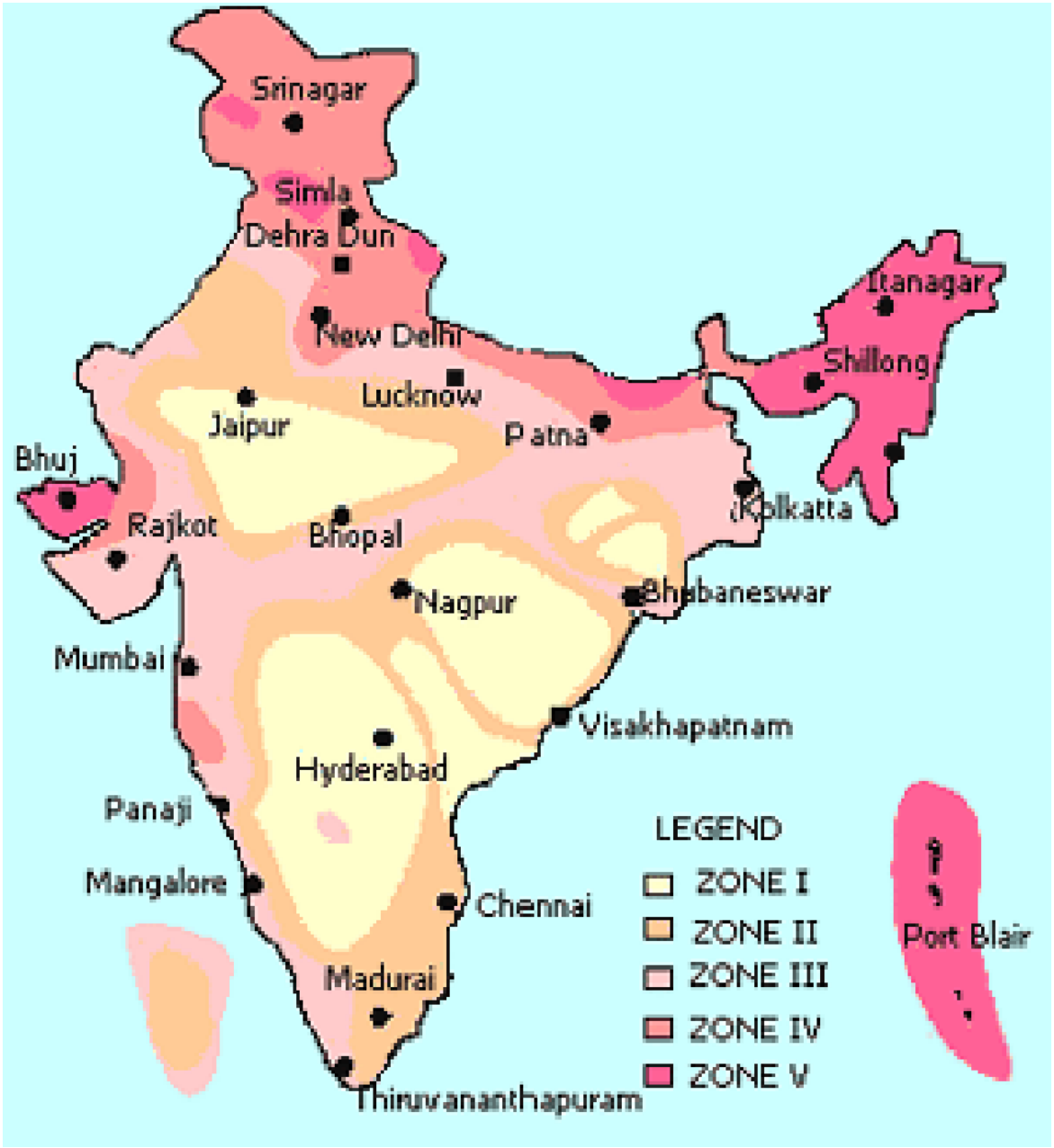
The topography of the district is distributed in a triangular fashion at the foothills of Sahyadri Mountains. It is divided in to three parts; Ghatmatha, Maval and Desh. The District of Pune falls under the tropical monsoon land and therefore shows quite a marked seasonal variation in temperature as well as rain water conditions. The climate in western Pune is cool, whereas eastern region remains hot and dry. Due to topography and geographical conditions within the district, the rainfall within the district is rather unevenly distributed.

Soil sample was collected on the site to establish the baseline characteristics. Soil samples have been collected using auger from a depth of 60 cm from the project site.

3.9 Seismology

Pune is classified under the Zone III of the Bureau of Indian Standards (BIS) 2000 seismic zone map for India as seen in **Figure 3.7**. Zone III is defined as having a maximum intensity expected around VII on MM scale.

Figure 3.7: Seismic Zones of India

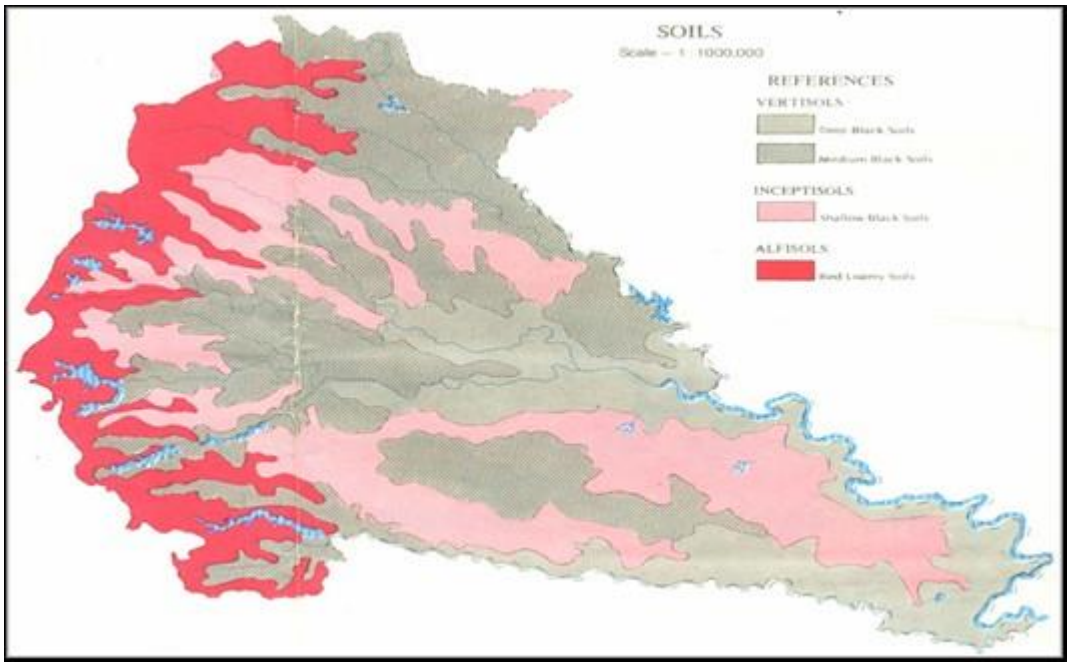


Structurally, proposed project at Pune has been designed to meet seismic requirements of Zone III.

3.10 Soil

Soil sample was collected on the site to establish the baseline characteristics. Soil samples have been collected using auger from a depth of 60 cm from the project site. The soil characteristics in the study are shown in **Figure 3.8**.

Figure 3.8: Soil Characteristics in the study area



The soil samples were analysed for physical and chemical characteristics. The locations of soil analysis are shown in **Table 3.16.** The results of the analysis are given in **Table 3.17.**

Table 3.16: Location of soil analysis

Sr.	Station Code	Name of the Location	Distance from the site (km)
1.	S1	Project site	Within
2.	S2	Shivneri Nagar	1.10
3.	S3	Siddharth Nagar	1.60
4.	S4	Kubera Garden	0.95
5.	S5	Metta Nagar	2.00
6.	S6	Kedrai Nagar	2.00
7.	S7	Shreehans Nagar	2.00
8.	S8	Betal Nagar	2.00

Table 3.17: Soil Analysis Report of January Month

Sr.	Parameter	S1	S2	S3	S4	S5	S6	S7	S8	Unit	Method
1.	Texture	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	-	WI/SAP-Soil/5/03
2.	Moisture	12.8	10	13.4	12	11.2	9.4	10.7	11.3	%	WI/SAP-Soil/5/02, Issue no. 03, Issue date: 01.04.2014, based on Ref. WLII, Sec. B2, Page no.6
3.	pH (1:5 suspension)	7.04	7	8.3	7.18	7.15	7.05	8.18	7.25	-	FAO, Sec. III, 1, Page no.65
4.	Electrical Conductivity (1:5 Suspension at 250C)	0.198	0.180	0.179	0.204	0.198	0.187	0.195	0.174	mmho/cm	FAO, Sec. III,5, Page no.85
5.	Potassium (as K)	300	294	276	332	254	314	302	282	mg/kg	USEPA/SW 846/7000B

Sr.	Parameter	S1	S2	S3	S4	S5	S6	S7	S8	Unit	Method
6.	Magnesium (as Mg)	7.48	8.13	7.36	8.16	8.4	8	7.28	8.62	mg/kg	FAO Sec. III .8-1, Page No. 115
7.	Calcium (as Ca)	26	30	32	34	26	34	32	28	mg/kg	FAO Sec. III .8-1, Page No. 115
8.	Sodium (Na)	7	7.32	8.12	7.22	7.05	7.23	7.12	7.26	mg/kg	USEPA/SW 846/7000B
9.	Cation Exchange Capacity	20.2	21.8	21.3	23.4	23.4	24.5	18.3	23.4	meq/100g	FAO Sec. III .7-2, Page No. 104
10.	Sodium Absorption Ratio	61	54.2	52.3	58.3	54.7	61.8	60.2	50.9	-	ISRIC 2006, Page No.13-58/59
11.	*Porosity	33	32.8	32	30.7	34.5	32	31.8	36.4	-	WI/SAP/S/5/19
12.	*Permeability	6.18	7.6	7.4	7.5	6.5	6	6.12	6.2	-	WI/SAP/S/5/20
13	*Water Holding Capacity	40	28	36	42	34	42	39	30	%	WI/SAP/S/5/18
Note: All results are on air dry basis. FAO: Food & Agriculture Organization, United Nations											

At the project site, the soil was found to have a pH was 7.04, indicating a neutral condition that falls within the acceptable range and can support plant growth. Soil Electrical Conductivity (EC) assessments measure the soluble salts in the soil. EC of soil depends upon the porosity, water content, salinity level, cation exchange rate and temperature. The EC of project site soils was observed in at 0.198 Mmhos/cm.

The cation exchange capacity (CEC) of a soil refers to the amount of positively charged ions which can be held by soil. When dissolved in water, the nutrients are either positively charged or negatively charged. Examples of positively charged ions (cations) include: calcium (Ca^{++}), magnesium (Mg^{++}), potassium (K^{+}), sodium (Na^{+}), hydrogen (H^{+}) and ammonium (NH_4^{+}). The CEC analysis of the soil sample was observed as 20.2 meq/100gm.

Table 3.18: Chemical Classification of Soil Quality

Sr.	Soil Test	Classification
1	pH	4.5 Extremely acidic 4.51- 5.50 Very strongly acidic 5.51-6.00 moderately acidic 6.01-6.50 slightly acidic 6.51-7.30 Neutral 7.31-7.80 slightly alkaline 7.81-8.50 moderately alkaline 8.51-9.0 strongly alkaline 9.01 very strongly alkaline
2	Salinity Electrical Conductivity (mmhos/cm) (1ppm = 640 mmhos/cm)	Upto 1.00 Average 1.01-2.00 harmful to germination 2.01-3.00 harmful to crops (sensitive to salts)
3	Organic Carbon (%)	Upto 0.2: very less 0.21-0.4: less 0.41-0.5 medium, 0.51-0.8: on an average sufficient 0.81-1.00: sufficient >1.0 more than sufficient

Sr.	Soil Test	Classification
4	Nitrogen (Kg/ha)	Upto 50 very less 51-100 less 101-150 good 151-300 Better >300 sufficient
5	Phosphorus (Kg/ha)	Upto 15 very less 16-30 less 31-50 medium 51-65 on an average sufficient 66-80 sufficient >80 more than sufficient
6	Potash (Kg/ha)	0 -120 very less 120-180 less 181-240 medium 241-300 average 301-360 better >360 more than sufficient

3.11 Biological Environment

3.11.1 Approach

Study of biological environment is one of the important aspects in environmental impact assessment in view of the need for conservation of environmental quality. Natural flora and fauna are the two important components of the biological environment of the ecosystem. They are organized into natural communities and constantly interact with their physical environment as well as among themselves. They show various responses and sensitivities to outside influences. The need to assess the change in status of the animal and plant resources is the primary requirement for a meaningful assessment. In view of this, baseline studies of biological environment with reference to terrestrial and aquatic ecosystem under the study area were carried out. Information regarding ecological resources was collected through field visits and from records of different Government Departments.

The main objective of biological survey is to collect the baseline data regarding flora and fauna in the study area. Data has been collected through extensive survey of the area with reference to flora and fauna. Information is also collected from different Government Departments, such as Social Forestry, Animal Husbandry & Forest Office of Pune, Government of Maharashtra. On the basis of onsite observations as well as forest department records the checklist of flora and fauna was prepared.

Assessment of Flora

The vegetation in the surrounding area was studied randomly to assess the representative flora in and around the project site. Total 392 no. of trees existed on project site. The list of the herbs broadly found in the

study area is presented in the enclosed tables. Similarly, the list of shrubs and trees is also presented in enclosed **Table 3.19**.

Table 3.19: List of common plant species

Sr.	*Scientific Name (Botanical name)*	Name of species (Common name)
1.	*Peltophorum pterocarpum*	Copper Pod
2.	*Ficus benjamina*	Weeping Fig
3.	*Grevillea Robusta*	Silky Oak
4.	*Araucaria columnaris*	Christmas Tree
5.	*Butea monosperma*	Palash
6.	*Nyctanthes arbor-tristis*	parijat
7.	*Plumeria rubra*	Chafa
8.	*Aegle marmelos*	Bael
9.	*benghalensis*	Banyan
10.	*Mangifera indica*	Mango
11.	*Myroxylon Balasarum*	Guava
12.	*Tecoma stans*	Yellow Bells
13.	*Cordia sebestena*	Geiger tree
14.	*Bambusa Vulgaris*	Bamboo
15.	*Leucaena leucocephala*	River tamarind
16.	*Azadirachta Indica*	Neem
17.	*Bauhinia variegata*	(Orchid) Kanchan tree
18.	*Citrus limon*	lemon
19.	*Citrus sinensis*	Sweet orange
20.	*Swietenia*	Mahogany
21.	*Thespesia populnea*	Indian tulip tree
22.	*Saraca asoca*	Ashoka tree
23.	*Bauhinia variegata*	(Orchid) Kanchan tree
24.	*Citrus limon*	lemon
25.	*Citrus sinensis*	Sweet orange
26.	*Swietenia*	Mahogany
27.	*Thespesia populnea*	Indian tulip tree
28.	*Saraca asoca*	Ashoka tree
29.	*Leucaena leucocephala*	Subabhal
30.	*Religiosa*	Pimpal
31.	*Cascabela thevetia*	Bitti (Kaner)
32.	*Khaya senegalensis*	Khaya
33.	*Murraya paniculata*	Kamini (Jasmine)
34.	*Syzgium cumini*	Jamun tree
35.	*Annona squamosa*	Custard apple
36.	*Grevillea robusta*	Silveroak
37.	*Lagerstroemia speciosa*	Tamhan
38.	*racemosa*	Umbar
39.	*Prunus Dukis*	Badam

Fauna observed in study area

According to the available data the livestock population in the Pune district includes cows, bullocks, buffaloes, donkeys, goat, poultry birds, dog, cat etc.

As far as birds are concerned, the most common birds observed at various places were crow, sparrow, myna, dove, bulbul, pigeon, etc.

Plantation & Landscaping

Selection of the plant species have been done on the basis of their adaptability to the existing geographical conditions and the vegetation composition of the region. During the development of the green belt within the project area, emphasis have given on the selection of plant species like nitrogen fixing species, species of ornamental value, species growing very fast with good canopy cover etc. Plantation details of site are given in the Table 3.20.

Table 3.20: List of planted trees on site

Sr.	*Scientific Name (Botanical name)*	Name of species (Common name)	No.
1.	Peltophorum pterocarpum	Copper Pod	59
2.	Acorus calamus	Sweet Flag (Vacha)	15
3.	Ficus benjamina	Weeping Fig	73
4.	Grevillea Robusta	Silver Oak	11
5.	Araucaria columnaris	Christmas Tree	3
6.	Butea monosperma	Palash	1
7.	Nyctanthes arbor-tristis	parijat	7
8.	Plumeria rubra	Chafa	22
9.	Aegle marmelos	Bael (Bilwa)	2
10.	benghalensis	Banyan	1
11.	Mangifera indica	Mango	9
12.	Myroxylon Balasarum	Guava	1
13.	Tabebuia	Pink Rosy Trumpet	16
14.	Spathodea campanulata	African Tulip Tree	20
15.	Leucaena leucocephala	River Tamarind	3
16.	Tecoma	Yellow Bells	70
17.	Cordia sebestena	Geiger tree	3
18.	Bambusa Vulgaris	Bamboo	8
20.	Umbrella Tree	Octopus Tree	1
21.	Cordia dichotoma	Indian Cherry (Bhokar)	7
22.	Azadirachta Indica	Neem	6
23.	Alstonia scholaris	Blackboard tree	8
24.	Santalum album	Sandalwood	2
25.	Bauhinia variegata	(Orchid) Kanchan tree	8
26.	Citrus limon	lemon	5
27.	Citrus sinensis	Sweet orange	1
28.	Swietenia	Mahogany	5
29.	Thespesia populnea	Indian tulip tree (Bhendi)	1
30.	Saraca asoca	Ashoka tree	1

Sr.	*Scientific Name (Botanical name)*	Name of species (Common name)	No.
31.	Prunus avium	Cherry	2
32.	Cascabela thevetia	Bitti (Kaner)	5
33.	Khaya senegalensis	Khaya	1
34.	Murraya paniculata	Kamini (Jasmine)	4
35.	Syzgium cumini	Jamun tree	1
37.	Annona squamosa	Custard apple	1
38.	Lagerstroemia speciosa	Tamhan	4
39.	racemosa	Umbar	1
40.	Prunus Dukis	Badam	2
41.	Leucaena leucocephala	Subabhal	1
42.	Religiosa	Pimpal	1
Total			**392**

Figure 3.9: Landscape plan

Figure 3.10: Photographs of planted trees

3.12 Socio Economic Environment

The social environment refers to demographic structure of the area incorporating population dynamics, infrastructure resource base and health status of the community, while economic environment refers to land utilization pattern, land values, employment generation, industrial development and sustainability of the project in financial terms. The aesthetic environment refers to scenic value of the area, tourist attraction, forest and wildlife, historic and cultural monuments.

A reconnaissance survey of the study area was conducted during the study period considering the socio-economic condition of the study area. Data about the villages was collected both from secondary and primary sources. The secondary sources of data were primarily the Census data (year 2011) supplied by the Registrar General of India. Details are shown in **Table 3.22**.

In 2011, Pune had population of 94,29,408 of which male and female were 49,24,105 and 45,05,303, respectively. In 2001 census, Pune had a population of 72,32,555 of which males were 37,69,128 and remaining 34,63,427 were females. Pune District population constituted 8.39 percent of total Maharashtra population. In 2001 & 2011 census, this figure for Pune District was at 7.47 percent of Maharashtra population. The population census abstracts of 2011 is shown in **Table 3.21**

Table 3.21: Population of Pune district (Census 2011)

Description	2011	2001
Actual Population	9,429,408	7,232,555
Male	4,924,105	3,769,128
Female	4,505,303	3,463,427
Population Growth	30.37%	30.73%
Area Sq. km	15,643	15,643
Density/km^2	603	462
Proportion to Maharashtra Population	8.39%	7.47%
Sex Ratio (Per 1000)	915	919
Child Sex Ratio (0-6 Age)	883	902
Average Literacy	86.15	80.45
Male Literacy	90.84	88.34
Female Literacy	81.05	71.89
Total Child Population (0-6 Age)	1,104,959	968,851
Male Population (0-6 Age)	586,665	509,367
Female Population (0-6 Age)	518,294	459,484
Literates	7,171,723	5,039,290

Description	2011	2001
Male Literates	3,940,210	2,879,761
Female Literates	3,231,513	2,159,529
Child Proportion (0-6 Age)	11.72%	13.40%
Boys Proportion (0-6 Age)	11.91%	13.51%
Girls Proportion (0-6 Age)	11.50%	13.27%

(Source : http://www.census2011.co.in/district.php)

Table 3.22: Population Census Abstract 2011

Name	No.of hhs	Total population	Population (0-6)	SC Population	ST population	Literate Population	Sex Ratio	Literacy Rate
Pune	21,51,503	94,29,408	11,04,959	11,80,703	3,48,876	71,71,723	915	76.06
Junnar	85,864	3,99,302	42,941	17,922	80,922	29,8644	973	74.79
Ambegaon	50,357	23,5972	24,375	9,757	50,704	1,75,489	979	74.37
Shirur	80,917	3,85,414	47,921	32,885	12,030	2,78,001	916	72.13
Khed	99,477	4,50,116	56,102	30,409	49,291	3,18,253	892	70.70
Mawal	78,233	3,77,559	46,644	36,325	29,208	2,72,615	902	72.20
Mulshi	38,014	1,71,006	23,041	18,092	7,418	1,15,913	899	67.78
Haveli	5,86,551	24,35,581	3,16,215	3,75,246	50,677	18,68,784	850	76.73
Pune City	7,81,507	33,04,888	3,55,703	4,46,602	36,708	26,45,434	943	80.05
Daund	78,294	3,80,496	46,713	57,273	9673	2,63,989	939	69.38
Purandhar	51,259	2,35,659	25037	17053	6076	1,73,860	965	73.78
Velhe	11,428	54,516	6213	2635	2032	36,690	982	67.30
Bhor	39,007	1,86,116	20,599	11,090	5,414	1,34,756	977	72.40
Baramati	90,912	4,29,600	47,668	64,334	3,957	3,14,208	943	73.14
Indapur	79,683	3,83,183	45,787	61,080	4,766	2,75,087	927	71.79

(Source : http://www.census2011.co.in/district.php)

Socio-economic Survey

A survey pertaining to the subjective analysis of the socio-economic indicators to assess the perception of the inhabitants in the study area as well as the project is undertaken. This also in general reflects on the 'Quality of Life' in this region. The indicators refer to housing, occupation, education and health status, availability of fuel, water supply, sanitation and transportation. Besides this, expectations and aspirations from the project are also discussed.

The salient observations arising out of survey are:

The proportion of male and female respondents in the interview varies from 40 - 70%. Most of the respondents have either semi pucca or pucca houses. This is also evident from the wealth status as most of the respondents have reported their monthly income falling in the range of Rs.5000/- to Rs.8000/- and up to Rs. 15,000/per month.

Most of the respondents are engaged in agricultural farming and labour and some of them run small scale business. Amenity near the project site shown in **Table 3.24**. **Table 3.25** shows Eco sensitive, archaeological & heritage sites near the project site.

Table 3.23: Amenity near the project site

Sr.	Location	Distance (km)
	Hospitals	
1	Olive Multispecialty Hospital	0.60
2	Lifeline Hospital	0.65
3	Sana Hospital	0.75
4	Laproscopy Hospital	1.10
	Colleges	
1	SCOPE Paramedical College	0.90
2	Guardian College of Education	1.00
3	K J Engineering College	1.10
4	RIMS International School and Junior College	1.20
5	Abhigyanam Institute	1.40
6	St. Mathews Academy and Junior College	1.50
7	Rosary School & Junior College	1.70
8	Oasis College of Science & Management	1.80
	School	
1	Limelight Learning School	0.35
2	City World School	0.70
3	Jaza Pre School	0.75
4	Swan International School	0.95
	Hotels	
1	Hotel Mudra	0.45
2	The Village Pune Restaurant	0.45
3	Madinah Restaurant	0.55
4	Hotel Royal Paradise	0.60
5	Garib Nawaz Hotel	0.80
6	Jyoti Pure Veg Restaurant	0.85
7	Trimurti Hotel	1.10
8	Jashn Restaurant	1.20
8	Hotel Ekaant	1.50
9	Hotel Palm Royale Pune	1.60
10	Hotel Green Leaves	1.70
11	Beverly Hills Hotel	2.90
12	Hotel Viraj	3.40
13	United Star Hotel	3.50
14	Kedari Residency	4.30
15	Bismillah Hotel	4.40
	Bus stops	
1	Shivarkar Udyan Bus Stop	3.50
2	Wanwadi Corner Bus Stop	3.60
	Bank & ATM	
1	DCB Bank - Kondhwa	0.50
2	State Bank of India	0.70
3	Bank of Maharashtra	0.75
4	Axis Bank	0.80
5	Pune Merchants Co-operative Bank Limited	1.00
6	SVC Bank	1.20
7	SBI ATM	0.75

Sr.	Location	Distance (km)
8	IndusInd Bank ATM	0.85
9	HDFC Bank ATM	0.95

Table 3.24: Eco Sensitive Areas, Archaeological and Heritage sites near the project site

Sites	Distance in km
Eco sensitive Areas	
Bhimashankar Wild Sanctuary	106
Mayureshwar Wild Sanctuary	68.7
Archeological Structures	
Sinhgad Fort	37.6
Rajgad Fort	140
Heritage Sites	
Shaniwar Wada	8.8
Parwati	7.4
Agakhan Palace	13.2
Pataleshwar Mandir	9.8
Lakes	
Katraj Lake	6.2
Jambhulwadi Lake	9.2
Pashan Lake	10
Rivers	
Mutha River	9.8
Mutha River canal	9.8

Chapter 4
Anticipated Environmental Impact and Mitigation Measures

4.1 Introduction

Environmental impact assessment involves identification, prediction and evaluation of potential impact of the proposed activities within the study area. The baseline setting for the environmental components is documented in the previous chapter whereas the present chapter discusses potential impact faced during the use phase.

The impact identification and prediction process aim to

- Identify potential source or cause of impact throughout the life of the project.
- Characterize the potential impact affecting a target or receptor (physical, human and socio-economic).
- Assess the potential of changing likelihood of impact through Environmental Management Plan (EMP).

4.2 Pollution sources

Pollutants generated in the development of project during the operation phases were solid, liquid and gaseous in nature. Also, the generation of pollution was continuous, periodic or accidental in nature. Sources of pollutants and their characteristics during the operational phase are given below in **Table 4.1**

Table 4.1 : Pollutant sources and characteristics

Sr.	Activity/ Area	Pollutant	Pollutant Characteristics	Frequency
	Operational phase			
1	Vehicular movement	Air emissions and Noise	Vehicle exhaust emissions	Continuous/Periodic
2	Diesel generators	Air emissions	SO_2, NO_x, $PM_{2.5}$, PM_{10} from fuel burning	Periodic during power failure
		Noise	Noise due to running of equipment	Periodic during power failure
		Hazardous waste	Used Oil Generation	Periodic, during oil changes
3	Sewage treatment Plant	Solid waste	Settled and stabilized sludge	Continuous
		Treated water	Treated sewage used for horticulture	Continuous
		Solid waste	Settled sludge during tank cleaning	Occasional
4	Diesel Storage	Oil	Oil spillage - Accidental large spills due to pipe rupture	Accidental / Only due to poor housekeeping
			Oil Spillage - Small quantities due to	

Sr.	Activity/ Area	Pollutant	Pollutant Characteristics	Frequency
			small leakage in pipe	
5	LPG Cylinders	Thermal / Blast Effect	Accidental Explosion due to LPG leaks and fire	Accidental
6	Maintenance / house-keeping	Wastewater	Floor washing	Continuous
		Solid waste	Used equipment parts and garden wastes	Continuous
7	Air conditioners	Air emission	Ozone Depleting Substance release	Continuous
8	Vehicle Parking Area	Oil Spills	Minor oil leaks in parking lot	Continuous - small quantities
9	Storm water drains	Waste water	Contamination discharge from site - Mainly suspended solids	During rainy season

4.3 Project Activities

Project activities that are summarized in **Table 4.2** from an impact identification perspective under three distinguishable phases.

Table 4.2 : Project Activity

Operation Phase
➢ Liability period O&M activities a responsibility of proponent: • Building repair and maintenance • Plumbing repairs • Housekeeping • Electrical repairs • Lift O&M • Carpentry related repairs • Associated infrastructure utility/facility O&M • Community infrastructure utility/facility O&M

4.4 Impact Evaluation

Impact Criteria and Ranking

All project environmental activities/aspects were comprehensively identified for the proposed project operational phase. The level of impact that may result from each of the activity component interactions are assessed based on subjective criteria in this chapter.

Based on standard environmental assessment methodologies, three key elements are considered for this analysis.

Severity of Impact

The degree of damage that may be caused to the environmental components concerned. This will be decided by the standards available for the parameter. To decide severity a scale is essential. This scale is assumed to be percentage value of the parameter with respect to the

existing standard. The 0 reading would be considered as 0% and the standards valued will be considered as 100%. For example, SO_x standard is 80 microgram / m^3. In this case if a project depicts baseline or prediction value as 80 microgram/ m^3 then the value in terms of scale is considered as 100%. If a project depicts baseline or predicted value as 72 microgram/ m^3 then the value is 90%. Based on this scale three levels of severity are considered which are defined below.

Severity 1 (Low)	The baseline and / or predicted value is less than 90%
Severity 2 (Moderate)	The baseline and / or predicted value is between 90% to 110%
Severity 3 (High)	The baseline and / or predicted value is more than 110%

Extent of Impact

The geographical spread of the impact around project location and corridors of activities. Extent of the project impact is based on the impact's extent beyond the project boundary. As per the model ToR for Building and Construction Manual by MoEF (2010), the primary impact zone is 500 m from the project boundary. Based on this data the scale of extent of impact is defined as below.

Extent 1 (Low)	The extent of the impact is within the project boundary.
Extent 2 (Moderate)	The extent of the impact is within 500 m from the project boundary.
Extent 3 (High)	The extent of the impact is beyond 500 m from the project boundary.

Duration of Impact

The time for which the impact lasts taking into account the project lifecycle. Any impact that is going to happen because of the operation of the project will continue throughout the life of the project. Hence, these impacts are categorized based on their likely occurrence or frequency. These are defined in the following manner.

Ope. Duration 1 (Low)	Rare (e.g. D. G. set operation)
Ope. Duration 2 (Moderate)	Periodic
Ope. Duration 3 (High)	Regular (e.g. traffic generated by the project occupants)

A positive or beneficial impact that may result from this project is not ranked and is depicted in the form of ++.

Impact Significance

The significance of the impact is adjudged based on a multiplicative factor of the three element rankings mentioned above. The **Table 4.3** below assigns impact significance in the scale of Low-Medium-High and will be used for delineation of preventive actions, if any, and management plans for mitigation of the impacts.

The impact significance is determined taking into account the measures which are factored at the design and planning phase of the project. Legal issues are taken into account in the criteria sets, wherever appropriate, to aid in Prestige Estates Projects Limited effort to comply with all relevant legislations. Additionally, the results of quantitative impact prediction exercise, wherever undertaken, are also fed into the process.

Table 4.3 : Criteria Based Significance of Impact

Severity of Impact (A)	Extent of Impact (B)	Duration of Impact (C)	Impact Significance (A x B x C)	
1	1	1	1	LOW
1	1	2	2	
1	2	1	2	
2	1	1	2	
2	1	2	4	
1	2	2	4	
3	1	2	6	Medium
1	3	2	6	
2	2	2	8	
3	2	2	12	
2	3	2	12	
2	2	3	12	
3	3	2	18	High
3	2	3	18	
2	3	3	18	
3	3	3	27	
Impact is Beneficial -			++	

To assist in determining and presenting the significance of an impact, an impact evaluation matrix was developed. The significance of the impact is depicted using colour codes for easy understanding. In the case that an environmental component might be impacted by more than one project activity the higher impact significance ranking is taken as the significance ranking for the subject receptor. Impacts that are determined to have high significance ranking of ">12" are considered to be significant and hence require examination in terms of preventive actions and/or required additional mitigation to reduce the level of the potential impact.

The critical areas of environmental concerns for which the impact and its predictions are taken into consideration are mainly:

- Air Environment
- Water Environment
- Noise Environment
- Land Environment
- Biological Environment
- Socio economic Environment and
- Aesthetics
- Solid waste

The impact can be further categorized as positive impact and negative impact depending upon its nature, potential and magnitude. The impact during the construction phase of the project is generally short term.

4.5 Air Environment

The project does not contribute much to degradation of ambient air quality (AAQ) levels during its project life cycle. Maximum air emissions are expected to happen during construction phase of the project. The baseline monitoring study conducted suggests that the particulate matter (PM_{10} and $PM_{2.5}$) values and other parameters such as SO_2, NOx and Hydrocarbons etc. are observed to be within the norms.

During operational phase, foul smell emanating from STP, Solid waste segregation centres, composting yards could be potential sources for local air quality deterioration. However, measures would be taken to reduce odour pollution by maintaining green buffer around the STP. Summary of Anticipated Impacts on AAQ are given in **Table 4.4**.

Table 4.4 : Anticipated Impacts on AAQ

Impacts to consider during Planning Phase	Impacts Operational Phase
Locating STP, Solid waste segregation centers, Composting yards	Foul smell from STP, Solid waste segregation centers, composting yards
	Indoor air quality issues in individual commercial units

4.5.1 Predicted Air Emissions from the Site

For the purpose of air dispersion modelling, traffic and DG set emissions are considered for operation phases on the proposed site.

Fugitive emission from material sourcing and transportation

Fugitive emissions in the form re-entrained dust are also likely to arise from the vehicular movement along the site approach road. The fugitive dust and vehicular exhaust may therefore lead to the degradation of the air quality due to possible increase in ambient air pollutant concentration and may also adversely affect the community health of households residing along the approach road.

Significance of Impact

Using the scale mentioned above the significance of the impact is as mentioned below.

Severity of Impact	1	**Extent of Impact**	2	**Duration of Impact**	2
Impact Significance = 4 i.e. Low					

4.5.2 Operation Phase

- **Operation of DG sets**

There is 1 no. of DG set having total capacity **1 no. x 82.5 kVA**, for residential project that shall be located either individually or combined at locations within the project area.

- **Increased Traffic and Vehicle Movement**

Increased incoming vehicles of visitors and staff to have impact on traffic management.

4.5.3 Emission Inventory

The emission from vehicles is depend on the type and capacity of the vehicles used. The pollutants emitted from vehicles are HC, CO, NOx, SO_2, Particulate Matter, and Lead. The air dispersion modelling was carried out for CO, NOx and PM.

4.6 Water Environment

Impacts of water on Human Health

Water is the source of life and one of the most important factors affecting human sustenance. Water pollution is primarily the contamination of natural or manmade sources of fresh water. Pollution of water happens on many levels and affects human health in many ways.
There are numerous waterborne diseases that are a direct result of water pollution.

Health ailments

Ingestion of poorly treated water can cause diarrhoea, cholera, stomach infections and typhoid. Dirty or polluted water is the preferred breeding ground for mosquitoes and other pests. Mosquito bites adversely affect human health and can cause diseases such as Malaria, Filariasis, Dengue and Chikungunya.

Aquatic life

Water pollution also affects the health of water animals such as fish. When humans consume these sick fish, the infections get passed and can take more serious form in the human body. Apart from fish, water pollution also affects other plants and animals. And this in turn affects human health. If we consume food that has already been infected, we are bound to fall ill.

Hygiene and cleanliness

Water pollution in general results in unsanitary and unhygienic conditions. Using polluted water for cleaning purposes does not have any benefit. The water is unable to remove the accumulated germs which causes diseases thereby affecting human health.
Water pollution affects human health in disastrous ways. Various organisations are constantly trying to clean corrupted water bodies to meet the demand of safe drinking water. We must remember that we have a limited supply of water. And if we continue to pollute the available water, it will most definitely lead to diseases and deaths.

Mitigation Measure

The mitigation measures provided shall be implemented by each individual project based on its applicability to the activities and processes. Construction activities close to water channels shall ensure greater degree of precautions and effectiveness of implementation

Effluent/ Sewage Disposal

- To minimize adverse impacts due to escape/discharge of untreated sewage outside the project site, adequate number of toilets (at least 1 toilet per 10 labour) with Mobile STP onsite for disposal of sewage as per the design aspects of Bureau of Indian Standards;
- Random disposal of wastewater by workers in the labour colony was strictly restricted. Adequate drains and collection sumps for recharge of water from bathing areas were provided at the labour campsites;
- Sludge from sanitary wastewater treatment systems were disposed in compliance with local regulatory requirements;
- Runoff Management
- Storage area was kept away from the storm water drain to prevent any wash away into water bodies outside the facility;
- Segregation and pre-treatment of oil and grease containing effluents from workshop (e.g. use of a grease trap) is undertaken prior to discharge into sewer systems;

4.6.1 Operation Phase Impacts

➢ **Discharge of surface run-off**

The rainwater harvesting system has provided. The harvested rainwater has used for domestic purpose after giving proper treatment to reduce the municipal load during monsoon period.

➢ **Drainage System**

Proper drainage system has provided within the project for Buildings to maintaining site slope. Also, oil & grease trap is provided to prevent water contamination.

➢ **Water Demand**

Water demand during the operational phases is estimated on the basis of various activities proposed as per project master plan and associated consumption pattern. Details of the water requirement and sources are given in **Table 4.5**

Table 4.5 : Water Requirement during Operational Phase

Particular	**Management**
Source of water	Pune Municipal Corporation/STP
Total water required	**185 m^3/day**

Water Balance

Water balance for the site has been calculated from the water requirement for the site and the reclaimed wastewater that was used on site. Water Balance for Monsoon and Non-monsoon season are depicted below.

Significance of Impact

Severity of Impact	1	**Extent of Impact**	2	**Duration of Impact**	3
Impact Significance = 6 i.e. Medium					

Mitigation Measures

Sustainable surface water extraction plan is evolved considering the water demand of the project in its operation phase. Water conservation and development measures need to be taken including all possible potential for reuse and recycling of water. These could be in the form of the following:

- Rainwater Harvesting and water source development
- Minimizing water consumption
- Promoting reuse of water after treatment and development of closed loop systems for different water streams.

4.6.2 Impact on Water Environment Quality

The wastewater generation during operation phase is described below:

Operation Phase Impacts

During this phase, 100% of the water supplied for flushing and 90% for domestic use was discharged as waste water. For optimal management (treatment and reuse), wastewater generation has been categorized under two sources:

A. Gray water (wastewater generated from various household activities, except for the wastewater produced from the toilet flushing)

B. Black water (wastewater generated from the toilet)

Significance of Impact

Severity of Impact	1	**Extent of Impact**	1	**Duration of Impact**	3
Impact Significance = 3 i.e. Low					

Mitigation measure

The sewage generated from the proposed project is **173 m^3/day**. The sewage generated is first treated in STP. We have provided 1 no. of Sewage treatment having capacity 70 m^3/day for residential project. The treated sewage was used for flushing, gardening. Details are shown in Table 2.12 Excess water is discharge into the sewer line. Dual plumbing system is installed for the purpose of separate supply of domestic and treated wastewater in the buildings.

The reuse / recycle of water are vital for the sustainability of any developmental activity. The project proponent, being an enlightened group also desires to maximize the reuse / recycle of this natural resource. The project is used STP of MBBR technology and ensured the minimum desired quality of wastewater which given in **Table 4.6**

Table 4.6 : Discharge composition of wastewater

Details	Untreated	Treated
pH	6.0 - 8.5	7.0 – 7.5
Total suspended solids	180 – 250 mg/l	<10 mg/l
Chemical Oxygen Demand	400 – 850 mg/l	<30 mg/l
Biochemical Oxygen Demand, 3 day, 27 °C	250 – 400 mg/l	<10 mg/l
Oil & Grease	25 mg/l	Nil

Promoting Reuse of Water after Treatment and Development of Closed Loop Systems

To promote reuse and development of closed loop system for water, segregation of two schemes namely (i) Wastewater Treatment scheme; and (ii) Storm Water Management scheme have been suggested.

Wastewater Treatment Scheme

Sanitation infrastructure shall comprise of following:

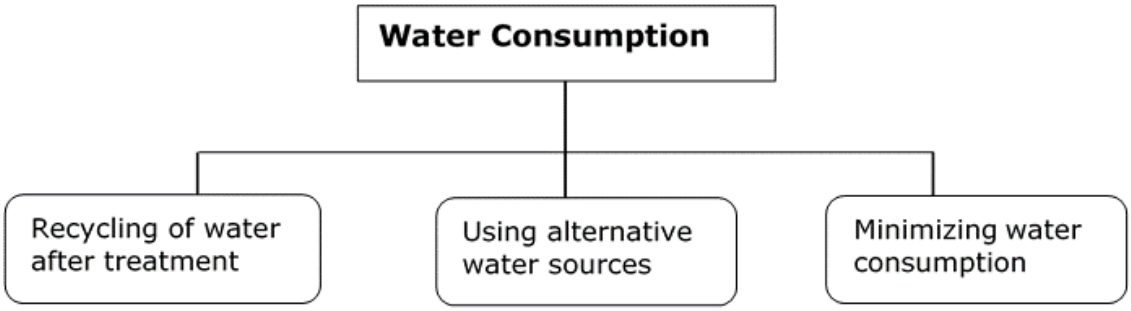
- Wastewater collection and conveyance system
- Wastewater treatment and disposal arrangement

Wastewater collection and conveyance system is an underground drainage network that is designed to collect wastewater from each and every point and convey it to one point for treatment.

Proposed development has sewage treatment plants based on MBBR Technology for treatment of the waste water generated from the different activities proposed. Treated effluent was used for flushing, landscaping.

Water Conservation and Development

The water conservation plan consists of a combination of three major steps depicted below:



Water conservation is practiced to the extent possible by use of reclaimed water for non-potable application like gardening and flushing.

4.7 Noise Environment

4.7.1 Impact on Ambient Noise Environnent

The assessment of the impacts of noise on the surrounding community depends upon:

- Characteristics of noise source (instantaneous, intermittent, or continuous in nature, with the latter contributing the least to noise pollution);
- Time of day at which noise occurs; and
- Location of noise source with respect to noise sensitive receptor.

Operation Phase

The impact on noise during the operation phase of the project is due to vehicular traffic and use of DG sets in case of power failure. Implementation of traffic management systems will help in lessening the noise impacts.

Noise related impacts during operational phase are anticipated from regular vehicular movement caused by the vehicles and operation of DG sets during a power failure. The interpretation of baseline data on ambient noise quality confirmed that noise level is exceeding both day and night time noise standards near the site.

Thus, considering the small incremental traffic over existing traffic, adequately spaced buildings, the occasional use of DG set complying with noise limits specified by CPCB and vegetation in the proposed green belt, the impact is assessed to be very low.

It is likely that noise generated from the loud music operations at the events/celebrations can disturb the surrounding buildings.

The frequency of events/celebration will increase the noise levels within the project site and surrounding areas.

Mitigation Measures

Mitigation measures are measures taken to control, reduce or prevent pollution due to automobile emissions. Some of the measures that may be adopted to reduce fuel consumption and air pollution are given below.

- **Noise Emissions Control Technologies**

Diesel generator set is housed in a suitable acoustic enclosure so that noise level at a distance of 1 m does not exceed 75 dB(A) at 75% load as per CPCB standards - 2008 or is meeting the standard whichever is higher. It would be ensured that the manufacturer provides acoustic enclosure as an integral part along with diesel generator sets. Further enclosure of the services area with 5 m high wall is reduce noise levels and ensure that noise is at a permissible limit for residents of the site and surrounding receptors. Mitigation measures for noise is tree plantation that acted as barrier for noise pollution.

4.8 Land Environment

4.8.1 Anticipated Impact on Landscape and Topography

The landscape of the area is gradually change with residential building development project. The change is topography mostly at the micro-level due to levelling of area or modification of terrain. The construction activities such as excavation works for foundations of various project-

components, development of drains, providing proper slopes across the area etc. and ultimately for erection of the associated structures and buildings are changing the topography of the area. The dumping of construction debris in surrounding vicinity can impact the drainage of the area. These activities would lead to soil erosion causing loss of top productive layer of the soil. However, such impacts were primarily confined to the project site during initial construction period.

Solid waste generated during the construction phase was properly collected and segregated as plastic, paper, metal, and other; and disposed of as per the standard practice. The impacts on soil during construction phase was marginal and reversible in the nature. The operational phase of the project generates garbage as solid waste. Land contamination mainly occurs due to lack of proper storage and disposal of solid waste. The solid waste is mainly domestic in nature and does not contain any hazardous waste. To avoid the impacts on the land appropriate measures is adopted for storage and disposal of solid waste. The total solid waste generated from the project development is 699 kg/day. Out of this, 419 kg/day is biodegradable waste and 280 kg/day is non-biodegradable E waste will not be generated. The wet waste is treated in vermicomposting pits.

The impact on ecological environment during the operation phase of the project is positive as landscaping and plantation is done along the roads and within the project premises. Landscape details & tree details are given in **Table 4.7**.

Table 4.7 : Landscape & Tree details

Description	**Details**
Green Belt Area	2,045.85 m^2
Trees planted at site	392 nos.
Total no. of trees	**392 nos.**

Prediction of Impacts

There is a potential for elevation of air temperatures in urban areas as compared to the surrounding areas (urban heat island), and this temperature increase can have negative impacts on human comfort and health.

4.8.2 Mitigation Measure

The Project is ensured following mitigation measures to minimize impact on Land use, topography, landscape and drainage of each project site and surrounding region. The issues pertaining to urban heat islands and increase in runoff have been addressed as a part of master planning by providing green areas and effective storm water drainage system for the region. It is recommended that the project should establish with embedded green elements in all infrastructural development proposed.

- No extra soil is brought into the site from outside the project boundary for the construction activity. All excavated soil was used in level raising;
- The construction contractors were instructed not to cut any tree. Wherever possible avoid disturbance to existing ecology to improve the landscape of the project site;
- **Development of greenbelt**: About **2,045.85 m²** is provided for development of green belt. Total 392 no. plants are planted for green belt development.
- The green belt development is done to improve the landscape and minimize impact on land use, topography.
- Diversion dykes are constructed to channel runoff around the excavated site to avoid surface runoff of excavated material;
- Construction footprint is well defined and construction work was carried out within the Project footprints only.
- Proper drainage facilities are provided along the roads.
- The small amount of construction debris and surplus excavated material was disposed of in suitable pre-identified areas.

Significance of Impact

The overall impact on the landscape and topography is assessed to be moderate, however with the implementation of mitigation measures the impact can be contained with minor residual impacts.

Severity of Impact	1	**Extent of Impact**	1	**Duration of Impact**	2
Impact Significance = 2 i.e. Low					

4.8.3 Natural Topography

The proposed project area is under residential zone of Pune Municipal Corporation (PMC). The project area is having minimal contour and slightly sloping towards south east side of the project.
The buildings within project area are planned considering site conditions and topography.

4.9 Biological Environment

392 nos. of trees have been planted. **Table 4.8** shows the list of planted trees.

Table 4.8 : List of planted trees

Sr.	*Scientific Name (Botanical name)*	Name of species (Common name)	No.
1.	Peltophorum pterocarpum	Copper Pod	59

Sr.	*Scientific Name (Botanical name)*	Name of species (Common name)	No.
2.	Acorus calamus	Sweet Flag (Vacha)	15
3.	Ficus benjamina	Weeping Fig	73
4.	Grevillea Robusta	Silver Oak	11
5.	Araucaria columnaris	Christmas Tree	3
6.	Butea monosperma	Palash	1
7.	Nyctanthes arbor-tristis	parijat	7
8.	Plumeria rubra	Chafa	22
9.	Aegle marmelos	Bael (Bilwa)	2
10.	benghalensis	Banyan	1
11.	Mangifera indica	Mango	9
12.	Myroxylon Balasarum	Guava	1
13.	Tabebuia	Pink Rosy Trumpet	16
14.	Spathodea campanulata	African Tulip Tree	20
15.	Leucaena leucocephala	River Tamarind	3
16.	Tecoma	Yellow Bells	70
17.	Cordia sebestena	Geiger tree	3
18.	Bambusa Vulgaris	Bamboo	8
20.	Umbrella Tree	Octopus Tree	1
21.	Cordia dichotoma	Indian Cherry (Bhokar)	7
22.	Azadirachta Indica	Neem	6
23.	Alstonia scholaris	Blackboard tree	8
24.	Santalum album	Sandalwood	2
25.	Bauhinia variegata	(Orchid) Kanchan tree	8
26.	Citrus limon	lemon	5
27.	Citrus sinensis	Sweet orange	1
28.	Swietenia	Mahogany	5
29.	Thespesia populnea	Indian tulip tree (Bhendi)	1
30.	Saraca asoca	Ashoka tree	1
31.	Prunus avium	Cherry	2
32.	Cascabela thevetia	Bitti (Kaner)	5
33.	Khaya senegalensis	Khaya	1
34.	Murraya paniculata	Kamini (Jasmine)	4
35.	Syzgium cumini	Jamun tree	1
37.	Annona squamosa	Custard apple	1
38.	Lagerstroemia speciosa	Tamhan	4
39.	racemosa	Umbar	1
40.	Prunus Dukis	Badam	2
41.	Leucaena leucocephala	Subabhal	1
42.	Religiosa	Pimpal	1
	Total no. of trees		**392**
	Landscape area (m^2)		**2,045.85**

Availability of Fauna is not applicable as site is located in fully urbanized area i.e., in the developing area of Pune City.

There would have been a marginal impact on fauna due to increase in population density and activities.

4.10 Socio-economic Anticipated Impact

Operational phases

Project had put positive impacts on socio-economic environment.

This facilitated the development of the region socially and economically.

- This is to facilitate development of the region socially and economically.
- This brings benefits to communities as it serves in many ways through direct and indirect employment generation.
- To provide quality residential accommodation
- To create an environment that could support the good standard of living environment
- To meet the growing demands of residential space in an environmentally sustainable manner in the area.
- To enhance the surroundings with greenery, landscaping and pleasing aesthetics
- To implement the policy of water conservation and rain water harvesting.
- Better economic status of the community due to better earnings.
- The expected outcome of the proposed project is a good quality livelihood to people.
- The establishment of a plantation covered land in and around the proposed development project will result in many direct and indirect benefits such as:
- Plantation can absorb a wide variety of atmospheric pollutants emitted from traffic and can attenuate the noise levels.
- Plantation is able to control the build-up of atmospheric greenhouse gases (e.g. CO_2) that are emitted from project appliances and thereby help reducing global warming.
- Afforestation will help restore the geodynamics around the plant. It checks soil erosion and increases soil fertility.
- A green belt acts as a buffer zone and increases the aesthetic value of the surrounding area by adding to the greenery and providing a visual filter.

4.11 Solid Waste

Significant amount of solid waste is generated during the operation phase of the project.

Operation Phase Impacts

Waste quantification has been done based on the activities proposed in the project master plan. Waste generation factors are selected for each activity based on the National and International standards applicable in similar setting. Following section give the details of the type of waste generated by different activities.

Municipal Solid Waste management

Dry waste (non-biodegradable)

Dry waste **280 kg/day** generated during operation phase is segregated & disposed-off to recyclers.
STP Sludge (Dry sludge): Dry sludge is used as manure for plantation & gardening purposes inside the premise.

Wet waste quantity (biodegradable)

Wet waste **419 kg/day** generated during operation phase is composted and used as organic manure for landscaping.

Waste generation factor for residential waste as specified in the Manual on Municipal Solid Waste Management is 0.5 kg/cap/day.

Hazardous Waste Management

It is residential so hazardous waste not generated on project site.

E-Waste Management

It is residential so E-waste waste is negligible.

E-Waste Management

Collection and storage

Daily collected wastes was collected and segregated at designated place and handed over to authorized vendors as per their waste categories.

Significance of impact

Severity of Impact	1	**Extent of Impact**	1	**Duration of Impact**	3
Impact Significance = 3 i.e. Low					

Mitigation Measures

In the operation phase organic as well inorganic waste is generated from the proposed development. The Ministry of Environment and Forests (MoEF) formulated the draft Municipal Solid Waste (Management and Handling) Rules in September, 1999 and subsequently notified the MSW Rules in September, 2000 & its subsequent amendments. The management of MSW is covered under the Schedule II of the Rules and provides directions for segregation, collection, storage, transportation, processing, and disposal of waste. Details of the management practice are given below:

- **Public Awareness**
  - Public awareness on waste segregation and disposal rules in form of leaflets to permanent and floating population is provided. For residents and staff periodic awareness talks is given for waste management.
  - Signboards and information boards are put up in required area in English and local language (Marathi).
- **Waste Segregation**
  - Segregation or sorting of waste at its source practiced in order to encourage reuse/ recycling and to minimize the negative effects of the waste and increase its economic value. With segregation at source recyclables do not lose their commercial value due to cross contamination.
  - Dedicated bins are placed to collect biodegradable and nonbiodegradable wastes.
  - In the parking space and other open areas also dedicated bins are placed.
- **Collection Bins**
  - Daily collection of waste is taking place from all the bins.
  - Daily sweeping and collection of waste from roads and other common facility area is doing daily in the morning by the same operator.

4.12 Aesthetics

Operation phase

In the operation phase, project area has good aesthetic quality as there is a provision of developing landscaped garden and green belt development within the project site.

4.13 Impact Matrix

Various activities from the residential project 'Bramha Exuberance' are likely to have some impacts on the environmental constituents during its operational phase outside the plot. The impact assessment matrix given in **Table 4.10** reveals the impacts associated with each activity of the project on various environmental parameters during operation phase before any mitigation measures are implemented. To assess the severity of the impacts, they are categorized as follows:

Table 4.9 : Impact Identification Matrix

Parameter	Type	Severity	Extent	Duration	Resultant Significance
Air	Operation Phase Traffic	1	2	3	6
	Operation Phase D. G. Set	1	1	1	1
Noise	Operation Phase Traffic and DG	1	1	2	2
	Operation Phase Celebration and Events	2	1	2	4
Water	Quantity Operation Phase	1	2	3	6
	Quality Operation Phase	1	1	3	3
Solid waste	Operation Phase	2	1	3	6
Land Use Environment		+	+	+	+
Soi Economic Environment		+	+	+	+
Aesthetic		+	+	+	+

Chapter 5
Analysis of Alternatives

5.1 Introduction

Alternative technology is major approach towards the sustainable development. Alternative technologies are eco-friendly and aids people to control the production processes in the view of sustainability. The alternative technologies are used with appropriate technologies to cover necessary aspects of sustainable development. Alternative technologies can produce better habitats while also nourishing the local poor communities with jobs, income as well bringing other socio-economic and environmental benefits.

5.2 Building materials

The conventional practice of clay, brick consumes a large quantity of energy in terms of coal and other fuels which are primarily non-renewable and highly polluting. Water requirements of building industry are also very high. Steel which is used in the construction process is manufactured by non-renewable resource. Normally, conventional materials used for construction are non-renewable resources.

Use of alternative technologies for each component of the buildings of envelope, superstructure, finishes and the road and surrounding areas are discussed in detail. Some of them is given below:

- Brick and block products with waste and recycled contents such as fly ash (waste from coal burning plants), blast furnace slag, sewage sludge, waste wood fibre etc.
- Fly ash based lightweight aerated concrete blocks can be used for walls.
- Perforated bricks can be used for wall structures.
- Brick panel with joists, Filler slab roofing, brick funicular shell roofing, RCC channel units, micro-concrete roofing tiles are some of the alternative techniques for roofing.

Some of the alternate materials for openings in construction are: -

- Use of precast thin lintels, use of Ferro cement-sunshade cum lintel etc.
- Use of renewable timber for doors and windows
- Use of steel manufactured from recycled content
- Aluminium from verified recycled content
- Sawdust based doors and window frames

- Ferro cement shutters, PVC doors and windows, Rice husk boards, Natural fiber in forced polymer composite door panels
- Bamboo based products, bamboo strip boards
- Alternatives for finishes include Fly ash, Ceramic tiles, Terrazzo floors

The use of the alternatives for building materials can help reduce the use of non-renewable resources and the impact on natural resources.

5.3 Energy conservation

Energy conservation programme is implemented through measures taken both on energy demand and supply. Energy conservation is one of the focuses during the building planning. The conservation efforts would consist of the following:

Architectural design

- Maximize the use of natural lighting through design.
- Increase natural source of light through glazed windows.
- Energy conservation aspects such as selection of appropriate building material having adequate thermal resistance value (R-value) have been taken into consideration in building design.

Energy saving practices

- Purchase of energy efficient appliances.
- Constant monitoring of energy consumption and defining targets for energy conservation.
- Adjusting the settings and illumination levels to ensure that minimum energy is used for desired comfort levels.
- Use of LED in the common areas.

Behavioral change on consumption:

- Training residents on methods of energy conservation and to be vigilant to such opportunities.

Power Distribution & Backup Sources

- Power distribution to the upper floors will be rising mains and will be of sandwich type.
- Diesel generating set is installed for providing back up for all common loads including all fire emergency loads.

- Fire panel have direct second source from the DG set.
- 10% of common area / staircases / basement parking and corridor lights has designated as emergency lights. Same as per its codes and provided with DG back up.
- LT power cable and low voltage signal cables and wires have separate and dedicated shafts with adequate fire rating.

Other Energy Conservation Measures

Energy Efficient Electrical Fixtures

- Use of energy efficient, BEE labelled electrical fixtures, solar powered lighting in external common area.
- Energy efficient LED lights which give approx. 30% more light output for the same watts consumed and therefore require less no. of fixtures.
- Use of T5 tubes having 2.5 to 3 times life over conventional tubes and hence rate of disposal of tubes will be reduced drastically.
- All fluorescent light fixtures are specified to incorporate electronic ballast with THD less than 10% which have less watt-loss compared to electromagnetic ballast and result in superior operating power factor. Electronic chokes also improve the life of the fluorescent lamps.
- Power factor of the complete electrical system is maintained close to unity. This will reduce electrical power distribution losses in the installation.
- An APFC relay based on thyristor switching are proposed to affect the power factor correction improvement within a few cycles of deviation from the setting & also to reduce inrush currents.
- Copper conductor cables are specified for sizes up to 16 mm, this will reduce losses and improve reliability.
- All cables are de-rated to avoid heating during use. This also indirectly reduces losses and improves reliability.
- Solar lighting system for common areas.
- Variable frequency drives are incorporated on energy efficient motors which can save considerable energy.
- Additional energy and water flow meters for measurements and verification need to be additionally incorporated in the electrical design for measurement and verification purposes.
- Residents premises are made aware of energy saving measures on continuous basis.
- Auto Timer control for external & Common lighting
- Use of CFL / LED lamps in all public/ common areas.

- Solar powered water heating.
- Electronic V3F Drives for Elevators
- Solar PV Panel power for common area lighting

Details of energy saving is given in Table 5.1. The ECBC Report is attached as **Annexure IV**.

Table 5.1: Details of energy saving

Sr.	Point Discretions	Min. Requirement as per ECBC	Actual Provided
1.	Fuel efficient Automated DG Set.	1 Nos. of 82.5 kVA	12.7 lit./hr @ 75% Loading
2.	If power quality is poor then the special provision like capacitor bank etc.	✓	✓
3.	LED Lights	LED	For all Common Amenities &utilities
4.	Solar PV panel	MNRE/MEDA GUIDELINE (i.e.1%)	✓
5.	Solar Hot Water	MNRE/MEDA GUIDLINE	✓
6.	Lighting Dimmer		NA
7.	Lighting Timers	External	Provided for External &Internal Lighting
8.	Energy Efficient Lift	Energy saving Drive	VVVF drives with Energy Efficient Motors
9.	5 Star Rated Pumps	5 star	Yes - 5 Star Rated WaterPumps
10.	Occupancy/Lighting Sensor		Not provided / NA
11.	5 star rated Heat Pump.		NA
12.	Total Power saving including saving due to water heater in %		20.33 %

Sr.	Energy Saving By	Total energy saving in KWH /Annum	% Savings
1.	Solar PV	135000.00	9.27
2.	Auto Timer Logic Controller	79113.75	5.43
3.	Electronic V3F drive for Lifts	24506.10	1.68
4.	Solar Water heater	57420.00	3.94
	Total	**296039.85**	**20.33**

5.4 Transportation

A well-planned road network already exists in the area, connecting to the nearest railway station and main roads, ensuring proper communication links.

This site is in village Kondhwa Khurd, the major project traffic carrying road in the vicinity is the NIBM road and Kondhwa Khurd main road. The

traffic generated by the project during peak hours which will egress on this road and then will scatter in different directions.

Sufficient parking space is provided on the site i.e. The details of parking are given in **Table.5.2**

Table 5.2: Parking details & parking statement

Details	Required parking details		Provided parking details	
	No. of vehicles required	Total parking area required (m^2)	No. of vehicles provided	Total parking area provided (m^2)
4 Wheelers parking	140	1750	214	2675
2 Wheelers parking	388	1164	411	1233
Cycle parking	388	543	393	550
Total	**528**	**3,457**	**625**	**4,458**

Details	No. of Vehicles	Parking area (m^2)	Driveway (m^2)	Total required Parking area + Driveway (m^2)	Area /vehicle (m^2)	As per MoEF Manual (m^2)
4-wheeler parking						
Basement floor parking	11	137.5	248	385	35	35
Below podium floor parking	106	1325	1,855	3,180	30	30
Podium floor parking	97	1212.5	1,698	2,910	30	30
2 Wheelers parking	411	1233	493	1,726	4.2	4.2
Cycle parking	393	550.2	1,100	1,651	4.2	4.2
Total		**4,458**	**5,394**	**9,852**		

The entry and exit points design are very important as it will not disturb the existing traffic. Sufficient parking provisions are to be made. Visitors parking will not disturb the traffic of surrounding area.

Traffic Management is as follows;

- Internal roads
- Pathways

- Driving instructions along with parking and site map is displayed at appropriate place for users.

Chapter 6
Environmental Monitoring Programme

6.1 General

This includes the technical aspects of monitoring the effectiveness of mitigation measures including measurement methodologies, data analysis, report schedules, procurement schedules etc.

6.2 Air quality monitoring programme

Generation of ambient air quality data helps to develop sustainable environment.
Following monitoring programme was carried out for further environmental improvements:

- Generation of air quality data is of immense importance to get the variations in ground level concentration, efficiencies of pollution control systems and fugitive emission control.
- Sampling for fugitive emission had carried out near all transfer points, gantries/yards and all the fugitive dust generating operations. Monthly work place monitoring/sampling had carried out at health risk areas/operations to maintain occupational health norms.
- Air quality data had helped to take preventive measures in polluted areas of the project site. Sampling for the D.G. set had helped to check on pollution emission and systems periodically for taking preventive measures.
- Ambient air quality monitoring was carried out at eight locations surrounding the project as per CPCB Guidelines. Parameters such as PM_{10}, $PM_{2.5}$, Sulphur Dioxide, and Oxides of Nitrogen were monitored at each location.
- Regular maintenance of DG sets was carried out.
- Based on the generated data, all corrective and preventive measures were taken as part of regular project activity and maintenance of pollution control systems.

6.3 Noise quality monitoring programme

Monitoring of the noise levels and exposures is essential to assess the effectiveness of environmental management plan implemented to reduce noise levels.

- A good quality sound level meter was used for the purpose.
- Audiometric tests were conducted periodically for the employees/labors working close to the noise sources under the

supervision of health officials. These tests were helpful in monitoring the effectiveness of ear protective measures.

- Monitoring of noise levels at quarterly intervals was essential to assess the efficiency of maintenance schedules and noise protection measures undertaken to reduce noise levels.
- Monthly noise level measurements and frequency analysis was carried out inside the project site and adjoining premises.
- Ambient noise level measurement in the surrounding area was also carried out as per CPCB guidelines.
- Records of all measurements were maintained.

6.4 Water quality monitoring programme

For effective water pollution control, the following monitoring programme will be implemented:

In support of effective water pollution control, the following monitoring programme was implemented:

- Raw water and drinking water quality will be checked regularly for the physical, chemical and biological parameters.
- During operation phase waste water (Sewage) monitoring and analysis will be conducted for the pH, BOD, COD, TSS, TDS, O&G. etc. An environmental monitoring plan during operation phase is given in **Table 6.1**.

Table 6.1: Environment monitoring plan during operational phase

Sr.	Item	Parameters	Frequency	Location
1	Ambient air Quality	$PM_{2.5}$ & PM_{10}, SO_2, NO_X, O_3, Pb, CO, NH_3, C_6H_6, BaP, As, Ni	Quarterly	Periphery of the site.
2	Noise level	Equivalent noise Level	Quarterly	Near DG sets, Near STP, Near parking area.
3	Exhaust from DG set	Particulate matter, $SO_{2,}$ NO_x	Six Monthly	DG sets.
4	Water analysis	Colour and odour, Suspended solids, pH, turbidity, total dissolved solid, Calcium, Chloride, Fluoride, Residual free chlorine, Iron, magnesium, nitrate, sulphate, Phenolphthalein Alkalinity, Total hardness, total coliform, E-coli	Quarterly	-
5	Waste water analysis	pH, BOD, COD, TSS, TDS, O &G	Quarterly	Before & after treatment from STP.

Chapter 7
Additional Studies

7.1 General

India has been traditionally vulnerable to natural disasters on account of its unique geoclimatic conditions. Natural disasters may not be totally preventable but their impact can be minimized by effective planning.
This chapter covers the risk assessment and disaster management plan for 'Bramha Exuberance' project. Apart from this, natural resource conservation under this this project is also mentioned in this chapter. Resettlement & Rehabilitation Action Plan is also kept under this section.

Risk assessment and Disaster Management Plan (DMP)

Risk assessment is the systematic identification of the hazards associated with construction work and the evaluation of the risks associated with those hazards. A hazard - risk assessment shall take account of all the work activities and consideration shall also be given to anyone else who could be affected by the work activities.

Risk is the combination of the frequency, or probability of occurrence, and consequence of a specified hazardous event". Where frequency of exposure is an issue then duration of exposure is also considered. Risk is the level to which a hazard poses a threat to life, limb or property. This will vary from a minor laceration to a permanent disability, an illness such as cancer, or death.

7.2 Risk assessment study

Risk assessment study deals with identifying and evaluating the magnitude of impending risks to which the neighboring population is exposed due to occurrence of accidents from project construction and development. This assisted in illustrating the guidelines for preparation of disaster management plan which were executed to handle the situation in case of any emergency.
Following were the risks that are identified in residential buildings.

Fire Risk

The following codes and standards from the guidelines:

- National building code 2005
- NFPA 72-2007 Fire Alarm system
- NOC from the fire department

Fire is a serious threat for any health-care facility. Many patients have special needs that make them especially vulnerable in a fire emergency,

thus increasing the risk of fire-casualties. Healthcare staff must therefore make every effort to prevent fires from starting and must be prepared to respond if a fire breaks out.

Fire is mainly caused in project due to carelessness, short circuits, malfunctioning of gas regulator, tube and such related products. At the proposed project, hazard occurrence may result in on-site implications like:

- Leakage of flammable material leading to fire;
- Fire and/or explosion;
- Natural calamities like earthquake etc.
- Short circuit in any electric equipment's due to voltage fluctuations.

Potential Fire Hazards:

The following are the Potential Fire Hazards identified in this building:

- Petrol and diesel in form of fuel at common parking floors;
- Diesel in fuel tanks of in DG sets,
- Combustible materials e.g., paper, cardboard, plastic, fabrics etc. will be present.

There will be proper storage of the combustible material like paper, cardboards. Location mapping for the same was carried out at the time of commissioning;

Onsite Emergency Plan

For incidents which could affect people and the environment inside the building.

- Display of emergency phone nos. (Includes phone number and address of nearby hospital, fire station, police station, public help service etc.)
- Periodic maintenance and checking of all equipment.
- Training to all users for different type of emergencies
- Building emergencies manual
- Training program for the tenants, security guards, housekeeping and other stake holders of the building.
- Evacuation plan, floor plan, site plan, elevation marked with refuge area etc.
- Fire & other emergencies regular drill programs
- Posters and other templates, showing emergency preparedness for children and building occupants.

Evaluation and updating of the plan to improve effectiveness.

7.3 Disaster management plan

- Modern disaster management goes beyond post-disaster assistance. It includes pre-disaster planning, preparedness activities, organizational planning, training, information management, public relations and many other fields.
- The events of a disaster can move rapidly and can be extremely traumatic for those who are unprepared. Disaster managers often do not get a second chance.
- Principles of disaster management apply in both routine & crisis incident, during disaster mitigation and disaster reconstruction.
- Emergency operations cover both the preparedness phase & the immediate post disaster period.

7.3.1 Purpose

The Disaster Management plan has two primary goals: to reduce the likelihood that the premises will experience disaster and to mitigate the impact of any disasters that do occur. The "best" disaster is one for which we will be so well prepared that it never happens. Potential for disaster can be reduced by identifying and correcting hazardous conditions and by encouraging staff alertness in detecting and reporting problems.

The Disaster Management plan is created with the aim of an effective management for the disaster with the minimum possible impact on the human being and the establishment. Our proposed residential project "Bramha Exuberance" aim to achieve this through pro-active measures, protective equipment's, efficient and rigorous trainings & drills and practicing exhaustive emergency procedures.

Disasters can take many different forms and the duration can range from an hourly disruption to days or weeks of on-going destruction. Below is a list of the various types of disasters - both natural and man-made or technological in nature that can impact a community.

7.3.2 Types of Disasters

Natural Disasters:

1. Earthquakes
2. Floods
3. Cyclone

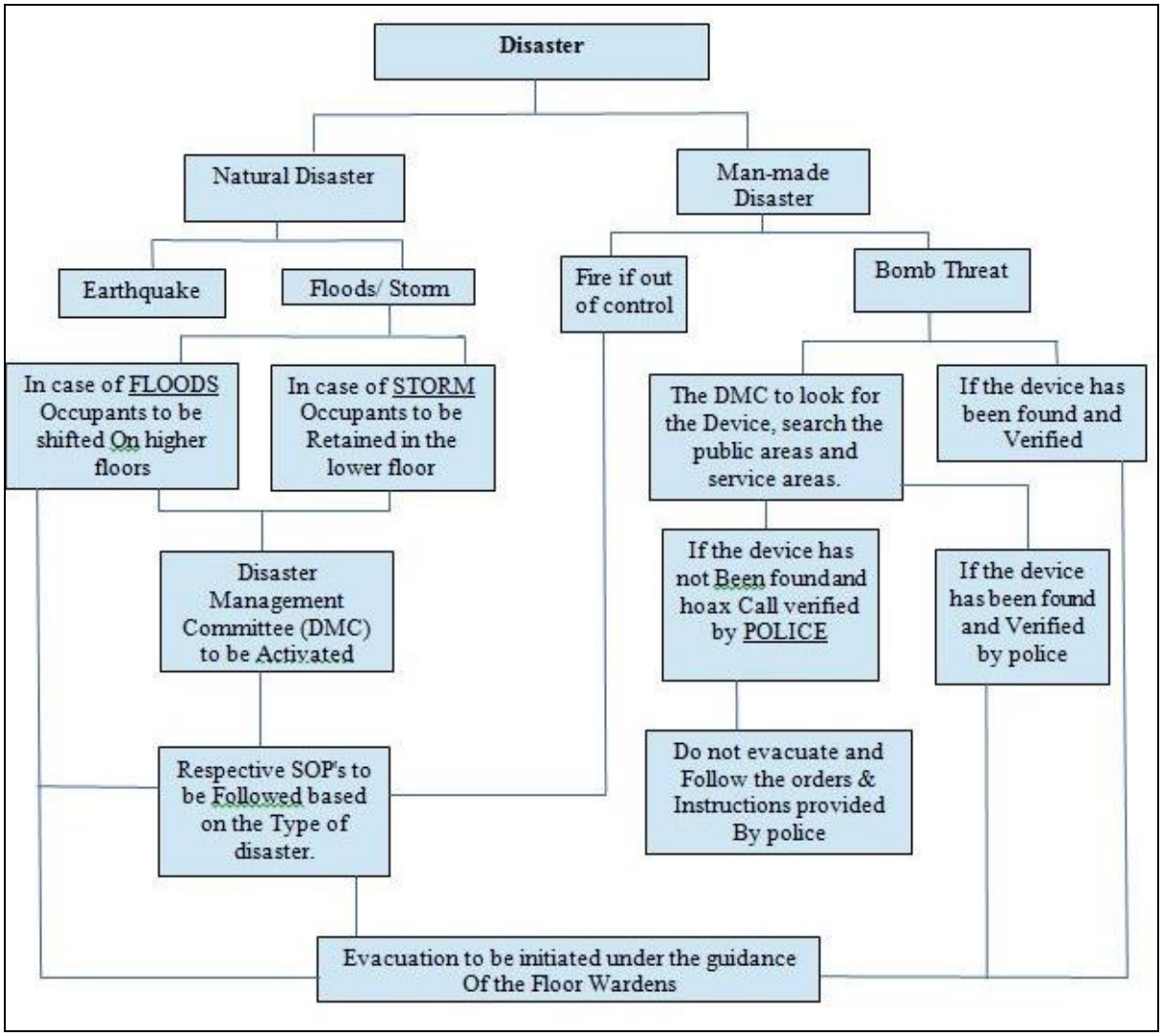
Man-Made Disasters:

1. Fire
2. Bomb Threat

Any kind of disaster may prove weak with proper planning against the disaster. Planning to fight the impacts of a disaster is dine at three level:

1. **Before any disaster**, in form of preparedness and using precautionary measures
2. **At the time of disaster**, in form of quick response
3. **After a disaster**, in form of proper management

Figure 7.1: Disaster response plan



7.3.3 Risk Assessment and Vulnerability Analysis

Without vulnerability there is disaster. The process of risk assessment starts with the assessment of potential disasters through a combination of hazards mapping and vulnerability analysis. Risk assessment was carried out by:

i. Hazard mapping i.e., gathering information regarding location
ii. Frequency
iii. Duration of the hazard in an area

All these hazards could occur at different time period. They could vary seasonally, especially natural hazards like flood and cyclone. Manmade hazards could occur at any time of the year. Similarly, earthquake and tsunami could occur at any time of the year, depending on climatic conditions. A seasonal hazard mapping for different disasters is presented in **Table 7.1.**

Table 7.1: Seasonal disaster mapping

Type of disasters	Vulnerability mapping	Remark	Seasonal mapping
Floods	The vulnerability of floods at the proposed site will depend on the drainage pattern, sewerage system, heavy rainfall and others	Management plan for floods is highlighted below. We have provided the storm water drainage for the proposed project. Site doesn't have water logging areas, wetland / water body.	Mainly from July - September as there is possibility of heavy rainfall
Cyclone	Pune falls under least to risk zone for cyclone mapping. Cyclone is formed in condition when warm sea (temperature in excess of 26^{o}C to a depth of 60 m) with abundant and turbulent transfer of water vapours to the overlying atmosphere by evaporation	No possibilities of cyclones in Pune region.	
Earthquake	Proposed site is located in Pune which falls under Earthquake Zone III, moderate risk zone, as per the map showing seismic zones of India IS 1893 (Part I): 2002.	Management plan for earthquake is highlighted below. We have provided earthquake resistance structure as per required norms. Structural consultant was appointed for the project. Required IS codes were followed during the design of the building.	This is a natural calamity that could take place at any point of time.
Fire	Fire accidents could take place due to improper maintenance of electrical wiring, faulty wiring and gas leakage etc. Carelessness is one of the major factors for fire hazards	Fire hazard is considered in the study and an evacuation plan is also designed for the proposed project. The project site is provided with **20 m** wide DP road, **7.5 m** wide access road and **6 m** internal road with turning radius is **9 m**. we have provided assembly point in open space and refuge floors **--** as per the fire norms.	It can occur at any point of time and we have provided adequate mitigation measures.

7.4 Mitigation and Preparedness

7.4.1 Standard Operating Procedures (SOP's)

A. Cyclones and Floods

- Community awareness and mass education programme has arranged in association with NGO to manage the challenges during and after floods and cyclones. NGO details are given in **Table 7.5**
- Residents has made aware to switch off electrical mains at emergency situation.
- Proper maintenance of storm water channel and sewer lines.
- Residents has educated about Dos and Don'ts during Cyclones and Floods.
- Awareness has spread about the hazards of stored water. Communicable diseases like malaria, dengue, etc. Could spread if water is stored for longer time.
- Building is investigated for leakages and any leakage found will be repaired by project proponent that will assist in this activity.
- Leakage would be repaired by developer would assist in this activity.

B. Earthquake

- Project proponent is tie-up with local newspaper, radio or television station to:
  - Provide series of information on locating hazards in workplaces, day care centres, etc.
  - Provide tips for earthquake drills.
- Project proponent has provided building codes to the society manager or the concern authority. National building codes would be made available to the concern authority.
- Project proponent has prepared a disaster emergency kit that includes battery operated torch, battery operated radio, first aid kit and manual, candles, matches in a water proof container, knife, essential medicines, thick ropes & cords, sturdy shoe, chlorine tablets or powdered water purifiers and can opener which has maintained at site.
- Project proponent is following seismic building standards and land use codes that regulate land use along fault lines, in areas of steep topography and along shorelines.
- The code that is following by project proponent is given in **Table 7.2**

Table 7.2: Codes that will be followed by project proponent

Codes	What it says

Codes	What it says
IS:1893 (Part 2)	Elevated and ground supported liquid retaining structures
IS:1893 (Part 3)	Bridges and retaining walls
IS:4326	Earthquake resistant construction
IS:13920	Ductile detailing of reinforced concrete structures
IS:13827	Earthen dwellings
IS:13828	Low strength masonry structures
IS:13935	Seismic strengthening of structures

C. Water scarcity management

- **377 m^3** capacity of underground domestic water storage tank & **50 m^3** capacity of fire water tank is already existing on site.
- Occupants has provided with booklet that is highlight measures to save water and importance of water.
- Recycled waste water using for flushing, gardening.
- Ultralow flow faucets and flushing devices are installed to save water.
- We have tie up with NGO's to promote development of emergency low cost water treatment plant. NGO details are given in **Table 7.5**
- We tie upped with **Shri Renuka Enterprises, Galaxy Water Supplier, & Kusum Enterprises (water tanker supplier)** during water unavailability. Details of Tanker water suppliers given in **Table 7.3**
- We have provided chemical standards for drinking water to all residents & also display it in the lobbies and the same maintained by Environment Health & safety (EHS) officer.

Table 7.3: Details of tanker water suppliers

Sr.	Name of water supplier	Distance from project site
1.	Shri Renuka Enterprises	1.9 km
2.	Galaxy Water Supplier	1.8 km
3.	Kusum Enterprises (water tanker supplier)	1.8 km

E. Fire Hazard

- List of nearby hospitals and fire stations has been displayed at site office room. Details of hospital and fire stations given in **Table 7.6 and 7.9** respectively.
- The road map & contact details of **Kondhwa Khurd fire station** have been displayed at lobbies, environment office room by us and

the same is maintained by concerned authority.

- We had been giving booklet for Do's and Don'ts for fire hazard.
- We are following the norms for electrical wiring systems to minimize the fire hazards.
- Evacuation plan has been shared with all the staff members, residential and the same is displayed at each floor and environment office. The same plan is maintained by concerned authority. Refuge floor plan given in **Figure no.7.6**
- We have installed fire hoses/ fire extinguisher and first aid kit box in each office. Concerned authority is inspecting them on regular interval. Maintenance for the same is taking care initially by us and later by environment management committee.
- We have installed sprinkler systems, fire and smoke alarm systems as per requirement. Locations for the same is chalked out after completion of project. They are regularly monitored for their efficient functioning.
- We have provided the assembly point in the Project layout plan.
- **50 m^3** capacity of fire underground water storage tank & **50 m^3** capacity of overhead water storage tank provided for fire-fighting measures.
- Electric supply to these pumps is on independent circuit.
- Walls enclosing lift shaft have 2 hours fire resistant capacity.
- Required number of fire extinguishers has been provided
- We have installed fire alarm system with main control panel at ground, pill boxes and hooters at each floor level. The layout of fire alarm is in accordance to relevant I.S. Specification.
- There is a provision of clear **20 m** wide DP road and 6 m and **7.5 m** wide internal road around the building. This will be helpful for the fire tender movement. Fire tender movement plan given in **Figure no. 7.5**

7.4.2 Inventory Resources

A. Disaster management kit & first Aid kit

The Disaster management kit consist of:

1. Battery operated torch
2. Battery operated radio
3. First aid kit & manual
4. Candles and matches in a waterproof container
5. Knife
6. Essential medicines

7. Thick ropes & cords
9. Chlorine tablets or powdered water purifiers
10. Can opener

B. List of NGOs

Table 7.4: List of NGO's

Sr.	Name of NGOs	Address	Contact details	Functions
1.	Samajik Suraksha Sanstha	Shop no. 5, Shreenath Krupa Building, Bheraonath Talim Chowk, Pune, Maharashtra 411048	+91 -8805015222	Homes for children, women and men, self-help groups, general outreach, women empowerment
2.	Hind Social Foundation	6 B, Kausar Baugh Rd, NIBM Undri Road, Kausar Baugh, Kondhwa, Pune, Maharashtra 411048	9422004913	Homes for children, women
3.	Loksewa Social Foundation	Brahma Avenue, C-4/404, Sr No. 60+I+2, Off Nibm Road, Kondwa, Pune-48, Maharastra – 411048.	+91-7038807386	Education upliftment, Children's education, nutrition, basic protection

C. List of Hospitals

List of hospitals near proposed project is given in **Table 7.5**

Table 7.5 : List of hospitals

Sr.	Hospital	Address	Contacts	Distance
1.	Lifeline Hospital	NIBM Rd, Kausar Baugh, Kondhwa, Pune, Maharashtra 411048	+91-8237035055	1 km
2.	Satyanand Hospital	Satyanand Hospital Opp. Konark Pooram, Kondhwa (K) Pune 411 048, Maharashtra, India.	+91 20-26838194	1.6 km
3.	Welfare Multispeciality Hospital	Welfare hospital, Kondhwa Main Rd, opposite konark puram, next to Bus Stop, Badshah Nagar, Kausar Baugh, Kondhwa, Pune, Maharashtra 411048	+91 9511295983	1.8 km

Table 7.6 : Disaster management resource

Sr.	Fire-fighting equipment description	Quantity
1.	Fire water tank underground	50 m^3
2.	Fire water tank overhead	50 m^3
3.	Total fire tank capacity	100 m^3
4.	Fire hydrant system	Court yard fire hydrant system

Sr.	Fire-fighting equipment description	Quantity
5.	Water sprinkler system	Water sprinklers system in all parking levels
6.	Fire extinguishers	ABC Type fire extinguisher at Main switch board, Parking, Lift room, Transformer room and each floor.
7.	Smoke detection system	As per fire NBC
8.	Fire alarm system	Manual Call point and talk back P.A. System
9.	CCTV security system	Entry/Exit gates
10.	Emergency power (DG set)	1 number (total capacity 82.5 kVA)
11.	Refuge floors	Total 344.36 m^2
12.	Fire resistant doors	Staircase of each floor
13.	Signage	At strategic locations
14.	Lightening arrestors	As per fire NOC
15.	Staircase	5 no. of staircases with total area 756.14 m^2
16.	Lifts	Total 10 no. of Lifts

Figure 7.2: Firefighting equipment's

7.4.3 Evacuation plan

Emergency evacuation is the immediate and urgent movement of people away from the threat or actual occurrence of a hazard. The most common equipment in buildings to facilitate emergency evacuations will be fire alarms, exit signs and emergency lights.
Emergency evacuation plans will be developed to ensure the safest and most efficient evacuation time of all expected residents of a structure.

Table 7.7: Evacuation time

Evacuation time-4 wheeler		
Particulars	**Value**	**Unit**

Evacuation time-4 wheeler		
Particulars	**Value**	**Unit**
Total number of the car parked in the total parking lot (A)	214	nos.
Speed of the car at exit gate	6	km/hr
Time required to farthest car to reach gate	2	minutes
Time required for exit of one car from the gate (B)	3	Seconds per car
No. of Exit lanes available (Total width of gates / 3m) (C)	6	nos.
Time required for exit of cars at 100% occupancy (((A-C) X B / C) + (C X 60)) / 60	8	minutes
Reaction Time	5	minutes
Total Time required for exit of cars at 100% occupancy	**13**	**minutes**

Evacuation time-2 wheeler		
Particulars	**Value**	**Unit**
Total number of the 2 Wheeler parked in the total parking lot (D)	411	nos.
Speed of the 2 Wheeler at exit gate	6	km/hr
Time required for exit of one 2Wheeler from the gate (E)	2	Seconds per scooter
No. of Exit lanes available (Total width of gates / 3m) (F)	6	no.
Time required for exit of 2 Wheelers at 100 % occupancy (D X E) / (F X 2) / 60	1	minutes
Reaction Time	5	minutes
Total Time required for exit of 2 Wheelers at 100 % occupancy	**6**	**minutes**

Figure 7.3: Evacuation time

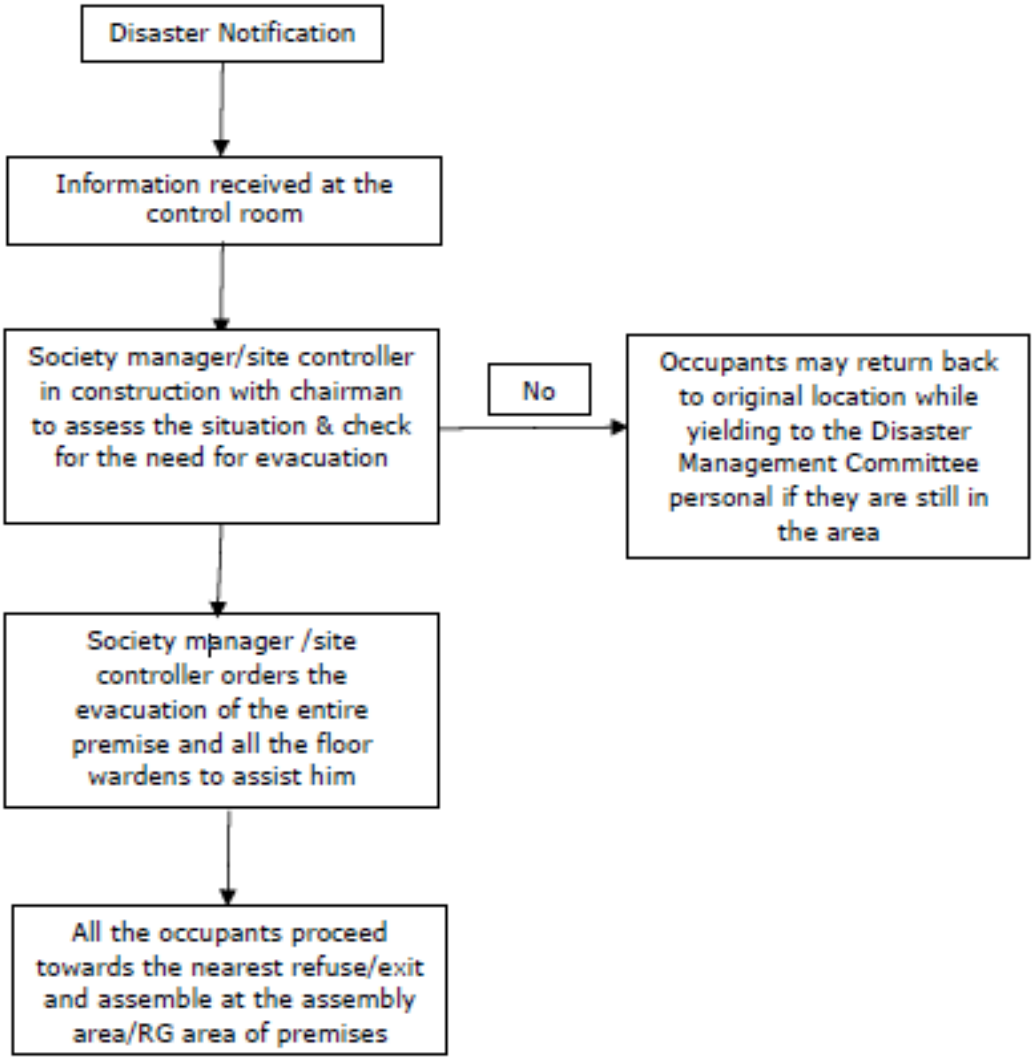


Figure 7.4: Activities to be undertaken in case of evacuation

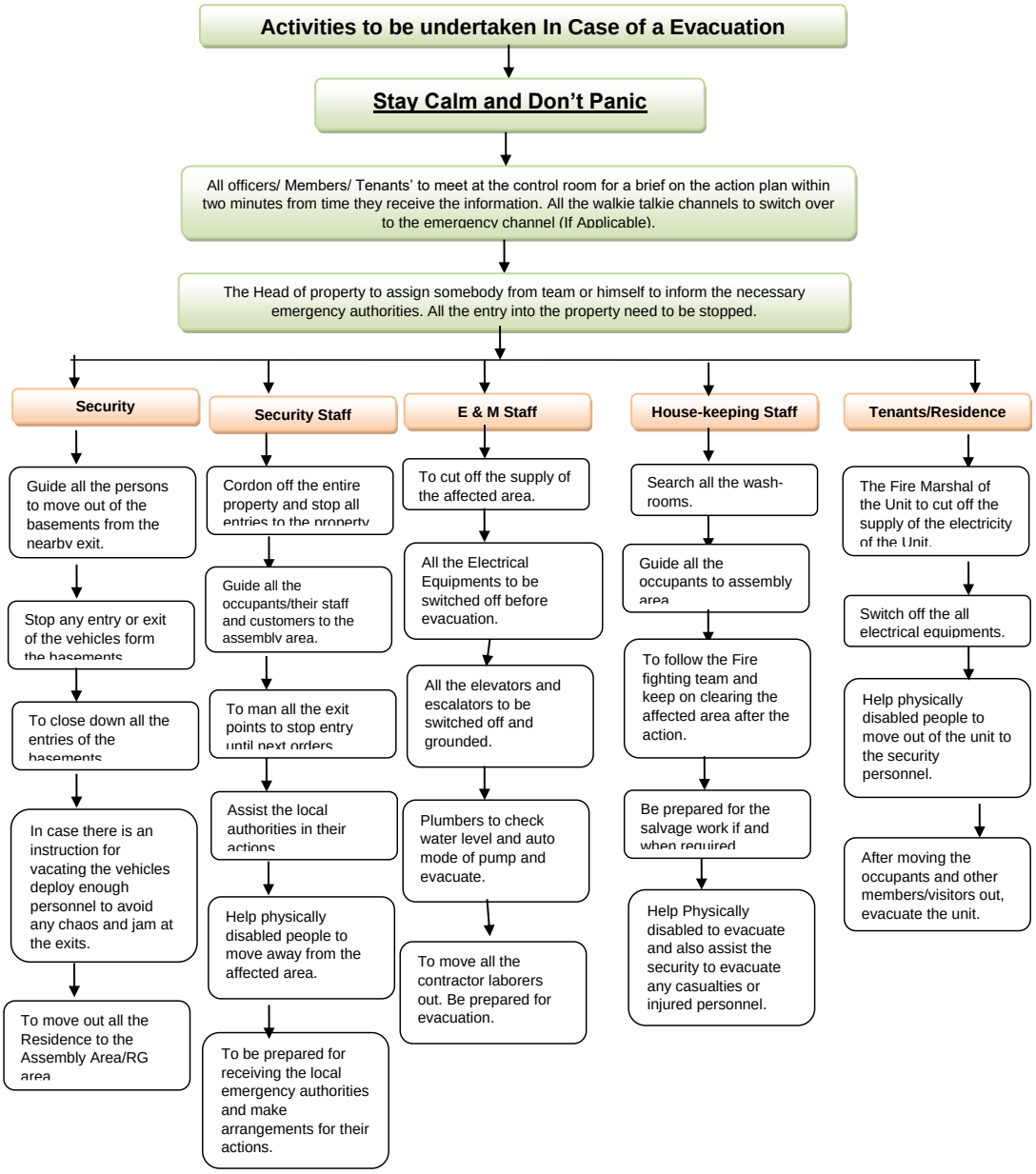
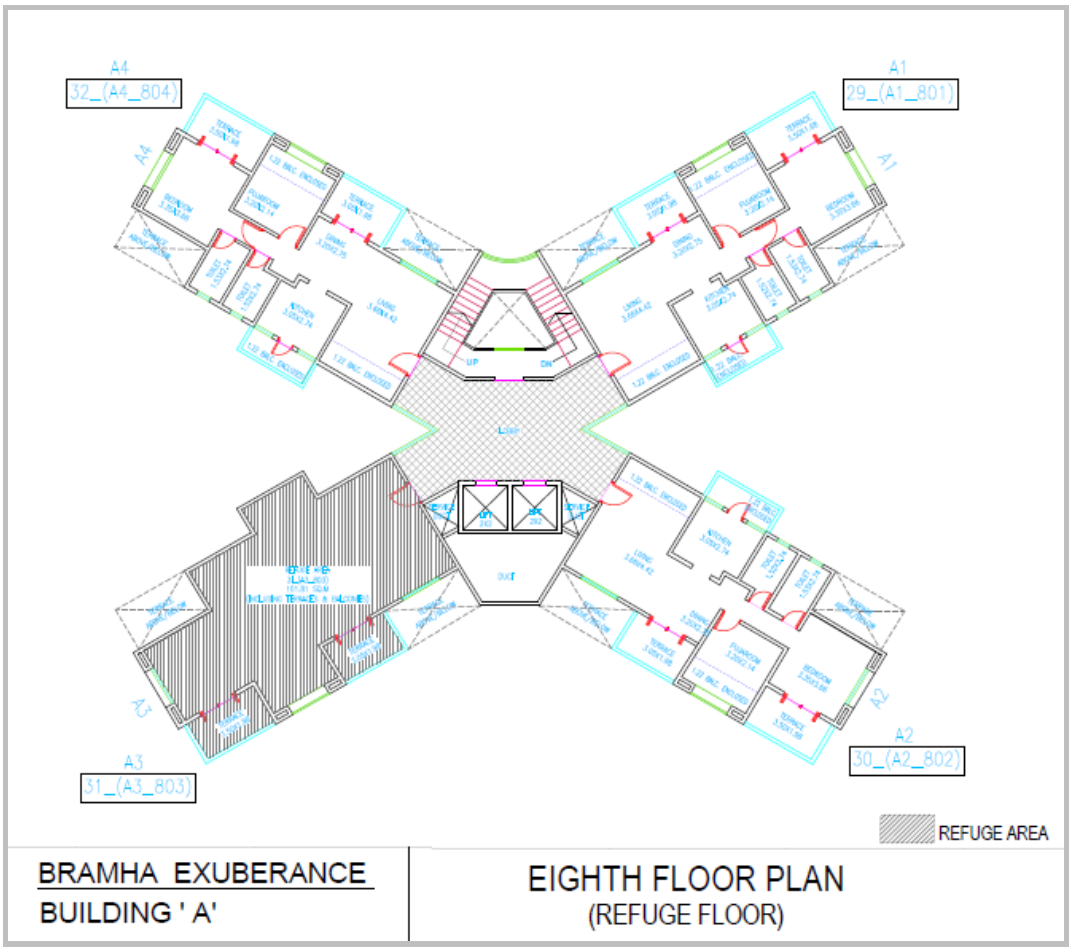
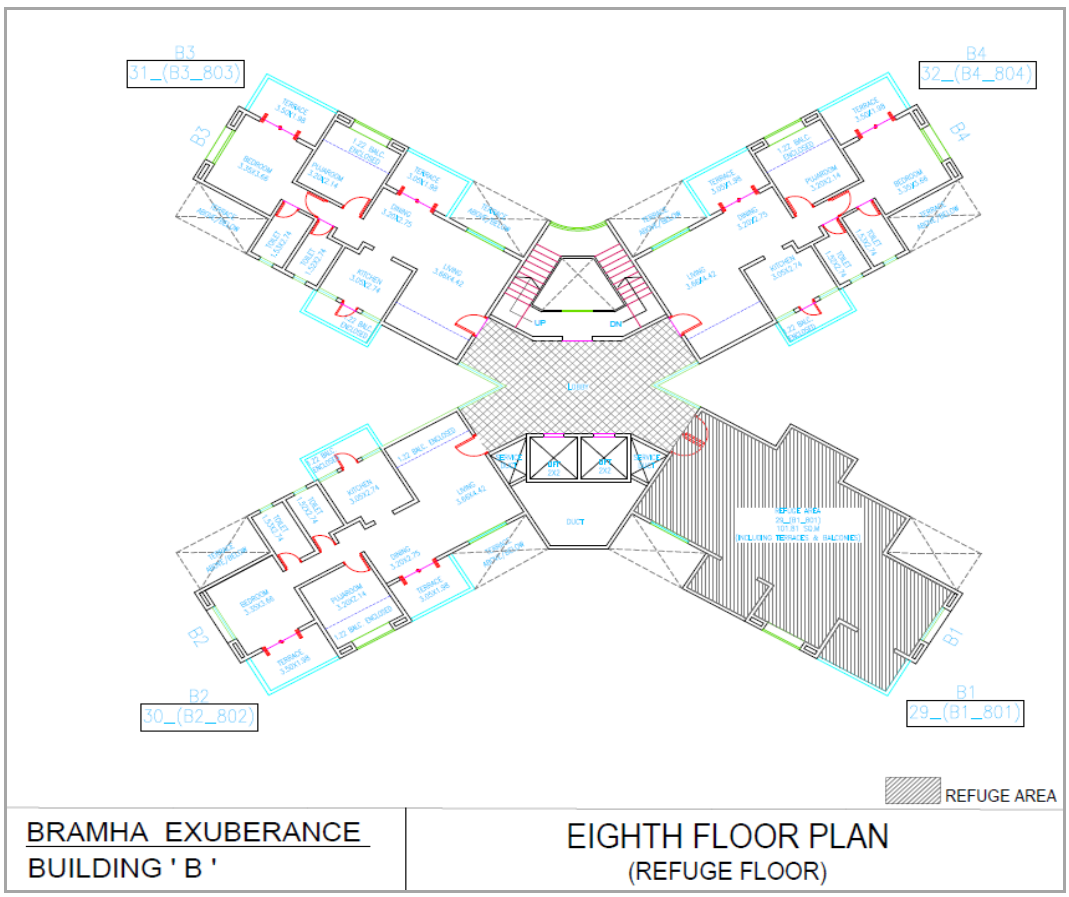
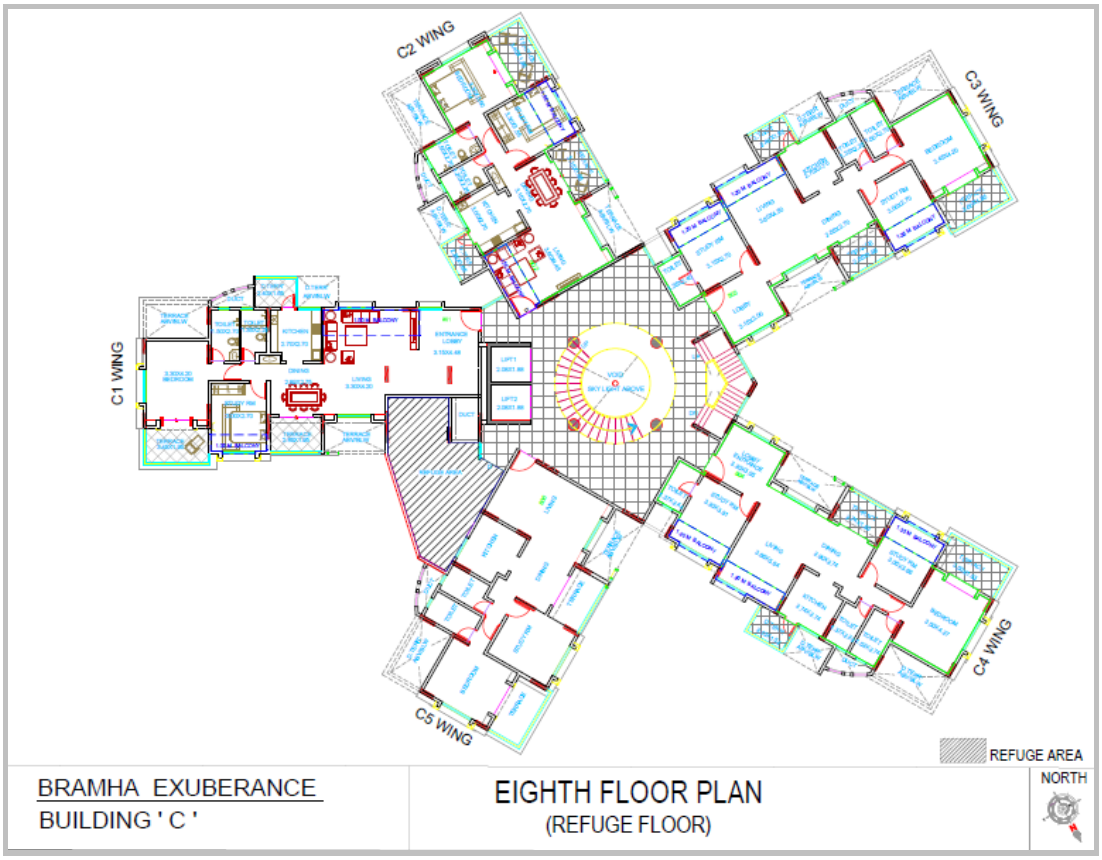


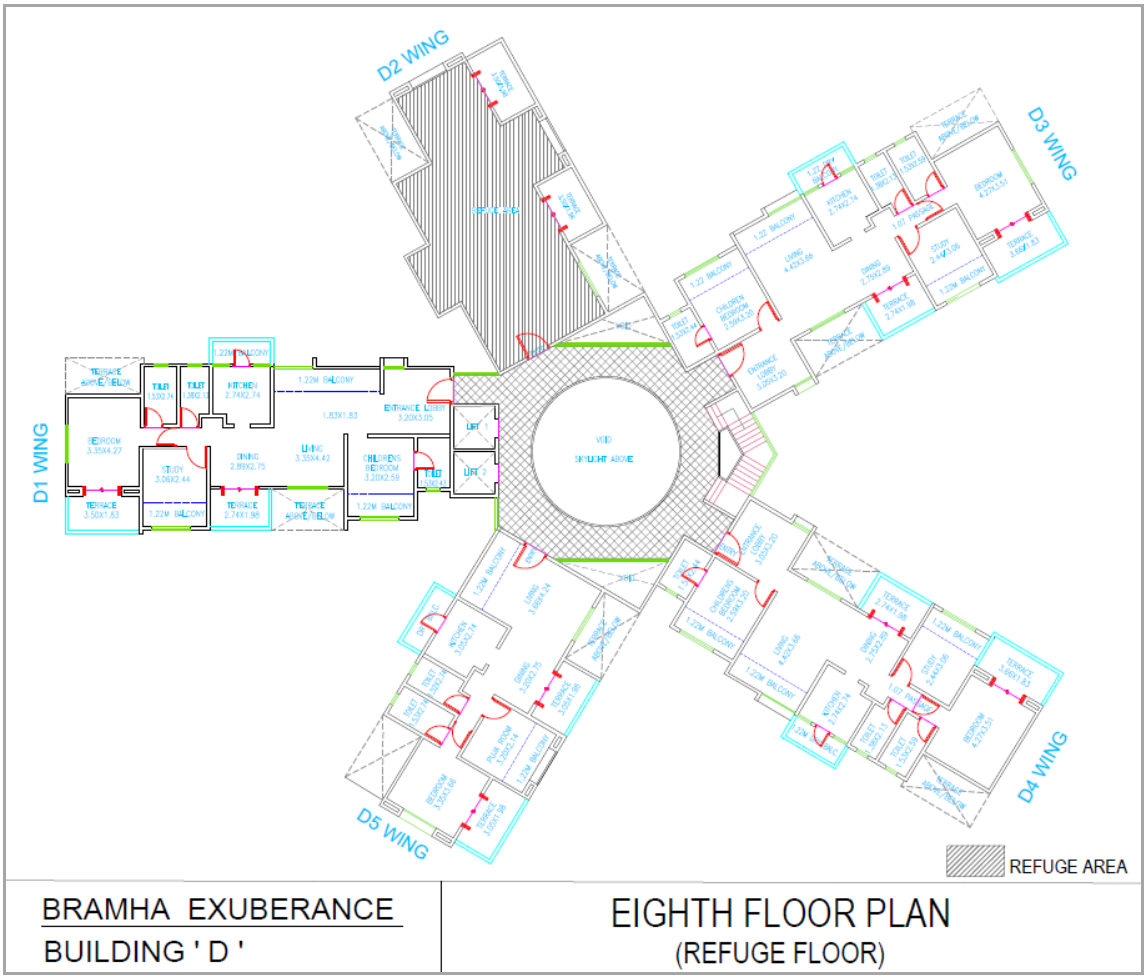
Figure 7.5: Fire tender movement plan

Figure 7.6: Refuge area plan at 8th floor






C2 WING
C3 WING
C1 WING
C4 WING
C5 WING
REFUGE AREA
BRAMHA EXUBERANCE
BUILDING ' C '
EIGHTH FLOOR PLAN
(REFUGE FLOOR)
NORTH


D2 WING
D3 WING
D1 WING
D4 WING
D5 WING
REFUGE AREA
BRAMHA EXUBERANCE
BUILDING ' D '
EIGHTH FLOOR PLAN
(REFUGE FLOOR)

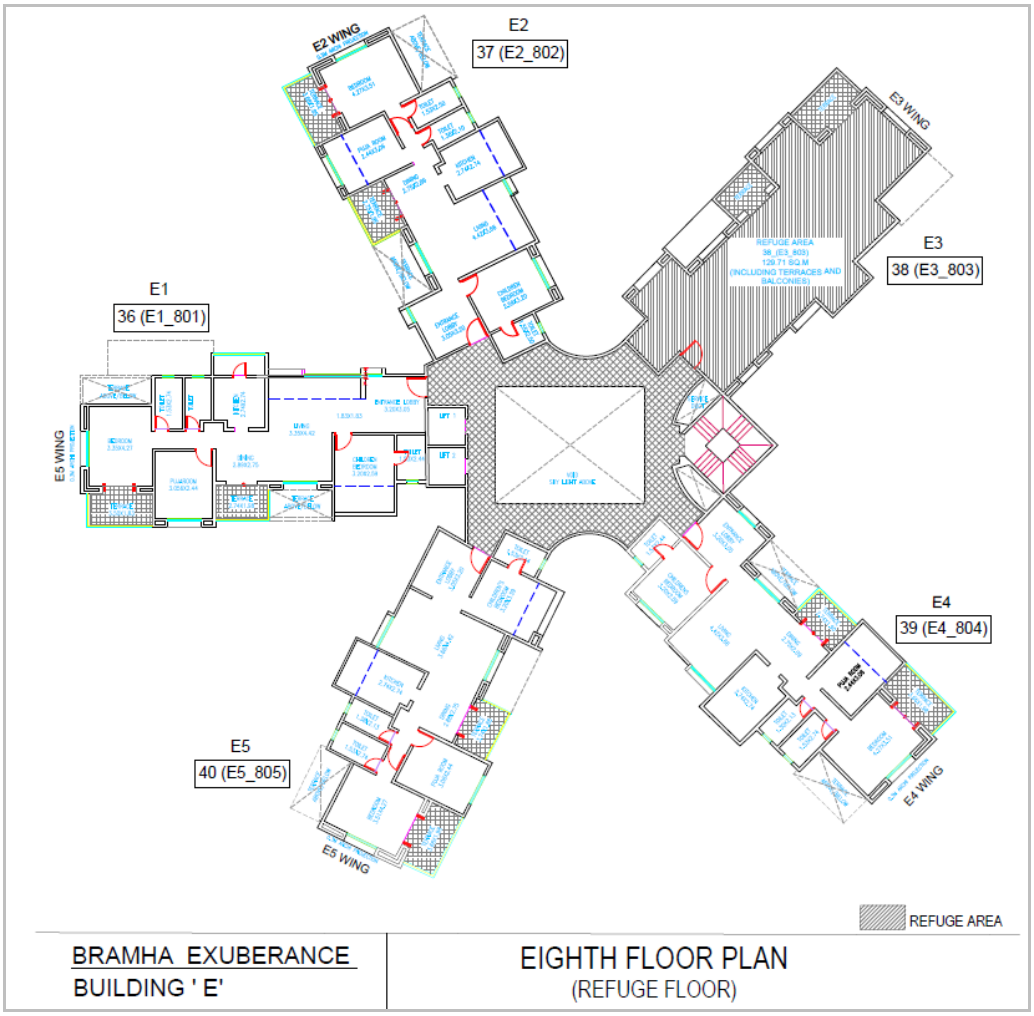
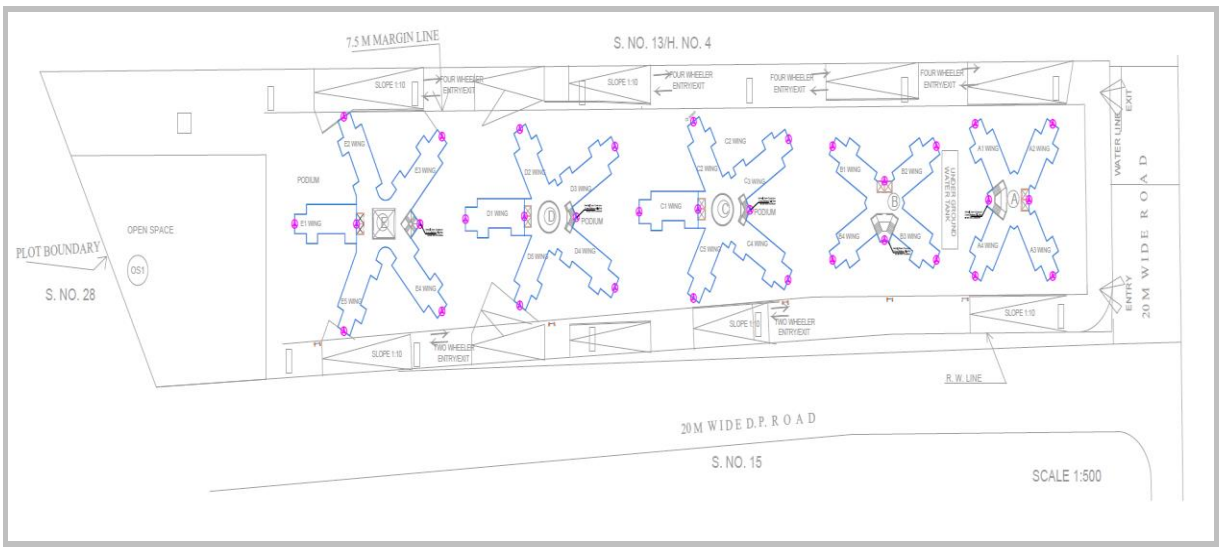
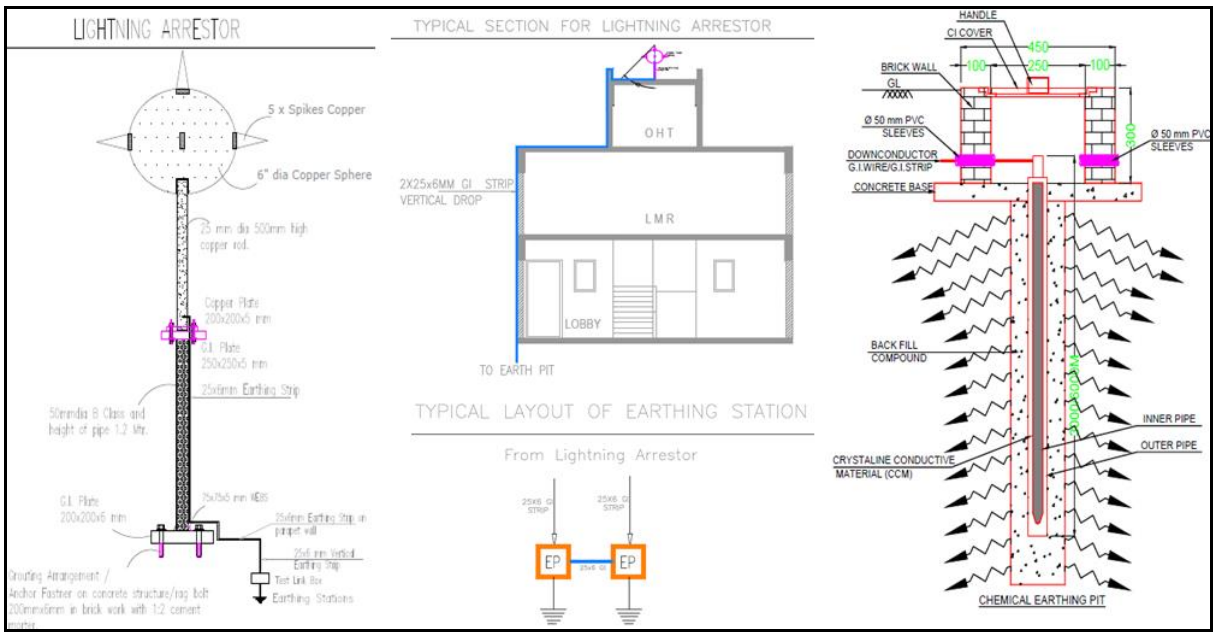


Figure 7.7: Lightening arrester layout





The above fire tender plan clearly depicts the:

1. Clear 20 m wide DP road
2. 6 m and 7.5 m wide internal roads around the building

These will be helpful for the fire tender movement.

7.4.4 Warning system and information sharing

Maharashtra has eight area Cyclone Warning Centre (ACWC) monitoring stations of IMD. They mainly release special bulletins for cyclone warning. Project proponent will assist in procuring such information and sharing it with society manager or concerned authority. They had instructed the occupant as per the information, without creating any panic situation. To share this information some of the communication routes that taken are:

a) Battery-less hand radio

Some battery-less, low-cost hand radios are now available in the market which will be useful for receiving warnings. Project proponent will provide such battery less hand radios to manager for receiving warnings from All India Radio (AIR).

b) Internet

In the present era of electric communication, internet provides a useful platform for communications. It provides a new and potentially revolutionary option for the rapid, automatic and global dissemination of disaster information. Many individuals, organizations and groups, including IMD, are using the internet real time dissemination of weather observation forecasts, satellite and other data. In the most critical phase of natural disasters, electronic communication has provided the most effective, and in some instances perhaps the only means of communication with the outside world. Project proponent will provide internet-based services at environment office and also to all the building.

It will be dependent on owners to decide on selecting a particular brand of internet.

All these warning systems are utilized by the proposed building for acquiring warning data and thus plan adequately for the disasters

7.4.5 Road map of fire stations

Proposed Environment Clearance of Residential project "Bramha Exuberance" at Sr. no. 13, H. no. 1, 2 & 3 of Village-Kondhwa Khrud, Taluka-Haveli, District - Pune, State- Maharashtra by BramhaCorp Ltd.

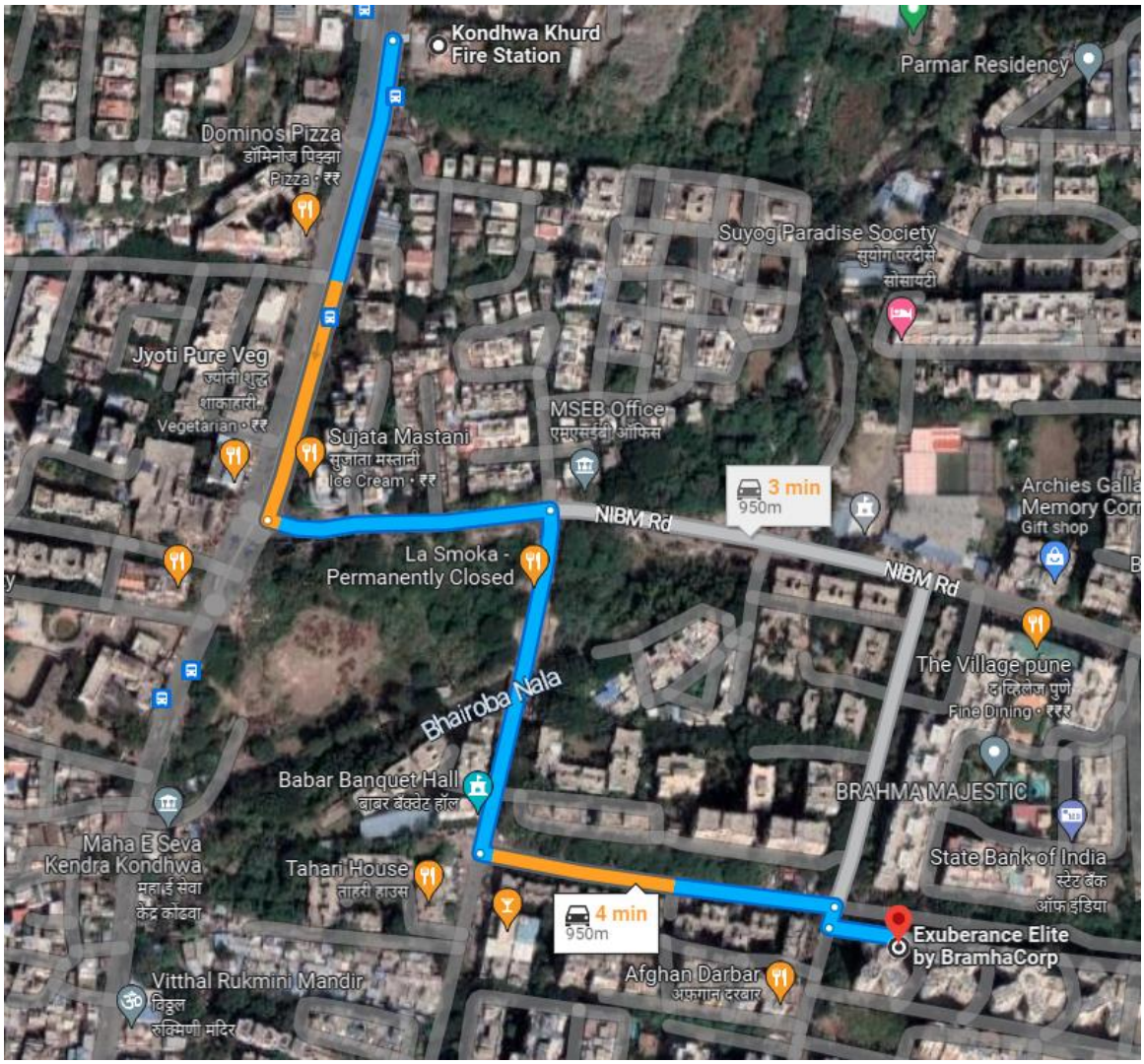
The address, phone number and minimum distance (by road) of nearby fire station is given in **Table 7.8**

Table 7.8: Details of fire stations near proposed project

Sr.	Name of fire station	Address	Phone number	Nearest distance by road (in km)	Time
1.	Kondhwa Khurd Fire Station	Inamdar hospital, Bungalow No.62, Fakhri Hills, Next to Kubera Park, Kondhwa Main Rd, Fakhri Hills, Kondhwa, Pune, Maharashtra 411048	+91 20 25390002	1.7 km	7 min

The near fire station is Kondhwa Khurd fire station. The proposed site is approximately 1.7 km away from the fire station. The road map of proposed project is shown in **Figure no. 7.8.** It takes about 7 minutes to reach the proposed site.

Figure 7.8: Road map of proposed project from fire brigade station Kondhwa Khurd fire station

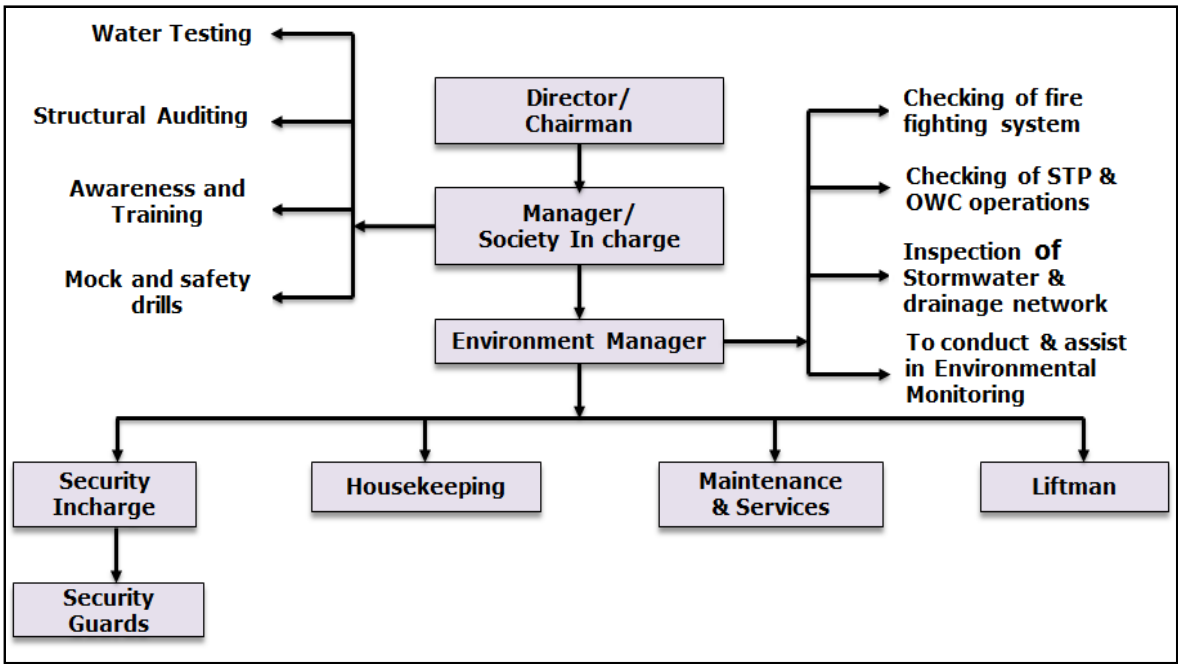


Disaster Management Committee (DMC)

To handle disaster during operation phase Disaster Management Committee (DMC) is formed.

Details of DMC is given below;

During operation phase:



Responsibility of committee members

The Primary responsibility of the committee would be:

- Analysis of the incident.
- Prompt decision making, prioritization and distribution of tasks.
- Communication of information and decisions to all involved parties.
- Development of media/public relations response.
- Reviewing Post-crisis situation and making necessary changes in Manual for future use.

The Team would also ensure that:

- The team role during the crisis situation is very important. Maintaining calmness both in action and manner of speaking is very important.
- Directions must be given firmly and clearly, without excessive anxiety. A moderate level of tension is expected and, in fact, can help convey an appropriate sense of urgency.
- Identification of Vulnerable Areas in the building and the resources that are available or can be made available with the building in case of any disaster.

A check-list would be prepared on the following points to plan actions for future, so as to make the building a safer place:

- Are the corridors and stairwells clear of any obstruction?
- Does the Property have provision for emergency backup?

- Does the building have minimum two exits?
- Are all the exits from the building clear?
- Are there adequate arrangements for fire safety etc.?

Evacuation Route-Map

The following things have kept in mind:

- The entire building is divided into zones with each zone having its own staircase.
- The exit routes are clearly marked and path is free of any obstruction.
- The safe places where the people shall gather is clearly located and the location is clearly marked and communicated to the respective classes. (Assembly point in the building).

Dissemination of plan to everybody –

This is very essential for effectiveness of the plan. This can be done by making every staff in the building aware of the plan and following steps as:

- Put up signs for exits on walls and roofs etc.
- Display the maps on every floor in the building.
- Call a meeting and discuss the plan with all staff members.
- Prepare floor-wise evacuation route maps.

Functions of committee members

Society Chairman:

During normal working hours the Society Chairman shall be available in Emergency Control room & he or Society Secretary shall give directions to all other committee members based on the information received from the site controller. The site controller will be coordinating from Control Room which is located at ground floor.
Exclusive telephone extension number i.e., Extn No. **10** / mobile tel. number of the Society Chairman/ Secretary/Security officer shall be displayed at all conspicuous locations in the project site for easy accessibility. The Security Control Room extn No. is **01/02**. The said extension number shall always be kept free & shall not be normally used by any security staff/control Room staff.
In case any help is required from the neighboring / external agencies such as Fire brigade / Civil defense / Local Police / Hospitals / Ambulance / Blood Bank etc. the same will be handled by Security Officer only and in his absence by the officer appointed by him to handle such situation.

Site Controller/Security Officer:

Based on the geographical locations of the shops/Building, following member is nominated as site controllers.

Sr. Security officer- Mr. XXX

The site controller shall inform about the emergency situation to the society chairman on exclusive extension number or his mobile number and wait for instructions from the society chairman / Secretary. The Site Controller shall not issue any instruction whatsoever to any other Committee Members which may result in confusion.

- Any Emergency noted in his respective area is to be immediately communicated to Society Chairman / Dy. Society Chairman/Secretary.
- Also, he can communicate this over phone on Emergency telephone no. 1000, which is kept at the Gate No. 1.
- He is responsible for taking care of employees and material of his area during Emergencies.
- If the area is likely to be flooded, the electrical supply of that area is to be cutoff with the help of electrician.
- If evacuation is required to be done, he has to guide his employees to assemble at a safer place.
- Any further instructions from Society Chairman are to be followed.

Fire Safety Incharge:

On receipt of information from any source, the Fire officer shall check with Society chairman and rush to the place of incident along with his team & security team and shall also communicate emergency squad members from the shop / location where the incident has taken place to rush to the site. In emergency, the fire officer will coordinate with site controllers and fire marshal appointed.

The Fire & Safety Officers shall evacuate and carry out rescue operation with the help of emergency squad members and if the situation is beyond their control, the Fire officer shall inform the Society Chairman to seek help from outside agencies.

Engineering Incharge/Safety Supervisor:

The Engineering In charge/safety supervisor after receiving the information shall contact the Society Chairman and inform him about the action initiated to isolate the machines / power / generators – as per the situation. The buildings he will coordinate with the control Room. He will not do any operation independently which can cause harm to the life and or property. He shall also ensure availability of water with sufficient pressure and quantity. Necessary help for civil work / removal of debris etc. shall be arranged by him.

Declaring Emergency:

In case of any such major hazards, which is likely to cause extensive damage to property or human life, the Society Chairman shall communicate through the various communication channels like blowing of siren, Telecommunication, Two way communication system, Public Address System available with him and make the residence aware of the situation and give instruction / direction what is expected from them and instruct them to evacuate / assemble at designated assembly points as under:

1) Nearest Refuge floor
2) RG Area

Co-Ordination with internal & external agencies:

The communication of a disaster refers to the escalation channel that needs to be followed during the notification or occurrence of disaster (or if the disaster has occurred). It shall depend on its nature whether it's a predictable or an unpredictable disaster. A predictable disaster is the one that is followed by a warning or a notification whereas in case of an unpredictable disaster there is no warning or notification.

After taking stock of the situation based on feedback received from various members of central committee the Society Chairman shall decide if any help needs to be sought from neighboring / external agencies. This should also be made known to all residence through different communication channels viz. Two-way communication system, public address system, circulars, newsletters, e-mails etc. working in different shift to avoid confusion.

Directing rescue operations:

All the members of Central Emergency Committee shall work under instructions from Society Chairman and shall take decisions in their areas of operation, however they shall keep the Society Chairman informed about the action being initiated and update him on the same.

Medical facilities:

No occupant has been assigned medical or rescue duties during an emergency situation in this building. There may be some occupants who have volunteered and been trained for building search and rescue or Disaster First Aid by any professional agency or by any government agencies for building disaster situations (e.g. a large earthquake). These volunteers will report to the Emergency Management teams in a disaster.

Declaring normalcy:

After all operations are over the Society Chairman shall declare the normalcy.

Documentation:

The Society Chairman on completion of the activities, keep track of the events and record the same. He shall inform the Management / Occupier about the occurrence and in consultation with all committee members suggest / recommend additional facilities / amendment in procedures required to meet such situation in future.

Mock drills:

Mock drills activities is conducting six monthly bases for ensuring its efficiency during emergency as well as for refinement and up gradation. These drills based on the plan will help achieve its objectives of the disaster management plan.

7.5 Do's and Don'ts for Disasters

A. Fire

- Do not panic; keep calm, think and act quickly.
- Activate the manual fire alarm system provided on the floor to raise alarm.
- Report to security.
- Summon the fire brigade on telephone No. 101
- Alert the people near fire.
- Do not take shelter in the toilet.
- Fight the fire only if you can. Do not take undue risk.
- Crawl, in case you encounter smoke.

B. Cyclone

(i) Before the cyclone season

- Concern authority will inspect the building; secure loose tiles, carry out repair work for doors and windows.
- Remove dead woods or dying trees close to the building; anchor removable objective like lumber piles, loose tin sheds, garbage can, sign-boards etc. which can fly in strong winds.
- Emergency light with extra batteries, battery operated torches, battery operated radio and enough dry cells is kept at safety office.
- First aid kit box is checked regularly.

(ii) When the Cyclone starts

- Listen to the radio (All India Radio stations give weather warnings)
- Keep monitoring the warnings. This will help one to prepare for a cyclone emergency.
- Pass on the information to others. But one must not spread rumors.
- Ignore rumors and do not spread them; this will help to avoid panic situations.
- Believe in the official information.
- Users will be made aware to switch off electrical mains at emergency situation.

(iii) Post-cyclone measures

- One must get inoculated against diseases immediately.
- Strictly avoid any loose and dangling wires from the lamp posts.
- Concern authorities will clear all the debris from the premises.

C. Floods

The concerned authorities will take the following measures as soon as they receive flood warning:

- Closing of sewer wells
- Torch
- Batteries
- Emergency light
- Acquiring sufficient food material and potable drinking water
- Maintenance of first aid kit - This first aid kit includes disinfectant (Dettol), dressing material, soap, band aid, antiseptic cream, medicines, antibiotics, and scissors.

Measures after floods

- During floods, incidence of water borne and vector-borne diseases increases. Hence, all the staffs and members of the residential area will be advised to undergo a thorough medical check-up for betterment of their health.
- All the underground and overhead tanks is cleaned and disinfected regularly. We will assist in identifying the concern authority or NGOs who carry out this kind of activities.
- Desilting and cleaning of storm water channels will be carried out by concerned authority. We will assist in carrying out this activity.

D. Earthquake

If one is outdoor at the time of earthquake,

- In case, any open space is available nearby, go there.
- Do not run through streets; hoardings or lamps as they may fall.

If one is caught indoors at the time of an earthquake,

- Be calm.
- Stay indoors until the shaking stops.
- Stay away from glass windows, doors, cupboards etc.
- Stay away from falling plasters, bricks or stones.
- Get under a table so that one does not get hurt by falling objects.
- Do not rush towards the doors or staircase. They may be broken or jammed.
- If one goes outside, move away quickly from the building to prevent injury from falling debris.
- Be aware that fire alarm and sprinkler systems frequently go off in building during an earthquake, even if there is no fire. Check and extinguish small fires and exit via stairs.

Avoid the following in an earthquake

- Do not crowd around damaged areas or buildings.
- Do not waste water. It is needful for firefighting.
- Do not move the seriously hurt people.
- Wait for medical help to arrive.
- Do not spread rumours. It leads to panic and in turn worsening the situation.

After an earthquake

- Check if anyone else is hurt. Use first aid at least on the cuts and bruises.
- Keep the streets clear for emergency services.
- Switch off all application like the machines, printers, Computers.
- A battery-operated radio will aid in receiving important messages.
- Use the stairs, not an elevator.
- Listen to a portable, battery-operated radio or television for updated emergency information and instructions.

- Cellular telephone equipment will be subject to damage by quakes and cell phones may not be able to get a signal, but regular "land line" phones may work.
- Open closet and cabinet doors cautiously as contents may have shifted during the shaking and could fall, creating further damage or injury.
- Watch out for fallen power lines and stay out of damaged areas.
- Stay out of damaged buildings. Damaged buildings may be destroyed by aftershocks following the main quake.
- Be alert for and observe official warnings.
- Do not smoke; smoking in confined areas can cause fires.

Conclusion and Recommendation

- Project proponent will provide essential information of cyclone and flood warning to society manager or concerned authority.
- Mobile towers and communication services for all service providers is available near project site. We are also providing up-to-date building codes to the society manager or the concern authority. National building codes will be made available to the concern authority. These codes identify construction technique for building that help them withstand earthquakes without collapsing and killing people.
- Localize the information by printing the phone numbers of local emergency services offices and hospitals.
- Provide tips on conducting earthquake drills at the proposed site.
- Interview representative of the electric and water companies about shutting off utilities.
- PP is providing 24 x 7 water supply.
- All the members are made familiar with evacuation plan.
- PP has formulated disaster management cell which is responsible for:
  - Check up and structural auditing of building and submitting the report to manager and PMC on regular basis.
  - Evaluation of sprinklers, firefighting equipment's, first aid kit box, disaster management rescue items, safety training, mock drills, awareness among occupant, etc.

Table 7.9: DMP cost during operation phase

Sr.	Parameters	Capital Cost in (Lakh)	O & M Cost (Lakh)
1	Fire Fighting measures (Sprinkling System, Fire	40.50	7.5

Sr.	Parameters	Capital Cost in (Lakh)	O & M Cost (Lakh)
	alarm, Portable fire extinguishers, Fire Tanks, Water lift pumps Fire Hydrant Cabinets with hose reels, Fire Hydrant Pumps, Fire list, Fire alarm, Fire Curtains, Fire Tanks, PA systems, etc.)		
2	Disaster Management Kit (First Aid Facility, Stretcher, A portable battery, powered radio, Flashlight and extra batteries, First aid kit and first aid manual, Safety shoes, helmets, Hand gloves, fire mask, fire blanket, Axe Cutter)	3.10	1.5
3	Well-equipped Control Room, CCTV	2.0	0.2
4	Disaster Management training to Users and Security staff, Mock Exercise	1.5	-
5	Alternate source of power supply/DG sets and Diesel pump for emergency	1.70	0.5
7	Lightening arrester	3.6	0.15
	Total	**52.4**	**9.85**

7.6 Natural Resource conservation

7.6.1 Biodiversity Study of the Project Site

Landscape planning & proper management practice plays a major role in this aspect. It deals with the role of plants & proper landscaping & selection techniques in reducing the pollution waste management. It improves aesthetics with the use of existing vegetation. It concerns how wildlife is sustained. It is an attempt to strengthen biodiversity status of the area through inclusion of certain useful species on project as well as public areas. Most of the vegetation of this city is wet tropical type.

Landscaping plays major role in maintaining city's environment in ecological condition by maintaining aesthetic sense to flourish its biodiversity. Pune city is growing in a very rapid pace showing its impact on physical status. Number of old trees are removed or pruned for development works by changing the face of the land & introducing new vegetation. The plant species; which attract insects, birds for nesting, feeding or breeding; act as ecological controller in future.

7.6.2 Biodiversity Index (additional ToR point no. 17)

The term "variety" of various items present, is generally used to describe "diversity". A **diversity index** is a numerical indicator of the number of distinct species present in a dataset while also accounting for how equally basic things (like persons) are spared among those species.

When both the number of kinds and their consistency increase, a diversity index's value rises. When all types are equally and sufficiently available, a diversity index's value for a given number of types reaches its highest point. Simpson's Diversity Index is a measure of diversity. In ecology, it is often used to measure the biodiversity of a habitat. It considers the

number of species present, as well as the abundance of each species for measurement.

Formula:

$$D = \frac{\Sigma n(n-1)}{N(N-1)}$$

Where,

n= the total number of organisms of a specific species

N= the total number of organisms of entire species

As per this index, 0 signifies infinite diversity and 1, no diversity.
That is, the more the value of D, the less is the diversity.
The value of D ranges between 0 and 1

Table 7.10: Biodiversity calculations

Sr.	Details	No. of trees	'D' value
1	Existing trees on plot	392	0.90

Table 7.11: Biodiversity index of proposed trees

Sr.	Boanical Name	Common Name	No. of individuals	(n-1)	n (n-1)
1	Peltophorum pterocarpum	Copper Pod	59	58	3422
2	Acorus calamus	Sweet Flag (Vacha)	15	14	210
3	Ficus benjamina	Weeping Fig	73	72	5256
4	Grevillea Robusta	Silver Oak	11	10	110
5	Araucaria columnaris	Christmas Tree	3	2	6
6	Butea monosperma	Palash	1	0	0
7	Nyctanthes arbor-tristis	parijat	7	6	42
8	Plumeria rubra	Chafa	22	21	462
9	Aegle marmelos	Bael (Bilwa)	2	1	2
10	benghalensis	Banyan	1	0	0
11	Mangifera indica	Mango	9	8	72
12	Myroxylon Balasarum	Guava	1	0	0
13	Tabebuia	Pink Rosy Trumpet	16	15	240
14	Spathodea campanulata	African Tulip Tree	20	19	380
15	Leucaena leucocephala	River Tamarind	3	2	6
16	Tecoma	Yellow Bells	70	69	4830

Sr.	Boanical Name	Common Name	No. of individuals	(n-1)	n (n-1)
17	Cordia sebestena	Geiger tree	3	2	6
18	Bambusa Vulgaris	Bamboo	8	7	56
20	Umbrella Tree	Octopus Tree	1	0	0
21	Cordia dichotoma	Indian Cherry (Bhokar)	7	6	42
22	Azadirachta Indica	Neem	6	5	30
23	Alstonia scholaris	Blackboard tree	8	7	56
24	Santalum album	Sandalwood	2	1	2
25	Bauhinia variegata	(Orchid) Kanchan tree	8	7	56
26	Citrus limon	lemon	5	4	20
27	Citrus sinensis	Sweet orange	1	0	0
28	Swietenia	Mahogany	5	4	20
29	Thespesia populnea	Indian tulip tree (Bhendi)	1	0	0
30	Saraca asoca	Ashoka tree	1	0	0
31	Prunus avium	Cherry	2	1	2
32	Cascabela thevetia	Bitti (Kaner)	5	4	20
33	Khaya senegalensis	Khaya	1	0	0
34	Murraya paniculata	Kamini (Jasmine)	4	3	12
35	Syzgium cumini	Jamun tree	1	0	0
37	Annona squamosa	Custard apple	1	0	0
38	Lagerstroemia speciosa	Tamhan	4	3	12
39	racemosa	Umbar	1	0	0
40	Prunus Dukis	Badam	2	1	2
41	Leucaena leucocephala	Subabhal	1	0	0
42	Religiosa	Pimpal	1	0	0
	Total (N)		**392**		15374
	N(N-1)		**153272**		
	Biodiversity Index		**0.90**		

7.7 Resettlement& Rehabilitation Action Plan

This project is on urbanized land and there is no population displacement due to this project. Resettlement and rehabilitation action plan for the residential project 'Bramha Exuberance', Kondhwa, Pune is not applicable.

7.8 Solid Waste Management Plan

Solid Waste Management is one of the most essential services for maintaining the quality of life in the urban areas and for ensuring better standards of health and sanitation. In India, this service falls short of the desired level, as the systems adopted are outdated and inefficient. Institutional weakness, shortage of human and financial resources, improper choice of technology, inadequate coverage and lack of short and long-term planning are responsible for the inadequacy of service

7.8.1 Components of Municipal Solid waste Management

Collection

Waste is collecting on door-to-door basis. This waste is brought to near temporary storage place where segregation done. Then it is brought to waste processing plant. Each person collecting waste has to be given safety gloves and related personal protective equipment (PPE). Garbage bins is used to collect waste.

Segregation

Waste is now segregated to biodegradable, non-biodegradable and inert waste for the classification and proper treatment processes. Segregation is done by local nearby worker who trained about segregation.

Transport

Transport of waste is done using wheel barrow. Segregated waste is going their respective place for further process. Biodegradable waste goes for composting, non-biodegradable waste is sending to the authorized recycler dealer for further processing. Inert waste is disposing as per Pune Municipal Corporation (PMC).

Treatment and process

- For the proposed project, impacts from waste disposal is not be significant, since municipal solid waste is disposing-off as per Municipal Solid Waste Handling and Management Rules.
- Biodegradable waste – Biodegradable waste is treated using vermicomposting pits and used as manure for landscaping.
- Recyclables (Tin, glass, paper, cardboard, leather, metals etc.) is segregated and sold over to local recyclers.
- Insert waste- Inert waste is going for land filling.

7.8.2 Project specific solid waste details

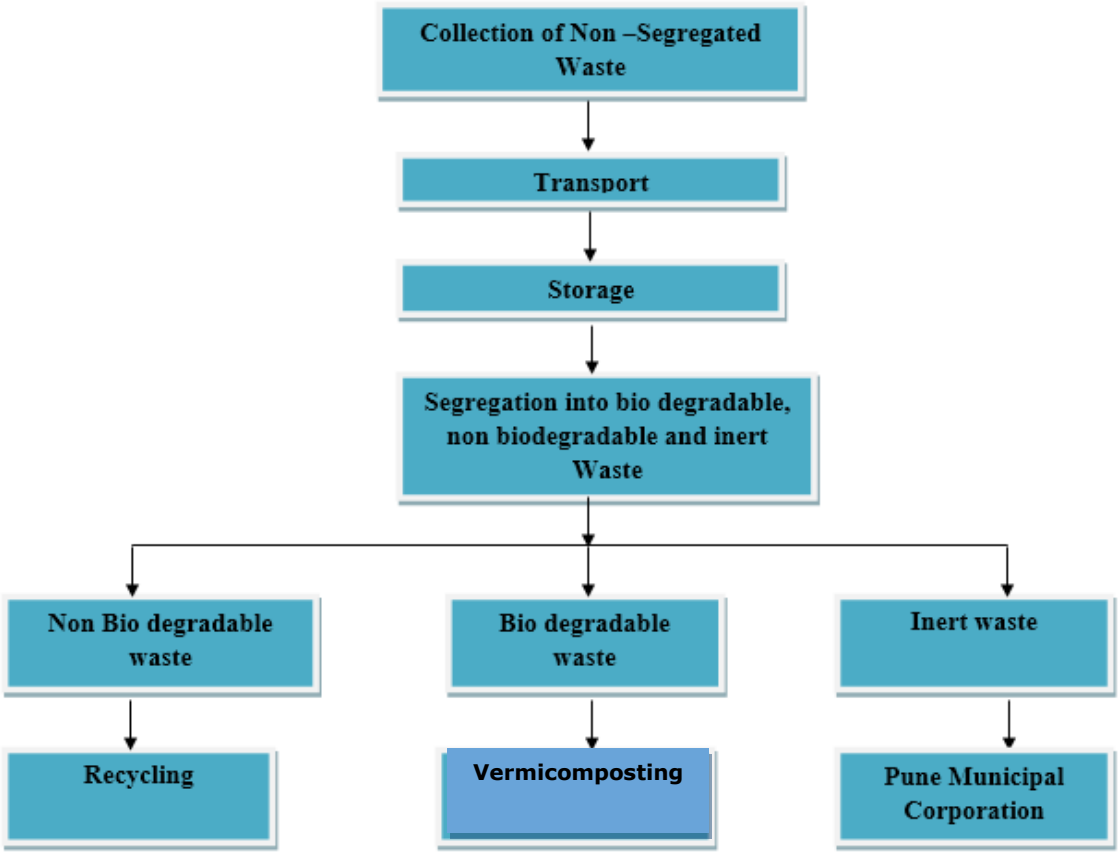
During operational phase:

Solid waste generated from entire project is 699 kg/day. Out of which 419 kg/day is biodegradable component and 280 kg/day is non-biodegradable. We have provided vermicomposting pits for proposed project.

Table 7.12: Solid waste generation calculation details

Details	Information
Population	1,432 nos.
Total waste generation	699 kg/day
Biodegradable waste	419 kg/day
Non-Biodegradable + Inert waste	280 kg/day
STP sludge	1.7 kg/day

Figure 7.9: Schematic representation of Solid Waste Management Waste



Biodegradable waste

Process description for Vermicompost system

Vermicomposting is a simple biotechnological process of composting, in which a certain species of earthworms is used to enhance the processing of waste conversion and produce a better fertilizer product. Vermicompost is a product enriched with biological, physical and chemical properties that can enhance soil health and promote high growth and harvest of plants such as crops. The earthworms are encouraged to multiply by setting up their suitable environment, the moisture should be between 50 and 70%, and the soil pH should be 7.

The compost produced in this green process is traditionally and popularly used as a natural fertilizer for enhancing plant growth. Earthworms belong to the phylum Annelida, subclass Oligochaeta.

This process is mainly required to add nutrients to the soil. Compost is a natural fertilizer that allows an easy flow of water to the growing plants. The earthworms are mainly used in this process as they eat the organic matter and produce castings through their digestive systems.

This product contains more and readily available plant nutrients such as nitrogen, phosphorus, potassium and micronutrients. This product contains beneficial microorganisms that can solubilize phosphorus and other minerals for plant uptake. Vermicompost has high organic carbon that is highly required by plants as compared to other conventional composts. This compost has high water holding capacity, improves soil porosity, increases activity of beneficial microbes and is good when mixed with sandy soil.

- To prepare the vermicompost, a concrete tank has used according to the availability (Size- based on the number of raw materials available)
- Collect the dried biomass (garden waste, animal waste, municipal waste, etc.) and chop them.
- Mix the chopped dry material with cow dung in a 1:3 ratio and keep them aside for 15-20 days for partial decomposition.
- Add a thin layer of soil /sand (2-3 inches) at the bottom of the tank.
- Now prepare the bedding by adding the partially decomposed cow dung and dried waste mixture. Distribute it evenly on the soil.
- Continually add the mixture up to a depth of 0.5-1 foot.
- Now release the earthworms in the tank (1000-2000 earthworms / square meters). Cover the mixture with gunny bags/ straw/ plastic.
- Monitor the bin for the availability of food to the earthworms and add the food (fruit and vegetable peels, other kitchen waste) when necessary (make sure not to add excess food)
- Do water regularly to maintain moisture.
- Monitor the composting tank to maintain temperature and moisture

- Beds turned in every 30 days for aeration and proper decomposition.
- The compost is ready in 45-50 days.

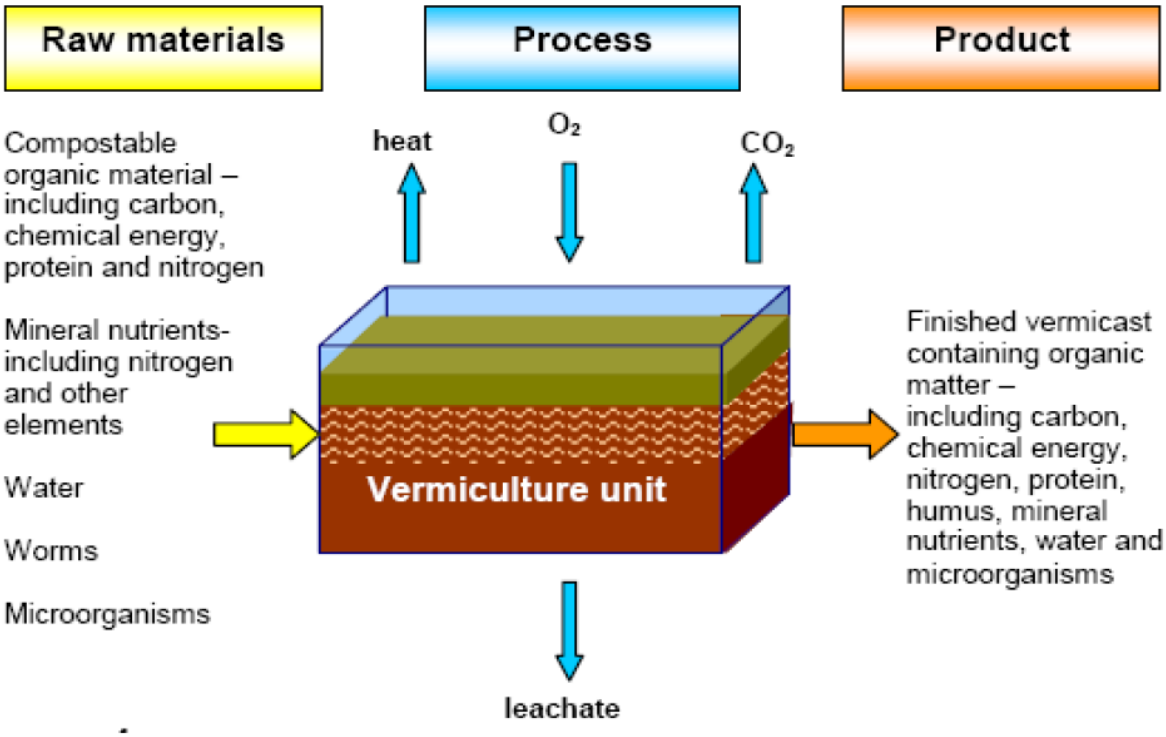
Table 7.13: Vermicompost pit details

No. of units	35 nos.
Capacity (kg/day)	49.35 m^3
Total space provided	56.5 m^2

Table 7.14 : General study of waste generated and its utilization

Type of waste which can be treated: -	1. Cooked food, vegetable and fruit remains. 2. Tea and coffee powder. 3. Garden waste including fresh leaves and dry leaves.
Type of composting	In vessel Aerobic Composting
Time requires for composting cycle	15-20 days.
Any additional material required for composting	Ready Compost / Saw dust/shredded leaves
Requirement of water during composting.	Yes
Utilization of compost	In garden, agriculture land as manure.
Advantages	• Eco-friendliness, • Nutrient-rich compost, • Improve soil structure, texture, porosity, water-holding capacity, drainage, and aeration and reduces erosion. • It improves plant growth • It is easy to apply and handle, economical and has no foul odor. • It is free from any pathogens or harmful materials. • It contains several micro and macronutrients, vitamins, enzymes, and hormones like auxins and gibberellins.

Figure 7.10: Solid Waste Management



Recycled waste (Non-Biodegradable)

Non-Biodegradable or recyclable waste is non-organic material that can't be broken down easily by natural processes. Recyclables are items and materials bound for the waste stream that can be converted into a reusable material. Non-biodegradable waste generated other than inert waste will be send to the authorized recycler or dealer for further processing.

Table 7.15 : General study of waste generated and its utilization

Sr.	Component	Description	Criteria	Total capital cost (In Lakh)	O & M cost (In Lakh/year)
1	Vermicomposting machine	34 no. of vermicomposting pits for treatment of biodegradable garbage	Handling of Biodegradable garbage, segregation of waste & Vermicomposting pits	3	0.4

7.9 Debris Management Plan

Debris Management plan includes handling, collection, storage, treatment, and disposal of hazardous and non-hazardous waste, debris, excess earth etc. Basic process is segregation of Hazardous and Non-Hazardous Waste.

Non-Hazardous Material and Waste:

Common non-hazardous solid wastes generated at the site includes:

- Concrete Waste
- Scrap wood (Used or un used)
- Bricks
- Debris generated out of Plaster Waste etc.
- Plumbing Fixtures and Piping Waste
- Metal Scrap and electrical wiring material
- Other misc. scrapes
- Biodegradable waste from the labour camp
- Non-biodegradable waste from the labour camp

This debris gets generated at different phases of project cycle.

Handling and collection of Non-Hazardous waste:

PP is trying to take following steps for handling and collection of these wastes.

- PP is planning to use the debris generated from plaster waste within site premises only by using sand screening machine for misc concrete and plaster work for external development.
- The waste generated is either manually / by machinery collected and handled by tractors or suitable vehicles for shifting.

Waste from site:

The-waste generated from site was mainly comprise of household domestic waste that is collecting and composting on project site. The non-compostable and non-recyclable portion of the-waste is collecting & segregated. We have made arrangement for collection & disposal of non-biodegradable waste.

During collection stage, the biodegradable, non-biodegradable/inert waste is collecting separately and segregated properly. Different containers is used for storage of such wastes with signage.

Biodegradable-waste is processing for further composting whereas; non-biodegradable/inert waste is sending to the authorized dealers after segregation and processing.

Treatment & disposal:

Biodegradable waste:

It is a residential project. The wastes generally that is generated are canteen waste, food waste, horticulture waste, paper etc.

The segregated biodegradable-waste is composted by using vermicomposting pits

Non-biodegradable waste:

It is a residential project. The wastes generally that is generated are plastics polyethylene, nylon, rayon, polyester, lexan, glass, metals, packaging materials, foams, rubber etc.

The non-compostable and non-recyclable portion of the is collecting & segregated.

We have made arrangement for collection & disposal of Non-biodegradable waste to authorized recycler.

Inert waste:

Inert waste is refuge, reject, or residue material that does not undergo biological, chemical, physical, or radiological transformation. Inert waste includes building (demolition) waste, gravel, sand, and stone but not any biodegradable, hazardous, or green (botanical) material. The inert waste is handing over to the authorized recyclers.

As there is no demolition at project site, the possibility of generation of inert waste is negligible.

Topsoil management:

To minimize disruption of soil and for conservation of topsoil, the contractor taken out the topsoil separately and stockpile it. Other measures, which was followed to prevent soil erosion and contamination included:

- Maximize the use of organic fertilizer for landscaping and green belt development
- Removal of as little vegetation as possible during the development, and re-vegetation of bare areas after the project

Hazardous Waste: Common hazardous waste generated at site includes following:

- Used oil from DG set and machineries
- Waste paints, varnishes, solvent, sealers, thinners, adhesive, etc.
- Acids used at batteries etc.

Handling and Collection/Storage of Hazardous Waste: PP is adopting following steps for storage to ensure the safe working environment:

- PP has ensured the storage of material on the basis of its properties of hazardous nature. Wooden material, waste wooden scrape, flammable liquid, diesel, paint, varnish, etc. is stored at different locations. This hazardous material is stored at such place which is kept away. The area is well equipped with all type of fire extinguisher, etc.
- The material is stored in a covered area. A separate godown is made away and easily accessible.
- PP is trying to maintain the delivery period in such a way that just in time can be achieved, particularly for these types of material.
- PP has been ensuring that minimum stock of diesel has been keeping on site.
- PP has been trying to avoid the use of machineries like petrol vibrator, diesel pumps, etc. to minimize the stock of these hazardous materials instead use alternative equipment's.
- PP has ensured that godown of Paints, varnishes, thinner etc. to be under well covered hard roof and away from direct sunlight.
- PP has maintained the regular frequency for training of safe working practices for the labours who are handling this hazardous material.
- PP has ensured the signages must be clearly visible during day as well as night time. PP Will also keep the awareness regarding same.
- PP has ensured enough illumination during night hours.
- PP has restricted the entry of worker to this area. Only authorized persons are allowed to enter and the area.
- PP has ensured that only the minimum required quantity to be issued to working site, balance quantities will be kept at central godown.
- The entry has restricted to only to contractor site representative authorized at initial stage only.
- The signages like danger board, entry restricted etc. has installed in the area.
- The PP has maintained the material safety data sheet for better handling of the material.

Disposal Mechanism of Hazardous Waste-

The chemical and Hazardous material which is used at site is mostly getting consumed fully. There are not be a waste of this material. There are some of the hazardous materials which may get wastage is treated with high care.

- PP has ensured that whatever the balance hazardous waste in the form of paint/thinner/varnishes etc. is recovered and returned back to the approved vendor/contractor.
- The empty can/buckets etc. is well washed and reused for other purpose.
- Balance material (buckets, cans, drums etc.) is sold to the approved vendor/supplier/contractor.

E-waste:

PP is entering into an agreement with SWACH for collecting E-waste generated at site.

E-waste comprises of wastes generated from used electronic devices and house hold appliances which are not fit for their original intended use and are destined for recovery, recycling or disposal. Such wastes encompass wide range of electrical and electronic devices such as computers, handheld cellular phones, personal stereos, including large household appliances such as refrigerators, air conditioners etc. E-wastes contain over many different substances some of them are toxic and potentially hazardous to environment and human health, if these are not handled in an environmentally sound manner.

Components of E-Waste

E waste has been categorized into three main categories, Viz. Large Household Appliances, IT and Telecom and Consumer Equipment. Refrigerator and Washing Machine represent large household appliances, Personal Computer, Monitor and Laptop represent IT and Telecom, while Television represents Consumer Equipment. Each of these E-waste items has been classified with respect to twenty-six common components, which could be found in them. These components form the "Building Blocks" of each it demands therefore they are readily "identifiable" and "removable". These components are metal, motor/ compressor, cooling, plastic, insulation, glass, LCD, rubber, wiring/ electrical, concrete, transformer, magnetron, textile, circuit board, fluorescent lamp, incandescent lamp, heating element, thermostat, BFR-containing plastic, batteries, CFC/HCFC/HFC/HC, external electric cables, refractory ceramic fibres, radioactive substances and electrolyte capacitors (over L/D25mm). The kinds of components, which are found in Refrigerator, Washing Machine, Personal Computers (PC) and TV's are described below-

- Radioactive substances, refractory ceramic fibres, electrolyte capacitors (Over L/D 25 mm), textile and magnetron are not present in any item.
- Plastic, circuit board and external electric cables are present in majority of items. BFR containing plastic is present in refrigerator, laptop and television.

- Refrigerators are unique items because of presence of CFC/HCFC/HFC/HC, cooling, insulation, incandescent lamp and compressor.
- Heating element is found in washing machine, while thermostat is found in both refrigerator and washing machine.
- Fluorescent lamp is found only in laptop
- Metal and motor are found in majority of items except refrigerator
- Transformer is not found in washing machine and refrigerator
- CRT is found in personal computer and TV, while LCD is found in PC and TV.
- Batteries are found in PC and laptop.
- Concrete is found in washing machine.
- Rubber is found in refrigerator and washing machine.
- Wiring/ Electrical is found in all the items.

Collection Systems for e-waste as per CPCB

A producer is responsible for his products he may be involved in the establishment of the take back system for end of use electronic and electrical equipments. The producer responsibility could be the Individual or collective. Individual model requires each producer to be managing thee- waste generated by their products. The producer shall announce take back system. The individual producers can have direct contact with dismantlers or recyclers which allow them to get back there- usable components from their obsolete equipments. The producers can also get the data from the collector/ dismantler/recycler about the specific composition and characteristics of the products. In the case of collective producer responsibility, the producer would enter into contractual agreements with a collection agency which would be responsible for collection of the waste from generator. The producers through the collection agency have to pay a fixed price for their products to the generator, as in the collective responsibility model. The take back system may provide free collection or provide discount on purchase of new items. This facilitates in establishing a feasible and effective collection system to enable the channelization of thee-waste to appropriate recycling facilities and increasing re- use of certain components. The economic rationale behind is to facilitate the transfer of the benefits to the consumers enabling them to get better price on the sale of used equipment.

- As CPCB directs collection agency PP is entering into a contractual Agreements with a named as SWACH to collect all the E-waste generated at the site.

Figure 7.11: Contour plan

Higher contour level	628.5 m
Lower contour level	614.5 m
Level difference	14 m

Details	**Excavation quantity (m^3)**	**Backfilling quantity (m^3)**
Building	2,000	1,840
Services		80
Road		80
Total	**2,000**	**2,000**

Disposal of the construction waste debris:

Total debris quantity of **2,000 m^3** was estimated from excavation quantity. The excavated material **2,000 m^3** was reused within site for backfilling purpose.

Conclusion –

1. PP has precisely defined the scope and objectives of the project with respect to the generation and management of different types of wastes.
2. PP has identified and segregated the wastes generated as; bio-degradable, non-bio-degradable, hazardous, non-hazardous and e-wastes.
3. The project is a residential scheme; hence the quantum of non-hazardous material is less than the hazardous material.
4. The identified hazardous materials are diesel, used oil, paints, acids, thinners etc.
5. PP are taking all precautionary measure for storage, handling and collection of hazardous material with all sign boards and safety measures.
6. PP has identified that there is negligible wastage for electronic and electrical goods/waste.

7. Excavation debris generated from the project was reused within the site for backfilling purpose & remaining quantity used for landscaping purpose.

7.10 Traffic study

Project proponent has proposed to residential project 'Bramha Exuberance' located in Village Kondhwa, Taluka Haveli, Pune, Maharashtra.

Pune railway station is the nearest railway station located at 8.1 km from site which provides local connectivity. Pune International Airport, Lohgaon is the nearest airport from site which is located at distance of 15.1 km from site. The project location is surrounded by a local road network. Project site is accessible by clear 20 m wide DP road and 6 m and 7.5 m internal road.

Detail traffic analysis report is attached as **Annexure V.**

7.11 ECBC Compliance Study

ECBC compliance study is done for proposed residential project 'Bramha Exuberance, Pune'. The specific study is done to evaluate annual energy usage and apply various energy efficiency measures for ECBC Compliance for maximum Energy Efficiency.

The building was analysed using hourly energy simulation to evaluate the performance in terms of energy consumption and thermal comfort of the occupants. The purpose of this study is to present the performance of the design building in comparison to a baseline budget building based on ECBC 2007. A complete ECBC compliance report is attached as **Annexure IV.**

7.12 Carbon Foot Print Study

A 'Carbon Footprint' refers to the potential climate impact of the greenhouse gases (GHG) that are emitted directly or indirectly due to construction activities. To calculate a Carbon Footprint involves the preparation of a GHG inventory, typically an estimation of building's annual emission of GHG expressed interms of tonnes of carbon dioxide equivalent (tCO_2e). The results are presented in three stages. First, the construction phase emissions of the project are assessed. Second, the operation phase carbon consumption is presented taking in to account different type of energy consuming sources. In the third phase, carbon sequestration through vegetation and renewable energy has been considered.

The carbon footprint analysis shows that, the total emission of the project during construction phase can be **15332.0 tCO2e**. The emission is mainly

from Manufacturing of Construction material, Transportation and power consumption uring construction phase.

The total emission during operation phase of project will be **2466.2 tCO2e/yr.** The emission is mainly from Power Consumption, followed by Solid waste Management and Waste water Treatment.

The total reduction in carbon footprint due to vegetation and renewable energy sources will be **120.1 tCO2e/yr.** The total carbon footprint during operation phase is **2346.1 tCO2e/yr.**

Carbon footprint study report is done for the proposed project which is attached as **Annexure VI.**

7.13 Hydrological Survey Report

Hydrological survey report including graphs and data is attached as **Annexure IX.**

7.14 Gate Mass-Balance Analysis Study

Mass balance analysis study is significant in construction projects for the following purposes:

- For better management of waste generated
- To reduce the quantity of debris during construction phase
- To reduce load on landfills site.

For above said purposes, Mass balance analysis for construction waste is presented in this study.

Gate mass balance study report is attached as **Annexure VIII**.

Chapter 8
Project Benefits

8.1 General

Urban infrastructure consists of drinking water, sanitation, sewage systems, electricity distribution, urban transport, primary and advance health care services and environmental regulation. The process of urbanization has gathered considerable momentum in recent years.

The proposed project is the part of such urban infrastructure development and its associated activities will help to build physical infrastructure like residential use, roads, telephone lines, electric substations and colony and water supply lines in study area. The residential development project consists of residential buildings. Following are the benefits of the project:

- This proposed project is facilitating the development of the region socially and economically.
- The project created affordable houses for the middle-class population at the outskirt of Pune.
- The entire infrastructure and amenities are developed and maintained by the Developer at his cost.
- Thus, people got integrated residential development with amenities and in facilities

8.2 Improvement in Social Infrastructure

From the very initial stage of the inception of the project, infrastructure development in and around the project site has been kept in consideration. Infrastructure development is done based on actual requirement of the region. The infrastructure development is rolled out as a part of CER activity.

8.3 Economic Development

This project is increased the economic activities around the area, creating avenues for direct/ indirect employment in the operation phase of the project. There would be a wider economic impact in terms of generating opportunities for other business-like workshops, marketing, repair and maintenance tasks etc.

Adequate road connectivity and maintenance is provided for easy transportation in the operation phase. Such improved transport networks will improve flow of goods and will increase business. Due to proposed project other commercial facilities will also be upgraded. The corrective

measures planned to improve the environmental quality will definitely reduce the health problems. In short, the project is providing value addition to the existing infrastructure. The continuous inflow of people will require local transport systems like autos, taxis etc which would help economic boost.

8.4 Employment Potential

During operation phase skilled workers required for STP operation, security guards, landscaping, generator operator etc. which is hired locally. Moreover, commercial activities due to this project will enhance economic growth of the region.

8.5 Landscape development

After implementation of the project, the green cover of the project area is enhanced by beautifully landscaped and green cover plantation by native species. This is not only enhancing the aesthetic beauty of the region but also regenerate and enhance the local ecology and biodiversity.

8.6 Improvement in infrastructure facility

New and better infrastructure facility are developed.

Chapter 9
Environmental Cost Benefit Analysis

Not applicable

Chapter 10
Environmental Management Plan

10.1 General

Environmental Management Plan (EMP) deals with evaluation of significance of unavoidable or residual impacts following mitigation and the proposed monitoring.

10.2 Introduction

Environmental Management Plan (EMP) is a site-specific plan developed to ensure that the project is implemented in an environmentally sustainable manner where all contractors and subcontractors, including consultants, understand the potential environmental risks arising from the project and take appropriate actions to properly manage that risk.

EMP also ensures that the project implementation is carried out in accordance with the design by taking appropriate mitigative actions to reduce adverse impact on the environment and recommends corrective measures where required. Also, the plan outlines roles and responsibility of the key personnel and contractors who are charged with the responsibility to manage the site.

The potential environmental impact that needs to be regulated is mentioned below:

- Air pollution due to the emission of particulate matter and gaseous pollutants;
- Noise pollution due to various noise generating equipment as well as vehicular movement;
- Wastewater generation from sanitary/domestic activities; and solid waste disposal

10.3 Project description

We are applying for Environment Clearance for Proposed Residential project 'Brahma Exuberance' at Sr.no. 13, H. No. 1, 2 & 3 of Village – Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra by BrahmaCorp. Ltd.

Figure 10.1: Master Layout

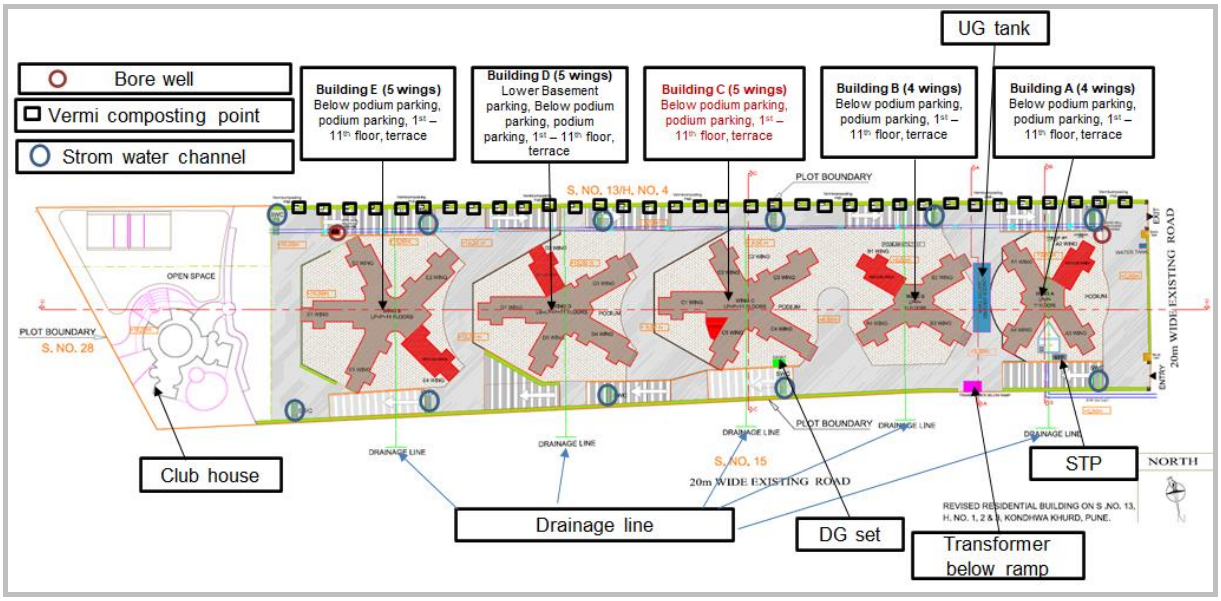


Figure 10.2: Organization & Environment Management Cell

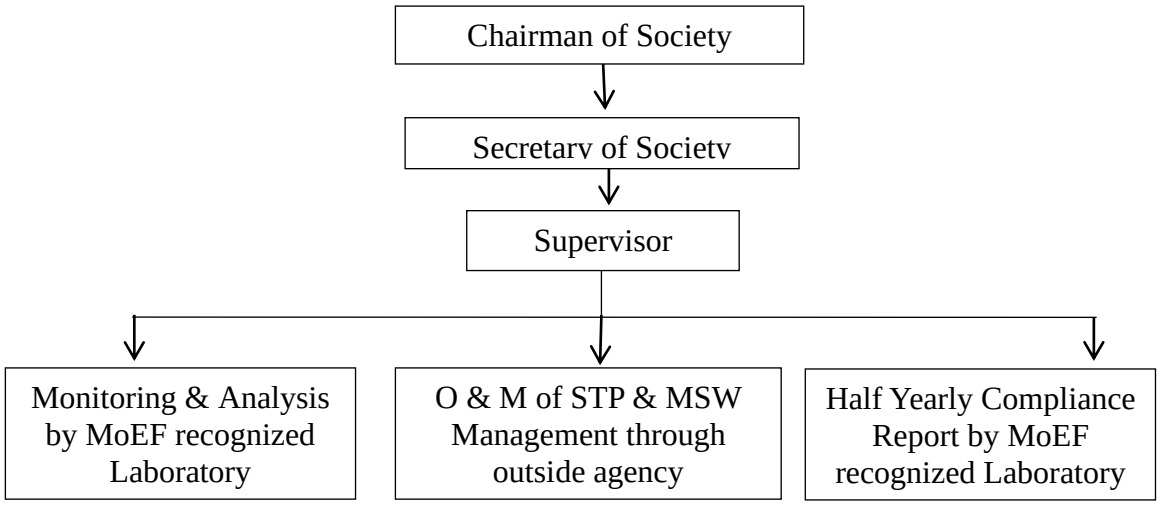


Table 10.1: Qualification & cost of officials/persons of environment management cell

Sr.	Officials	Qualification	Salary in Rs./month
1	Chairman of society	N.A.	N.A.
2	Secretary of society	N.A.	N.A.
3	Supervisor	M.Sc./BE Environment	19,000/-
4	Operators for STP – 2 Nos.	I.T.I.	15,000/-

Sr.	Officials	Qualification	Salary in Rs./month
5	Operator for OWC – 1 Nos.	I.T.I.	9,000/-
6	Outside agency for collection of waste from door to door	-	20,000/-
7	Outside agency for monitoring and six monthly	-	2,50,000/year
8	Disaster Management Supervisor	M.Sc.& Diploma in Fire & Safety	15,000/-
9	Officer	B.Sc.& Diploma in Fire & Safety	12,000/-

Compliance Schedule

Table 10.2: Statutory Compliances

ACT	Responsibilities under section	Penalties under section
Water (Prevention & Control Of Pollution) ACT, 1974 (No. 6 of 1974)	19, 20(2) & (3), 21(3)(e), 23, 24(1) (a),24(1) (b), 25(1) & 26, 25(4) & 26, 27(2), 28, 29, 31(1), 32(1)(c), 33(3)(l), 33 A	41(1), 41(2), 42(1), 42(2), 43, 44, 45, 45A
Environment (Protection) Act, 1986 (No. 29 of 1986)	5, 7, 8, 9(1), 9(3), 10(1), 10(2), 11(1)	15, 26

* We are complying with Construction Workers Safety and Welfare Act.

Compliance schedules:

There are three facts to design and follow the schedules viz.:

(A) For compliance of responsibilities,

(B) For day-to-day operation and maintenance of STP and OWC,

(C) For routine environmental monitoring, to assess the impact and take timely action.

The Schedule:

I) Daily Compliance:

1. Take the meter readings - initial and final, for checking the water consumption.
2. Maintain the electricity consumption record for pollution control equipment's.
3. Monitor ambient air periodically as per Consent and EC Conditions.

II) Monthly Compliance:

1. Monitor the emission sources through the competent laboratory and submit the analysis reports to the board and MoEF.
2. Monitor ambient/work zone noise levels & ensure conformance to standards.

III) Quarterly Compliance:

1. Monitor the ambient air quality at upwind and downwind locations of the project.
2. Review the Water Reuse performance.

IV) Half Yearly Compliance:

Submit the Post Environment Clearance Report to the Regional Office Nagpur of MoEF & Climate Changes along with the State Pollution Control Board as may be prescribed in the prior EC every June & December.

V) Yearly Compliance:

1. Carryout "Environmental Audit Statement" of various environmental aspects, review the environmental policies with the help of experts and make the up gradation /changes accordingly.
2. Submit the "Environmental Statement" to the State Pollution Control Board in Form V under Rule 14 of the Environment (Protection) Second Amendment Rules 1992 of the Environment (Protection) Act, 1986.
3. Renew the Consent to Operate under the Water and Air Acts.

Environment management systems

The following components are part of the EMS:

- Environmental Policy
- Objectives & Targets
- Structure and Responsibility
- Emergency Planning
- Environmental Monitoring Program
- Operation and Maintenance of Environmental Management Facilities like STP, Rain water harvesting, Solar Systems, other energy saving measures, landscape development, Solid waste management system
- Non-conformance detection and Corrective & Preventive Action
- Short term and long-term budgetary provisions for the EMP

- Submission of six-monthly report to Regional office, MoEF for compliance of conditions in Environmental Clearance

Executable EMP

Table 10.3: Executable EMP – Operation phase

Sr.	Environmental Issues/Impacts	Mitigation measures	Responsibility	Legal & Other requirements
Operation phase				
1.	Increase in water demand	• Use of treated sewage for gardening (17 m^3/day) and flushing (62 m^3/day) • Rain water collection from terraces into 2 number of RWH pits	Society Management system	Water Prevention and Control of pollution Act 1974 as amended
2.	Sewage generation and disposal of sewage	• Provision of total 1 number of Sewage Treatment Plants of total capacity 70 m^3/day for treatment of sewage by MBBR technology. • Proper operation and maintenance of STP and monthly analysis of general parameters like pH, BOD, COD and TSS & O & G of the STP outlet to ensure good treatment of waste water with the help of onsite sensors. • Use of treated sewage for flushing gardening. • Provision of adequate ventilation around the STP. • Proper arrangements for sludge handling units and its reuse as manure	Society Management system	CPCB Standards
3.	Increment in Runoff from site	• Proper management of channelization of storm water from site by using proper internal SWD system and discharge point of having adequate capacity. • Proper maintenance	Society Management system	-

Sr.	Environmental Issues/Impacts	Mitigation measures	Responsibility	Legal & Other requirements
		of storm water drainage to avoid choking of drains and flooding on site		
4.	Increase in power consumption	• Provision of Solar Panels for common area lighting and water heating • Provision of LED lights. • Use of Electronic Ballast. • Use of timers in buildings common lighting and external lighting • Use of Star rated geysers and AC	Society Management system /Individuals	ECBC norms
5.	Use of DG sets may lead to Air & Noise pollution	• Stack height as per CPCB norms • New trees Plantation with retention of existing trees • Maintenance of green belt • DG sets with inbuilt acoustic enclosures	Society Management system	CPCB norms
6.	Vehicular movement leads to • Increase in traffic • Air emissions & Noise • Contamination of soil leads to Oil leaks	• Proper parking arrangement for the vehicles • Provide adequate traffic signs and signages to notify users • Install safety mirrors to aid visibility in conflict point. • Prevent parking near the Entry and Exit Gate. • Provide speed humps to regulate speed of vehicles. • Provide pedestrian crossings and dedicated footpath to cater to the walking population. • Assign traffic wardens to regulate flow of project traffic during peak hours. • Adequate width of internal Driveway • Plantation of new	Society Management system	-

Sr.	Environmental Issues/Impacts	Mitigation measures	Responsibility	Legal & Other requirements
		trees with retention of existing trees to mitigate dust and noise. • Provision of oil and grease traps to the Storm water drains		
7.	Odour and unsanitary conditions due to STP and Composting of biodegradable garbage	• Proper ventilation around STP and Garbage room • Proper operation and maintenance of STP and solid waste management facility. • Proper housekeeping and maintenance. • Regular monitoring of stack/s	Society Management system	Air act 1981 as Amended
8.	Municipal waste & other solid waste generation	• Informing and educating occupants for solid waste management • Provision of adequate space for solid waste management • Proper segregation on site to biodegradable and non-biodegradable • Non-biodegradable waste (280 kg/day) handing over to an authorized agency for further disposal • Biodegradable waste (419 kg/day) is treating in 34 no. of vermicomposting Plant • Manure generated from vermicomposting Plant using for landscaping purpose	Society Management system	-
9.	Disaster like Fire, Earthquake, lightning etc.	• Preparation of Disaster Management Plan • Provision of Safety officer, Security and First aid team • Regular review of DMP and mock drill • Effective implementation of DMP	EHS Team	-

10.4 Emergency Response Plan

Table 10.4: Emergency response plan

Sr.	Emergency Response Plan				
	Emergency	**Probable reason**	**Immediate Action**	**Report To**	**Precautionary Action**
A	**Due to Anthropogenic Activities**				
1	Structure collapse	Improper fitting of the objects; Materials used; quality etc.	Evacuate the portion/ floor at an immediate intimation; Walk away from the structure falling; count the number of people; if any one missing- report immediately; if injuries/ fatalities, take them to nearby hospital; Keep first aid box handy	Labour Supervisor, Chairman	Engage Sirens as a sign of danger; Evacuation area must be clear and well maintained; Maintain a book of Incidents, note the reason, impact and the causes.
2	Heavy objects slipping/ falling off	Careless placing/ improper placing of objects/ angles etc.	Walk away from the portion/ area, where the objects are falling from;	Labour Supervisor and Site Engineer/ EHS Team	Evacuation area must be clear and well maintained; Maintain a book of Incidents, note the reason, impact and the mistake; Avoid placing heavy objects at a risky, slippery, or slanted plane; always check before leaving the site if there is any such possible threat.
3	Bombing by anti-social groups/ Incident involving immediate firing, explosions etc.	Riots, national/ state issue	Safe underground/ nearby store rooms must be provided (they must have, radio, any mode of communication, first aid kits, food and water storages); keep Safety manual and First aid handy; Count the total number of workers present; help others to move from the site if possible.	Security Officer; Chief Controller/ Engineer	Keep the area fenced to protect from any unwanted activity; keep the security tight in order to get the first information; keep an eye on unattended objects and report to the police the moment they are seen; if any person looks

Sr.	Emergency Response Plan				
	Emergency	**Probable reason**	**Immediate Action**	**Report To**	**Precautionary Action**
					suspicious, immediately ask for the identity card else wise inform the nearby police station; during and after the incident always consider children, ladies, elderly and then men but before make sure you yourself are safe.
b	**Due to Natural Calamities**				
1	Earthquake/ Land slide	Nature	Keep all the inflammatory liquids and heavy machines/ materials at a safe place always in advance*;Walk away from the structure; Move to a safe, underground/ nearby store room (they must have, radio, any mode of communication, first aid kits, food and water stored); Don't come out till the tremors are over; in case of landslide move away to a safer place; cover your head; help other to move as well; keep information updated on radio/ mobile/ television about any continued occurrence or issue.	Rescue/ Evacuation Squad; First Aid squad (emergency help lines); Chief Engineer / Controller	Engage Sirens as a sign of danger; decide a place for gathering; A safety room is must where there is adequate amount of packed food, water, medicines, radios and communication devices; Everyone must be aware of the regional warnings via e media/ print media/ etc.
2	Flood/ Cloud Burst	Nature	Keep all the inflammatory liquids, chemical components and heavy machines/ materials at a safe place always in advance*; Shut down the main power; Move to a safe nearby store room (it must have, radio, any mode of communication, first aid kits, food and water stored); Don't let the	Rescue Squad; First Aid squad (emergency help lines); Chief Engineer / Controller	Engage Sirens as a sign of danger; decide a place for gathering; A safety room is must where there is adequate amount of packed food, water, medicines, radios and

Sr.	Emergency Response Plan				
	Emergency	**Probable reason**	**Immediate Action**	**Report To**	**Precautionary Action**
			water stay in and around (Keep mopping it towards drains/ ducts etc.); watch out for snakes, bugs etc. keep information updated on radio/ mobile/ television about any continued occurrence or issue.		communication devices; Everyone must be aware of the regional warnings via e media/ print media/ etc.
3	Tornados/ Storms/ lightening	Nature	Keep all the inflammatory liquids, chemical components and heavy machines/ materials at a safe place always in advance*; Shutdown the main power; Move to a safe nearby store room (it must have, radio, any mode of communication, first aid kits, food and water stored); watch out for snakes, bugs etc. keep information updated on radio/ mobile/ television about any continued occurrence or issue.	Rescue Squad; First Aid squad (emergency help lines); Chief Engineer / Controller	Engage Sirens as a sign of danger; decide a place for gathering; A safety room is must where there is adequate amount of packed food, water, medicines, radios and communication devices; Everyone must be aware of the regional warnings via e media/ print media/ etc.
4	Draught	Nature	Transport water from the available source; use water efficiently; restrict to dry and less work; maintain a water conservation practice, so that it can be utilized in such situation; wear wet angocha/ towel on head to avoid sudden energy loss; in case of excessive heat/ fatigue or no water condition stop the work and relocate workers for a limited period of time till he water is not availed at that place.	Contractor; Chief Controller/ Engineer	Engage Sirens as a sign of danger; decide a place for gathering; A safety room is must where there is adequate amount of packed food, water, medicines, radios and communication devices; Everyone must be aware of the regional warnings via e media/ print media/ etc.
c	**Due to other reasons**				
1	Fire in		Keep all the	Fire	Engage Sirens

Sr.	Emergency Response Plan				
	Emergency	**Probable reason**	**Immediate Action**	**Report To**	**Precautionary Action**
	Camp/ site		inflammatory liquids, chemical components and heavy machines/ materials at a safe place always in advance*; Call the nearest fire station as soon as possible; Evacuate Move to a safe nearby store room (it must have, radio, any mode of communication, first aid kits, food and water stored); watch out for snakes, bugs etc. keep information updated on radio/ mobile/ television about any continued occurrence or issue.	Fighting Squad; First Aid squad (emergency help lines); Chief Engineer / Controller	as a sign of danger; decide a place for gathering; A safety room is must where there is adequate amount of packed food, water, medicines, radios and communication devices; ONLY firefighting Squad is to be allowed to extinguish the fire.
2	Worker falling off a height, drowning in tank, slipping from the raft while working etc.		Rush to pick up the person/ persons; first aid (if needed); Call the ambulance ASAP;	Contractor; Chairman/ project Engineer	Wear Safety helmets; keep safety equipment (rope, torch etc. handy); make sure in advance that the pulley, work space etc. is perfect for performing the task whatsoever; keep away from the danger zones without precautions and other workers.
3	Epidemic Outburst	stored water; garbage dumping/ unmanaged waste; Unhygienic surroundings; alien microbial growth etc.	(Malaria, plague etc.) Keep medicines handy; try and avoid using infected clothes, utensils, areas and contacts; If outburst is prolonged, then evacuate as soon as possible and return when ambiance is back to normal; maintain self and the site in a hygienic and clean manner.	Chief Engineer / Controller	Site must be cleaned and managed properly in case of disposal of garbage etc.; open pits must be closed; stagnant water in tyres/ drums/ logged water must be cleared off

Sr.	Emergency Response Plan				
	Emergency	**Probable reason**	**Immediate Action**	**Report To**	**Precautionary Action**
					ASAP; a book must be maintained for noting down the probable cases and then discuss with authorities for the probable solution in order to avoid more such incidences.
4	Any Particular disease	Seasonal; unhygienic conditions; communicated from elsewhere; occupational diseases; immunity issues etc.	(Diarrhea, food poisoning, typhoid, amoebiasis etc.) infected person/ persons must be taken to nearby hospitals; must be given proper drugs for the treatment; if the disease is communicable (Conjunctivitis, viral etc.), it is advisable to not to use infected persons' clothes/ utensils/ personal stuff (razor, food items etc.); if the disease comes under occupational disease- asbestosis, asthma, broad spectrum infection, psoriasis etc.	Contractor/ Labour Supervisor	On site usually, there could be two reasons: Water borne diseases- Potable water must be provided to all the workers; active educational trainings/ sessions of 15 20 minutes must be provided to all, having subject like washing hands before eating; drinking water must be clean, sanitation and hygiene practices.
5	Mob/ Fight/ strike etc.	Unresolved issue, Disambiguate; due/ pending wages; unattended grievances etc.	If any gathering or a group seems suspicious inform the security guard; try to sort out the matter if possible; if there are uncontrolled situations, inform the police at the earliest; Ask the others who are not related to the discussion to leave the place.	Contractor/ Labour Supervisor, Chairman, Security Officers	Contractor must see into the matter of any unresolved issues; proper answer to any grievance/ demands must be given with appropriate logics;

10.5 Environmental Monitoring Plan

Table 10.5: Environment monitoring plan - Operation phase

Sr.	Item	Parameters	Frequency	Location
1	Ambient air Quality	$PM_{2.5}$ & PM_{10}, SO_2, NO_X, O_3, Pb, CO, NH_3, C_6H_6, BaP, As, Ni	Quarterly	Periphery of the site.
2	Noise level	Equivalent noise Level dB (A)	Quarterly	Near DG sets, Near STP, Near parking area.
3	Exhaust from DG set	Total Particulate matter, SO_2, NO_x	Six Monthly	DG sets.
4	Water analysis	Colour and odour, Suspended solids, pH, turbidity, total dissolved solid, Calcium, Chloride, Fluoride, Residual free chlorine, Iron, magnesium, nitrate, sulphate, Phenolphthalein Alkalinity, Total hardness, total coliform, E-coli	Quarterly	-
5	Waste water analysis	pH, BOD, COD, TSS, TDS, O &G	Quarterly	Before & after treatment from STP.

10.6 Budgetary allocation for EMP

Table gives the expenditure to be incurred by **BramhaCorp Ltd.** on environmental matters during operational phase.

Table 10.6: EMP costing during operation phase

Sr.	Component	Description	Criteria	Capital cost Rs. Lakh	O&M cost Rs. Lakh/year
1.	Storm water management	Laying of storm & Sewer line up to final disposal point	MBBR STP technology	11.00	0.90
2.	Sewage Treatment Plant	1 no. of STP having capacity 70 KLD existing	Maintenance	11.25	0.50
3.	Rain Water Harvesting	2 no. of Borewell	Construction, Maintenance & handling of Biodegradable garbage, segregation of waste	1.90	0.50
4.	Solid Waste Management	Cost for Treatment of biodegradable garbage in vermicomposting	Regular monitoring will be scheduled every month.	3.00	0.40

Sr.	Component	Description	Criteria	Capital cost Rs. Lakh	O&M cost Rs. Lakh/year
5.	Landscape development	Tree Plantation	Installation & Maintenance, battery backup	17.26	1.50
6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	Tree plantation & landscape area to be developed	25.00	2.60
7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	Maintenance	5.00	0.50
8.	Firefighting system	Installation and operation of Fire Fighting system		14.50	1.70
	Total			**88.91**	**8.60**

10.7 Responsibility for further O &M

There is formation of Phase-wise societies for the maintenance and management of environmental infrastructure. Corpus fund handed over to these societies. While handing over Environmental Management Facilities M.O.U. has made with societies to accept responsibility of further O & M of EMF. Apex body/ independent company has established by Society to operate and maintain all Environmental infrastructures including green belt.

Record keeping:

Record keeping and reporting of performance is an important management tool for ensuring sustainable operation of the proposed project. Records is maintained for regulatory, monitoring and operational issues. Typical record keeping requirements is summarized in **Table 9.7.**

Table 10.7: Record keeping requirements

Parameter	Particulars
Air emissions	Random checks of equipment logs/ manuals to check equipment's/ vehicles are operated within specified parameters
Noise	•Noise level recording •Working hour records to minimize night shift •Maintenance records of vehicles to minimize noise from vehicles •Site working practices records and noise reading implement good working practices •Random checks of equipment logs/ manuals to check equipment's operated within specified design parameters
Solid Waste	•Daily quantity of waste generated

Parameter	Particulars
Handling and Disposal	•Daily quantity treated and recycled •Daily quantity sent outside for disposal •Comprehensive Waste Management Plan in place and available for inspection on-site.
E waste /Hazardous Wastes	•Quantity of waste generated •Quantity of wastes sent out for treatment/disposal. •Waste manifests as per regulations
Wastewater Discharge	•Daily quantity of raw and treated sewage •Treated wastewater quality
Drainage	•Visual inspection of drainage and records thereof
Regulatory Licenses (Environmental)	•Environmental Permits / Consents from MPCB /Post clearance submissions to Regional office of MoEF etc. •Copy of Waste manifests as per requirement
Monitoring and Survey	•Records of all monitoring carried out as per the finalized monitoring protocol.
Accident reporting	•Date and time of the accident if any mainly during construction phase •Sequence of events leading to accident •Emergency measure taken •Step to prevent recurrence of such events •Mock drills
Others	•Log book of compliance •environmental, health and safety records for the employees during construction phase •Vehicle maintenance and inspection records

10.8 Training and Capacity Building

Training and human resource development is an important link to achieve sustainable operation of the facility and environmental management. For successful functioning of the project, relevant EMP's is communicated to the following groups of people:

Occupants and Contractors*:*

All occupants had made aware of the importance of waste segregation and disposal, water and energy conservation. This awareness is provided through leaflets and periodic housing society meetings. They informed of their responsibilities for successful operation of various environmental and energy management schemes inside the premises.

Site Staff*:*

Relevant personnel at site is trained for the following:

- Techniques for waste minimization, water conservation and energy conservation.
- Collection, transport, treatment and disposal solid and hazardous/E waste/ Bio Medical Waste.
- Operation and maintenance of Sewage Treatment Plant and reclamation system.

- Requirements of the Disaster Management Plan in case of an emergency.
- Applicable environmental, health and safety regulations and compliance requirements for the same.
- Functioning of the Environmental Management System including environmental monitoring, reporting and documentation needs.

Chapter 11
Summary & Conclusions

11.1 General

BramhaCorp Ltd. intends to develop of residential project. "Bramha Exuberance" at Sr. no. 13 H. no. 1, 2 & 3 of Village – Kondhwa Khurd, Taluka-Haveli, District Pune, State - Maharashtra.

As per the Environment Impact Assessment (EIA) notification dated 14th September, 2006 project comes under 'Category B2' since the total built up area is 50,548.37 m^2 with activity type number '8(a)' and as per MoEF&CC notification dated 14th March, 2017 vide no. S.O.804 (E) the project requires preparation of EIA report to obtain Environmental Clearance from the State Expert Appraisal Committee under the violation cases.

The violation application was submitted on PARIVESH portal as per MoEF&CC Office Memorandum dated 07.07.2021 and 28.01.2022 vide F. No. 22-21/2020-IA.III (E 138949) for the FSI area **21,798.69 m^2**, Non-FSI area **28,749.68 m^2** & Construction area **50,548.37** vide proposal no. SIA/MH/MIS/76973/2022 dated 17.05.2022.

The estimated project cost is approximately Rs.27.33 Crore. It includes construction and land cost. The proposed project site encompasses about proposed plot are is 17,433.10 m^2. The site selected for development is situated in Residential zone at village- Kondhwa, Tal- Haveli, Dist.- Pune.

As per sanction 2005, **A & B (4 wings each), D, and E (5 wings each) buildings were constructed with 'built-up area of 39,037.99 m^2**. It comprises of 4 residential buildings, **249 flats** in 2005 as per the Sanctioned plan No. CC/2342/05 dated 21.9.2005 & CC/3387/05 dated 30.12.2005. **The entire work was completed in 2009.**

The Occupancy Certificate was granted to the project on 04.12.2009. Society registration was done on 29.08.2011 and the possession of the flats and buildings was handed over to the buyers 'residents' society in the year **2012.**

The earlier sanctioned plan of year 2005 had all buildings A, B, C, D and E. But we did not construct building C. **It was not economically viable** as the selling cost was not permitting buying the TDR from the open market.

As per CC-3954 dated 04.03.2014, Building No. C was constructed and the total built-up area of the C building is **11,510.38 m^2**. The building configuration of the C building is Lower Parking + Podium +1 Floors & **55 flats.**

The plan for this building C was submitted in the year 2014 and Commencement Certificate was issued on 15.07.2014.

Now, we have applied for Environment clearance for the project having FSI area 21,798.69 m^2, Non FSI area 28,749.68 m^2 and total built up area 50,548.37 m^2 for A, B, C, D & E buildings.

Introduction

The "Bramha Exuberance" is located in Kondhwa, Pune and construction of building A, B, C, D & E has already completed at site as per earlier sanction plan received from Pune Municipal Corporation vide no. CC/2342/05 dated 21.9.2005, CC/3387/05 dated 30.12.2005 & CC-3954 dated 04.03.2014. The construction continued and as on date of total BUA at site **50,548.37 m^2** already constructed.

11.2 Project description and project benefits

The project is located near to residential area in Kondhwa, Taluka Haveli, District Pune, State Maharashtra. There are no mountains, national parks, wildlife sanctuaries, historical monuments etc. in the 10 km radius of the project. Mula Mutha River is passing within distance of 6.8 km. The geographical location of the project site is **18°28'30.41"N** latitude and **73°53'43.23"E** longitude.

The site is about 1 km away from Kondhwa and Pune railway station is 8.1 km from Bramha Exuberance, about 15.1 km away from Pune International Airport, Lohgaon and adjacent to NIBM road.

The project is planned in the total build up area of plot 50,548.37 m^2 areas.

The project had created employment opportunities during construction which benefited local people to get work opportunities. Short-term employment was generated during the construction activities, however approx. 100 employees in administrative and maintenance sector have got employment in this project. This was a positive outcome of the proposed project.

This project has a huge positive impact on the socio-economic environment. Activities such as maintenance of the complex and ancillary services also provided employment. Employment of local residents in tasks like housekeeping, security etc. is expected to have a significant positive impact on employment and business.

11.3 Environmental Examination

For the present EIA study area 10 km, the attributes of environment considered are:

- Air environment (Meteorology, ambient air quality, noise levels, traffic pattern and traffic density)
- Land environment (land use, solid waste disposal etc.)
- Water environment (Ground water, Surface Water Sampling Analysis),
- Biological environment (Flora, fauna, vegetation)
- Socio-economic environment (Demography, educational, literacy etc.)
- Solid waste management and details.

Air Environment

Meteorology (weather and climate) is the key to understand the air quality. An essential relationship between meteorology and atmospheric dispersion involves the wind in the broadest sense of the term. Wind fluctuations over a very wide range of time accomplish dispersion and strongly influence other processes associated with them. The detailed data on the microclimate of the site was collected for a period of one month. **December 2022** representing the winter season. The data summaries are given in the report. It was observed that the predominant wind direction during winter season was from East to West directions. Average wind speed was **2.47m/s**. Wind rose is also presented in the report.

Ambient air quality

Air pollution can cause significant effects on humans, animals, vegetation and materials. The Bramha Exuberance project construction is not a major contributor to the air pollution except for particulate matter emission during both construction phase due to plant and machinery and vehicular pollution during use phase. However, air environment monitoring covered the parameters for which National Ambient Air Quality standards have been defined by Central Pollution Control Board, New Delhi/ Maharashtra Pollution Control Board, Maharashtra. Accordingly, parameters monitored were, Particulate Matter (Size less than 10µm) (PM_{10}), Particulate Matter (Size less than 2.5µm) ($PM_{2.5}$), Oxides of Nitrogen (NO_x), Sulphur dioxide (SO_2). Vehicular emissions and construction activities are the major contributors affecting the ambient air quality. Also, Ozone (O_3) and Lead (Pb), Carbon monoxide (CO), Ammonia (NH_3), Benzene (C_6H_6), Benzo(a)Pyrene (BaP), Arsenic (As) and Nickel (Ni) for the study area analyzed.

A well-devised air quality monitoring programme was undertaken to ascertain the major air pollutants.

Traffic Pattern and Traffic Density

Traffic pattern and traffic density was assessed in the study area for 12 hours for different locations Separate internal pathways for pedestrians, ramps for disabled persons, road painting and signage and speed breakers as required and insisted upon by local authority shall be provided inside the premise of project.

Solid waste management

Solid waste generated from entire project is about **699 kg/day**. Out of this, **419 kg/day** is biodegradable component, **280 kg/day** is non-Biodegradable. Collection of solid waste is doing. Segregation of dry and wet garbage is doing at source. Dry garbage is in the form of inert/recyclable waste such as plastics, glass, metals, rubber, etc. is segregated and disposed of authorized waste collection agency. Wet garbage/ biodegradable matter like leftover food, vegetables are composted using vermicomposting pits. Hence, the proposed project would not cause adverse environmental impact in case of solid waste generation and management.

Noise Environment

The environmental impact of noise generated depends on the environmental setting of the project, population distribution around the plant and on noise sources within. In the proposed project noise was generated during the construction phase. However, measures were taken to minimize noise generation at source itself. Preventive maintenance and suitable measures were taken to reduce the noise levels below permissible limit. Ear-plugs/ear-muffs were provided to workers in high noise areas. Noisy activities were restricted to the day time.

Green belt development plan is further act as a barrier for noise generated due to traffic. Studies revealed that total noise level impact of the proposed project sources, after the implementation of proposed project on nearby human settlement, is not increase significantly. Additionally, suggested Environmental Management Plan has implemented. The monitored noise levels in the study area are well below the noise standards.

After the implementation of the Bramha Exuberance project sources total noise level impact on nearby human settlement, isl not increase significantly. Additionally, suggested Environmental Management Plan was implemented. The monitored noise level in the study area is below the noise standards.

Hence, due to Bramha Exuberance project, there was no significant impact on the ambient noise quality of the study area and the post project noise levels is well below the stipulated standards of Central Pollution Control Board, New Delhi (CPCB).

Water Environment

Domestic sewage effluent generation from the proposed project is around 173 m^3/day. The sewage generated is first treated in STP. Sewage treatment plants is provided for Residential buildings. 1 no. of STP has installed having total capacity 70 m^3/day. Society is not operating STP.

Sewage Treatment Plant

The process adopted in the sewage treatment plant will be Moving Bed Bio-film Reactor.
The treatment will include the following unit/equipment;

- Screen chamber
- Oil and Grease Chamber
- Equalization tank
- MBBR Tank
- Settler
- Raw Sewage Transfer pumps
- Treated water storage tank

Socio-economic Environment

The environment is a whole complex of physical, social, economic, cultural and aesthetic dimensions, which affects individual, communities and ultimately determines their forms, characters, relationships and survival. As such, it becomes imperative to integrate the components of socio-economic environment into the impact assessment study related to environmental conservation, protection and management.

An investigation survey of the study area was conducted during the study period considering the socio-economic condition of the study area. Data about the villages were collected both from secondary and primary sources.

The baseline information is collected by way of primary and secondary data. An official Census 2011 detail of Pune, a district of Maharashtra released by Directorate of Census Operations in Maharashtra was used as secondary data. Socio-economic survey also helps to understand people's awareness and opinions about the project, as well as their misapprehensions about and expectations from the project.

Socio-economic Survey

A survey; pertaining to the subjective analysis of the socio-economic indicators, to assess the perception of the inhabitants in the study area, as well as the project, is undertaken. This also, in general, reflects on the 'Quality of Life' in this region. The indicators refer to housing, occupation, education and health status, availability of fuel, water supply, sanitation and transportation.

11.4 Additional studies

Emergency preparedness

Drills

Building evacuation drills are mandatory for all residents, visitors, and security personnel. Consult Managing Committee if there is wish to have an evacuation or fire drill in commercial building. The Managing Committee is responsible for conducting the drill and documenting it. Periodic report for the same would be submitted to higher authority.

Securing building contents during Natural Disasters

Many earthquake-related injuries do not come from collapsing buildings, but from objects inside the building which fall on people, or from windows shattering and causing lacerations. Management ensures that shelves, heavy glass windows, any other equipment's are physically secured.

The structure elements consist of the foundations, columns, beams and slabs, walls, and braces that hold the building up against vertical gravity forces and horizontal wind and earthquake forces. The non-structural elements include building service system, such as electricity and lighting, heating and cooling, plumbing and interior architectural system, such as ceilings, floors, partitions, and other interior components. Contents and equipment's are completely dependent on the type of occupancy and function of the space.

11.5 Natural Resource conservation

Landscape planning & proper management practice plays a major role in this aspect. It deals with the role of plants & proper landscaping & selection techniques in reducing the pollution waste management. It improves aesthetics with the use of existing vegetation. It concerns how wildlife is sustained. It is an attempt to strengthen biodiversity status of the area through inclusion of certain useful species on project site.

Landscaping play's major role in maintaining city's environment in ecological condition by maintaining aesthetic sense to flourish its biodiversity. Pune city is growing in a very rapid pace showing its impact on physical status. Number of old trees are removed or pruned for development works by changing the face of the land & introducing new vegetation. The plant species; which attract insects, birds for nesting, feeding or breeding; act as ecological controller in future.

11.6 Resettlement and Rehabilitation action plan

In this project there is no population displacement due to the residential project "Bramha Exuberance" at village Kondhwa Khurd, Pune. Hence, Resettlement and Rehabilitation action plan is not applicable.

11.7 Environmental Management Plan and Post Project Monitoring Program

Environmental Management Plan (EMP) deals with mitigation of unavoidable or residential impacts. The Environmental Management Plan (EMP) is needed to ensure that the mitigation measures specified in the EIA will actually be complied with when the project is approved for implementations. Monitoring details are given in Chapter 6.

11.8 Risk Assessment (RA) and Disaster Management Plan (DMP)

Four factors which contribute to the risk are:

- Hazards (natural such as earthquake, floods, landslides, cyclones etc. or manmade such as exposure to hazardous material, explosion etc.)
- Location of hazard relative to the community at risk.
- Exposure (the effect of hazard on infrastructure and lifeline systems serving the population such as water supply, communication, transportation network etc.)
- Vulnerability of the exposed society, structure and systems to the hazard.

Following are the risks that are identified and proper preventive measures are already implemented in project site.

11.9 Fire Risk

Fire is a serious threat for any health-care facility. Many patients have special needs that make them especially vulnerable in a fire emergency, thus increasing the risk of fire-casualties. Healthcare staff must therefore make every effort to prevent fires from starting and must be prepared to respond if a fire breaks out.

Fire is mainly caused in project due to carelessness, short circuits, malfunctioning of gas regulator, tube and such related products. At the proposed project, hazard occurrence may result in on-site implications like:

- Leakage of flammable material leading to fire;
- Fire and/or explosion;
- Natural calamities like earthquake etc.
- Short circuit in any electric equipment's due to voltage fluctuations.

Potential Fire Hazards:

The following are the Potential Fire Hazards identified in this building:

- Petrol and diesel in form of fuel at common parking floors;
- Diesel in fuel tanks of in DG sets,
- Combustible materials e.g. paper, cardboard, plastic, fabrics etc. will be present.

There will be proper storage of the combustible material like paper, cardboards. Location mapping for the same was carried out at the time of commissioning;

Disaster Management Plan

- Modern disaster management goes beyond post-disaster assistance. It includes pre-disaster planning, preparedness activities, organizational planning, training, information management, public relations and many other fields.
- The events of a disaster can move rapidly and can be extremely traumatic for those who are unprepared. Disaster managers often do not get a second chance.
- Principles of disaster management apply in both routine & crisis incident, during disaster mitigation and disaster reconstruction.
- Emergency operations cover both the preparedness phase & the immediate post disaster period.

Onsite Emergency Plan

For incidents which could affect people and the environment inside the building.

- Display of emergency phone nos. (Includes phone number and address of nearby hospital, fire station, police station, public help service etc.)
- Periodic maintenance and checking of all equipment.
- Training to all users for different type of emergencies
- Building emergencies manual
- Training program for the tenants, security guards, housekeeping and other stake holders of the building.
- Evacuation plan, floor plan, site plan, elevation marked with refuge area etc.
- Fire & other emergencies regular drill programs
- Posters and other templates, showing emergency preparedness for children and building occupants.

Evaluation and updating of the plan to improve effectiveness.

Offsite emergency plan

For the incidents which could affect people and the environment inside the building:

- Awareness programme conducted
- Emergency awareness program for the outsiders performed.
- Evacuation procedures signage and templates displayed.
- Fire & other emergencies: regular drill programmes for outsiders performed.

11.10 Public Health and safety issue related to the project

The major concern of public health and safety issues related with Polyclinic (Institutional) is biomedical waste that will be generated after its commissioning. The biomedical waste will be segregated as per Bio Medical Waste (Management and disposal) Rules, 2016 and properly disposed of through authorized vendor for handling and disposed of biomedical waste from Polyclinic (Institutional). Regarding safety of patient and visitors we have already planned environmental cell to take preventive measures for safety related concern. There have been no other public health and safety related issues to be exist in this setting which might cause harm to public health.

11.11 The Socio-economic impacts of the projects

Operational phases

The proposed project has major positive impacts on socio-economic environment. Provision of recreational ground is supporting for protection of natural environment, recreational facilities, improving a community's image, socio-economic status and enhancing the area's desirability. Recreation brings neighbours together, encourages safer, cleaner neighbourhoods and creates a livelier community atmosphere.

11.12 Energy conservation measures to be implemented

Alternatives are used for energy conservation. Energy conservation plan is implemented through measures taken both on energy demand and supply. Energy conservation plan starts from the building planning.
The conservation efforts are consisting of the following:

- Architectural design
- Maximize the use of natural lighting through design.
- Increase natural source of light through glazed windows.
- Energy saving practices

- No use of energy efficient processes or specialized building material used for energy conservation during construction phase.
- Specially designed Air-conditioned system, cooled screw with variable speed drive is used.
- Pressure independent balancing cum control valve is in use.
- Entire building is illuminated with lower power consuming LED fixture.
- Multiple circulations are done to keep the lights off during nights.
- Day light sensors are provided in common areas.
- Motion sensors are provided in all the occupancy areas including toilet blocks.
- Water cooled heat pumps are used for hot water system which consumes low power as well as give chilled water as by product.

Summing Up

Kondhwa Khurd is in a phase of major development in Pune District. The demand supply scenario presents a great opportunity to set up a development project for construction of residential buildings. With the demand increasing as a result of the upcoming mega projects, a large demand for residential construction spaces is also foreseen in and around Kondhwa Khurd, Pune.

The project proponent has adequate pollution control measures for the effective control of environmental pollution at source itself. Similarly, green belt development, water conservation and social welfare activities will also be taken up on a priority basis in the area.

An Environment Management Plan is implemented vigorously during construction as well as operational phase. Risk Assessment, Disaster Management Plant plan (DMP) has been prepared and DMP is implemented dynamically. An Environment Monitoring Cell is look after pollution control at source, environmental monitoring, remedial measures, social welfare activities etc.

In view of the above, the proposed residential project 'Bramha Exuberance' by M/s. BramhaCorp Ltd. is environmentally compatible in all respects.

Chapter 12
Details of Consultant Engaged

This EIA report [Form I, Pre-feasibility report & Executive Summary or EIA in case of Industrial project] is prepared on behalf of the proponents, taking inputs from proponent's office staff, their R & D wing, Architects, Project Management Professionals etc. by Environmental Consultants **M/s. Mahabal Enviro Engineers Pvt. Ltd.,** Thane, that are approved under QCI-NABET scheme. Accreditation Committee meeting for Re-Accreditation held on September, 2021. Sectors is given below,

Table 12.1: Sectors Approved

Sr. No.	NABET Scheme Sectors	Sector Description	Cat.	Sector No. (MoEFCC Notification dt. September 14,2006 & Amendments)
1	1	Mining of minerals opencast only	A	1 (a) (i)
2	2	Offshore and onshore oil and gas exploration, development & production	A	1 (b)
3	4	Thermal power plants	B	1 (d)
4	8	Metallurgical industries (ferrous & non-ferrous)	B	3 (a)
5	9	Cement plants	B	3 (b)
7	22	Distilleries	A	5 (a)
8	27	Oil & gas transportation pipeline (crude and refinery/ petrochemical products), passing through national parks/ sanctuaries/ coral reefs /ecologically sensitive areas including LNG terminal	A	6 (a)
9	31	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	A	7 (c)
10	32	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	A	7 (d)
11	33	Ports, harbours, break waters and dredging	A	7 (e)
12	38	Building and construction projects	B	8 (a)
13	39	Townships and Area development projects	A	8 (b)

Environmental Monitoring at site is done by

M/s. Green Envirosafe Engineers & Consultants Pvt. Ltd., A-7/2/C-11, Capital City, Talwade-Chakan road, Chakan MIDC, village Nighoje, Taluka Khed, District Pune-410501 which is NABL Approved Environmental Laboratory.

Other certifications of consultants M/s. Mahabal Enviro Engineers Pvt. Ltd.:

1. MoEF Approved Environmental Laboratory
2. NABL ISO:17025
3. Quality Management System ISO: 9001:2008
4. Environmental Management System ISO: 14001:2004
5. Occupational Health and Safety Management System – OHSAS, ISO:18001:2007
6. Empanelled by Maharashtra Pollution Control Board as consultant
7. MJP Electrical Contractor A Class,
8. MJP Mechanical A Class,
9. MJP Civil Work up to Rs.50 lakh
10. Chartered Engineer (Environment) R. B. Mahabal
11. Arbitrator by IIE – R. B. Mahabal

Chapter 13
Nature of Violation

13.1 General

Table 13.1: Diary of events

Documents	File No.	Authority	Date
SWATCH NOC	-	SWACH Seva Sahakari Sanstha Maryadit, Pune	02.06.2023
Application for Consent to establish	MPCB-CONSENT-0000164434	Maharashtra Pollution Control Board	08.03.2023
Property Card	मालमत्ता पत्रक- 61183, नगर भूमापन क्रमांक: 737/1	महाराष्ट्र शासन, नगर भूमापन अधिकारी, क्र. 2, पुणे	18.11.2021
	मालमत्ता पत्रक- 61184, नगर भूमापन क्रमांक: 737/2	महाराष्ट्र शासन, नगर भूमापन अधिकारी, क्र. 2, पुणे	18.11.2021
	मालमत्ता पत्रक- 61185, नगर भूमापन क्रमांक: 737/3	महाराष्ट्र शासन, नगर भूमापन अधिकारी, क्र. 2, पुणे	18.11.2021
Articles of land agreement	दस्तऐवजाचा अनुक्रमांक – हवल 12, 00803/2005	हवेली क्र. 12 चे दुय्यम निबंधक, पुणे महानगरपालिका	09.02.2005
	दस्तऐवजाचा अनुक्रमांक – हवल 12, 00800/2005	हवेली क्र. 12 चे दुय्यम निबंधक, पुणे महानगरपालिका	09.02.2005
Water NOC	जावक क्रमांक – 136 (Building - C)	Pune Municipal Corporation	17.07.2018
	जावक क्रमांक – 34 (Building - D)	Pune Municipal Corporation	02.05.2009
	जावक क्रमांक – 1119 (Building - E)	Pune Municipal Corporation	16.10.2007
	जावक क्रमांक – 118 - ब (Building - A & B)	Pune Municipal Corporation	11.05.2007
Fire NOC	Out W. No: FB/1924	Chief Fire Officer, Pune Municipal Corporation	04.08.2018
	Out W. No. FB/1726	Chief Fire Officer, Pune Municipal Corporation	15.10.2007
Garden NOC	जावक क्रमांक उकाजा/2066	वृक्ष अधिकारी, उद्यान कार्यालय, पुणे महानगरपालिका	25.09.2009
Drainage NOC	जावक क्रमांक - 2905 (Part- Wing C)	Pune Municipal Corporation	13.08.2018
	जावक क्रमांक - 213 (Part-Wing D)	Pune Municipal Corporation	02.05.2009
	जावक क्रमांक - 1884 (Part- Wing E)	Pune Municipal Corporation	17.10.2007
	जावक क्रमांक - 884 (Part-Wing A & B)	Pune Municipal Corporation	06.07.2007

Documents	File No.	Authority	Date
Plinth Certificate	जावक क्रमांक - 422 (Part-Wing C)	Assistant Engineer, Building Control Department, Pune Municipal Corporation	09.12.2009
	जावक क्रमांक – BCO/14/01/325 (Part Wing D)	Assistant Engineer, Building Control Department, Pune Municipal Corporation	17.10.2006
	जावक क्रमांक – BCO/14/01/0488 (Part Wing B)	Assistant Engineer, Building Control Department, Pune Municipal Corporation	20.03.2006
	जावक क्रमांक – BCO/14/01/389 (Part Wing A)	Assistant Engineer, Building Control Department, Pune Municipal Corporation	02.02.2006
Revised Amalgamation Plan	DPO-2692/VI/21	Pune Municipal Corporation	30.06.2006
Revised Amalgamation Plan	DPO-5191/VI/39	Pune Municipal Corporation	14.09.2005
Amalgamation Plan	DPO-1725	Pune Municipal Corporation	05.02.1991
Revised sanction Plan	CC-0819/17	Pune Municipal Corporation	21.06.2017
Revised sanction Plan	CC-3213/15	Pune Municipal Corporation	30.12.2015
Revised sanction Plan	CC-1169/14	Pune Municipal Corporation	15.07.2014
Revised sanction Plan	CC-3954/13	Pune Municipal Corporation	04.03.2014
Revised sanction Plan	CC-4370/11	Pune Municipal Corporation	17.03.2012
Revised sanction Plan	CC-0138/09	Pune Municipal Corporation	13.04.2009
Revised sanction Plan	CC-1847/06	Pune Municipal Corporation	28.08.2006
Revised sanction Plan	CC-1246/06	Pune Municipal Corporation	07.07.2006
Revised sanction Plan	CC-3387/05	Pune Municipal Corporation	30.12.2005
Sanction Plan	CC/2342/05	Pune Municipal Corporation	21.09.2005
Revised sanction Plan	CC-3387/09	Pune Municipal Corporation	30.12.2005
Revised Commencement certificate	CC/0819/17	Pune Municipal Corporation	21.06.2017
Revised Commencement certificate	CC/3213/15	Pune Municipal Corporation	30.12.2015
Revised Commencement certificate	CC/1169/14	Pune Municipal Corporation	15.07.2014
Revised Commencement certificate	CC/3954/13	Pune Municipal Corporation	04.03.2014
Revised Commencement certificate	CC/4370/11	Pune Municipal Corporation	17.03.2012
Revised Commencement	CC/0138/09	Pune Municipal Corporation	13.04.2009

Documents	File No.	Authority	Date
certificate			
Revised Commencement certificate	CC/3582/06	Pune Municipal Corporation	08.01.2007
Revised Commencement certificate	CC/1847/06	Pune Municipal Corporation	28.08.2006
Revised Commencement certificate	CC/1246/06	Pune Municipal Corporation, Pune	07.07.2006
Revised Commencement certificate	CC/3387/05	Pune Municipal Corporation, Pune	30.12.2005
Commencement certificate	CC/2342/05	Pune Municipal Corporation, Pune	21.09.2005
Completion Certificate	Part-5 (Wing C Part) File no. OCC/1333/18	Pune Municipal Corporation, Pune	18.01.2019
Completion Certificate	Part-4 (Wing C Part)) File no. OCC/0717/18	Pune Municipal Corporation, Pune	01.09.2018
Completion Certificate	Part-3 (Wing D- 9, 10, 11 floor) File no. 421	Pune Municipal Corporation, Pune	04.12.2009
Completion Certificate	Part-2 (Wing D- 1 to 8 floor) File no. 350	Pune Municipal Corporation, Pune	05.10.2009
Completion Certificate	Part-1 (Wing A, B, E) File no. BCO/14/7/14	Pune Municipal Corporation, Pune	22.10.2007

Figure 13.1: Photograph of building showing building in violation

Project entry gate

B Building

B Building

C Building

Club House

E Building

Construction completed

13.2 Brief description

BramhaCorp Ltd. is Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra.

The project consists of total 5 Residential buildings i.e., Building A, B (4 wings each), C, D, and E (5 wings each) with total 249 nos. of flats.

Construction of 5 Residential buildings A, B, C, D & E completed at site as per received sanction plans i.e. 50,548.37 m^2.

As per sanction 2005, **A & B (4 wings each), D, and E (5 wings each) buildings were constructed with 'built-up area of 39,037.99 m^2**. It comprises of 4 residential buildings in 2005 as per the Sanctioned plan No. CC/2342/05 dated 21.09.2005 & CC/3387/05 dated 30.12.2005. **The entire work was completed in 2009.**

The Occupancy Certificate was granted to the project on 04.12.2009. Society registration was done on 29.08.2011 and the possession of the flats and buildings was handed over to the buyers 'residents' society in the year **2012.**

As per CC-3954 dated 04.03.2014, Building No. C was constructed and the total built-up area of the C building is **11,510.38 m^2**. The building configuration of the C building is Lower Parking + Podium +1 Floors & **55 flats.**

Commencement Certificate of the last C building was issued on 15.07.2014.

20000 m^2 construction area was crossed on dated 20.11.2006.

The violation application is submitted on PARIVESH portal as per MoEF&CC Office Memorandum dated 07.07.2021 and 28.01.2022 vide F.

No. 22-21/2020-IA.III (E 138949) for the FSI area **21,798.69 m²**, Non-FSI area **28,749.68 m²** & Construction area **50,548.37** vide proposal no. SIA/MH/MIS/76973/2022 dated 17.05.2022.

13.3 Violation

The construction is completed as per the sanction plan. The violation component is only the completed construction of area **50,548.37** m^2 which is crossing the EC applicability limits under the office memorandum (OM) dated 07.07.2021 and 28.01.2022 issued by the Ministry of Environment, Forest and Climate Change (MoEFCC), New Delhi. This area constructed is the violation.

As per the office memorandum (OM) dated 07.07.2021 has prescribed the procedure to assess the cases where violation has taken place. Hence the present application is prepared and submitted as per the Notification requirement.

The EIA preparation is in process considering the Standard ToR prescribed by Administrative Staff College of India, Hyderabad, 2010 and MOEF&CC Standard Book, April 2015, Additional ToR received in the 165th SEAC-III meeting & the 259th SEIAA meeting dated 20.04.2023.

Building configuration of A, B, C & E building is LP + P + 11 floors & D building is LB + LP + P+11 floors.The total project with all buildings, having BUA of 50,548.37 m^2 is hereby submitted for grant of prior EC now. This construction above the Environmental Impact Assessment Report constructed residential building of Bramha Exuberance" at Village-Kondhwa Khurd, threshold limit of 20,000 m^2 would be considered as violation as per the office memorandum (OM) dated 07.07.2021 and 28.01.2022 issued by the Ministry of Environment, Forest and Climate Change (MoEFCC), New Delhi vide F. No.22-21/2022.IA.III.

Therefore, we are applying to get clearance for project under violation procedure.

The purpose of this Environmental Impact Assessment (EIA) study is to provide information on the nature and extent of environmental impact which might have been arising from the construction of Ganga Arcadia project. Additionally, we have prepared Environmental Management Plan (EMP), Assessment of damage to environment, Community Resource Augmentation plan, to verify any adverse environmental impact.

It has to be noted that the BramhaCorp Ltd. had the 'Approved Sanction Plan' for the project of Bramha Exuberance.

Even though the prior 'Environment Clearance' was not received for residential buildings 'Bramha Exuberance' constructed; the 'Environment Management Plan' was implemented during the construction of these buildings.

i. The construction has been done which can run sustainably under compliance of environmental norms with adequate environmental safeguards.

ii. The project has been constructed at site with approved conceptual plan and permissible under prevailing laws. All the precautions as stipulated in the 'Environment Management Plan' were followed at site.

No compromise or alterations were required to be done in case of open spaces, tree plantations, and all other environmental facilities as planned.

Environmental safeguards Facilities are already implemented at site such as 70 KLD of STP, 34 no. of Vermicomposting pits, 2 no. of the recharge well, 2,046 m2 green area, Solar PV Panels, fire fighting system have been provided at the project site.

Chapter 14
Assessment of Ecological Damage Report

14.1 Background Violation

"Bramha Exuberance" is a residential project at sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BrahmaCorp Ltd.

The violation application was submitted on PARIVESH portal as per MoEF&CC Office Memorandum dated 07.07.2021 and 28.01.2022 vide F. No. 22-21/2020-IA.III (E 138949) for the FSI area **21,798.69 m²**, Non-FSI area **28,749.68 m²** & Construction area **50,548.37** vide proposal no. SIA/MH/MIS/76973/2022 dated 17.05.2022.

As per sanction 2005, **A & B (4 wings each), D, and E (5 wings each) buildings were constructed with 'built-up area of 39,037.99 m²**. It comprises of 4 residential buildings in 2005 as per the Sanctioned plan No. CC/2342/05 dated 21.9.2005 & CC/3387/05 dated 30.12.2005. **The entire work was completed in 2009.**

The Occupancy Certificate was granted to the project on 04.12.2009. Society registration was done on 29.08.2011 and the possession of the flats and buildings was handed over to the buyers 'residents' society in the year **2012.**

The earlier sanctioned plan of year 2005 had all buildings A, B, C, D and E. But we did not construct building C. **It was not economically viable** as the selling cost was not permitting buying the TDR from the open market.

As per CC-3954 dated 04.03.2014, Building No. C was constructed and the total built-up area of the C building is **11,510.38 m²**. The building configuration of the C building is Lower Parking + Podium +1 Floors & **55 flats.**

The plan for this building C was submitted in the year 2014 and Commencement Certificate was issued on 15.07.2014.

14.2 Violation in a glance

Table 14.1: Details of violation

Sr.	Particulars	Building A	Building B	Building C	Building D	Building E	Total
1	**FSI**	3,191.55	3,191.55	4,706.14	4,867.09	5,443.65	21,399.98
2	**Excess balcony**					398.71	398.71

Sr.	Particulars	Building A	Building B	Building C	Building D	Building E	Total
3	**Staircase**	213.73	213.73	94.38	97.46	136.84	756.14
4	**Lift area**	10.24	10.24	7.82	10.24	10.24	48.78
5	**Balcony area**	564.08	564.08	692.78	846.45	928.18	3,595.57
6	**Lobby area**	487.30	487.30	922.57	645.70	817.96	3,360.83
7	**Terrace area**		1,199.46	970.89	418.09	703.25	3,291.69
8	**Refuge area**	73.25	73.25	25.60	72.57	99.69	344.36
9	**Podium area**	1,464.70		3,023.17	1,474.18	1,763.76	7,725.81
10	**Lift M. room**	10.24	10.24	7.82	10.24	10.24	48.78
11	**Built up Area of residential buildings**						40,921.87
12	**Area of club house**						310.06
13	**Area of Transformer room**						20
14	**Area of undergrounds tanks**						100
16	**Area of Security cabin**						25
17	**Area of Parking below podium**						7,197.37
18	**Terrace (11th floor of each building)- A=296.80+B=296.80+C=427.47+D=449.06+E=503.94**						1,974.07
	Total built up area of the project						**50,548.37**

14.3 Environment Management Plan

EMP was already prepared as the part of the project planning. The same EMP is also followed during construction of additional area. As such the same environmental monitoring plan, management plan and mitigatory measures were taken care.

The violation is in the nature of construction of additional area of 30,548.37 m^2 beyond the applicability limit of EC for construction project as per the office memorandum (OM) dated 07.07.2021 and 28.01.2022 issued by the Ministry of Environment, Forest and Climate Change (MoEFCC), New Delhi vide F. No.22-21/2022.IA.III.

Only the project portion that has been sanctioned from Pune Municipal corporation has been commissioned (i.e. Building A, B, C, D, and E as per the Sanctioned plan No. CC/2342/05 dated 21.9.2005, CC/3387/05 dated 30.12.2005 and CC-3954 dated 04.03.2014) 'Environment Management Plan' is already implemented and followed meticulously.

We envisage no additional damage to environment, as EMP was already implemented during the construction phase and the additional area 30,548.37 m^2 of Building A, B, C, D, and E which is 60% of the total project area.

All the environmental parameters that are being monitored as part of the EMP; i.e. air emissions (fugitive), ambient air quality, noise, emissions

from sources (D.G. set, construction equipment, transport vehicles), surface / ground water quality, soil, etc.

The construction of A, B, C & E building is LP + P + 11 floors & D building is LB + LP + P+11 floors had the same environmental parameters that were required to be monitored and controlled. As such the same EMP was also continued to be implemented during the construction of A, B, C, D, and E building.

The construction of A, B, C, D, and E building was completed in about 159 months. As such the environmental monitoring and EMP was implemented, as planned and provided for during construction phase.

- Construction is done as per approved building plan obtained vide No. CC/2342/05 dated 21.09.2005 & CC/3387/05 dated 30.12.2005 (A & B -4 wings each, D and E -5 wings each building) and as per CC-3954 dated 04.03.2014 (C building)**.**
- Violation relates to only additional built-up areas **30,548.37** m^2. There is no change in plinth area & therefore percentage of ground coverage does not change. There is no change on environmental factors.
- As such there is no additional damage to environment due to violation in the project. Present status of environmental parameters such as air, water, noise soil, bio-diversity, ecology, tree plantation etc. is enclosed.
- We are also enclosing the complete EIA report for this project.

Detail Ecological damage assessment report is attached as **Annexure I.**

Chapter 15
Remediation Plan and Nature and Community Resource Augmentation Plan

15.1 Environmental Management Plan

The Environmental Management Plan (EMP) has been developed to ensure that the project is implemented in an environmentally sustainable manner where all contractors and subcontractors, including proponent, understand the potential environmental risks arising from the project and take appropriate actions. EMP also ensures that the project implementation is carried out in accordance with the design and by taking appropriate mitigative actions to reduce adverse environmental impacts during its life cycle.

Table 15.1: Environmental Management Plan for Operation Phase

Operational Activities	Potential Impacts	Mitigation Measures
Impact due to Water Consumption & Wastewater Generation	Fresh water consumption	• Use of low flow and low flush – water saving plumbing fixtures, automatic level controllers at water tanks to reduce / optimize the demand side of water resource.
	Sewage generation & disposal problems	• Onsite Sewage Treatment Plant of capacity 70 KLD based on MBBR technology has been provided.
Impact due to rainwater discharges	Water Pollution	• Rain water harvesting through 2 recharge borewell. • Rain water & storm water management plan is incorporated. • Annual Cleaning of Recharge pits, RWH filters and SWD.
	Flooding conditions	• Adequate Storm water drains to collect, carry, recharge/discharge storm- water runoff. • Regular Cleaning of SWD

Operational Activities	Potential Impacts	Mitigation Measures
	Biological Environment	• Plantation of Native trees along the plot boundary and RG area • Tree already planted: 392 Nos. • Landscape area provided: 2,045.85 m^2
Impacts due to Solid Waste generation	Land pollution	• Separate dustbins for collection of wet & dry waste have been provided. • Wet garbage has composted using vermicomposting system and used as organic manure for landscaping • The inorganic material is handed over to authorized vendors.
Impact due to Energy Consumption	Energy Consumption for building utilities and functions	• We have installed solar PV panel for residential building having capacity 135000 KWH/Annum. • Solar hot water system is provided for buildings having capacity 57420 KWH/Annum • The site planning has been done such that none of the building blocks are hinder light access to other buildings • The project is using pumps, motors and transformers with minimum losses and as per the ECBC 2007 requirements.
Parking	Traffic congestion	• Proper entry and exit points and driveways are provided for easy movement of vehicles • Vehicular movement and signages have been installed. • Adequate parking space is provided
DG set and Traffic	Noise Pollution	• Existing DG set: We have installed 1 no. X 82.5 kVA DG set on project site. • Traffic management measures to reduce noise.

Operational Activities	Potential Impacts	Mitigation Measures
		• Plantation along plot boundary, Creepers on Plot boundary
Energy Consumption for Thermal Comfort of people		• Tree plantation done along the periphery of the project site ensuring adequate buffer and reducing heat gain by the building • The project design uses high energy performing building materials which would have low U value (Thermal Conductance) as compared to the conventional materials. The external wall of proposed building would use fly ash blocks & glass have mandatory SHGC as required by ECBC.
Energy Consumption for Lighting		• Internal and external lighting designs are provided as required by ECBC with Lighting Power Density as per space requirements. • The project provides 20% lower LPD than as specified in ECBC, to achieve energy saving, while providing the require illumination levels, by using high efficacy lighting. • Solar PV units of having capacity 135000 KWH/Annum provided for buildings. • Solar hot water system is provided for buildings having capacity 57420 KWH/Annum.
Safety hazards		• The Transformer or the Sub Station for the project are adequately protected from entry, allowing only authorized personnel to enter the facility • All required energy protection measures such as high voltage cut-off, shock protector etc. had installed.
Impacts due to Cleaning & repairing activities		• A Manual is created by the PP to make occupants aware of these measures to be undertaken: • Choose non-toxic, biodegradable substitutes for household cleaning agents. • Avoid products with potentially harmful ingredients such as sponges with antibacterial ingredients. • Conserve water, sweep instead of wet mop when possible. • Use biodegradable drain clog removers made with natural enzymes.

Operational Activities	Potential Impacts	Mitigation Measures
	• Don't pour hazardous chemicals through the sink or the drain; Don't use chlorine-based bleach for cleaning • The regular monitoring & repairing of the equipment's such as STP, DG sets etc. to avoid the sudden failure. • Cleaning of building premises, parking areas and common areas are doing on a regular basis, taking care to see that no solid waste is carried to the storm water drains. • Green Guideline Brochure circulated to AMC workers.	

15.2 Budget allocation (Operation phase)

It is necessary to include the environmental cost as a part of the remediation plan as it is a sum provided for mitigation measures taken in accordance to the loss that has or would be suffered. It is proposed to take up protective measures like water sprinkling on road during construction, STP, rainwater harvesting, Solar PV units, Solar hot water, vermicomposting plant and green belt development for execution of Environmental Management Plan.

The details of adequate budgetary provision are given below;

Table 15.2 Budget Allocation for Operation Phase

Sr.	Component	Details	Capital cost Rs. Lakh	O&M cost Rs. Lakh/year
1.	Storm water management	Laying of storm & Sewer line up to final disposal point	11.00	0.90
2.	Sewage Treatment Plant	1 no. of STP having capacity 70 KLD existing	11.25	0.50
3.	Rain Water Harvesting	2 no. of Borewell	1.90	0.50
4.	Solid Waste	Cost for Treatment of biodegradable garbage	3.00	0.40

Sr.	Component	Details	Capital cost Rs. Lakh	O&M cost Rs. Lakh/year
	Management	in vermicomposting		
5.	Landscape development	Tree Plantation	17.26	1.50
6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	25.00	2.60
7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	5.00	0.50
8.	Firefighting system	Installation and operation of Fire Fighting system	14.50	1.70
	Total		**88.91**	**8.60**

15.3 Cost benefit analysis

Cost benefit analysis is a method of assessing a project that quantifies in monetary terms the value of all the effects of the project on the investor and / or society. The main purpose of cost benefit analysis is to base funding decisions and implementation of construction projects. Every project has the potential to result in benefits to the community. These benefits are primarily economic and include employment and workforce training.
Secondary benefits are in term of up gradation of the connected area like local businesses always flourish with any construction project. Benefits in monetary terms are given in table below:

Table 15.3 Qualification & Cost of Officials/Persons of Environment Management Cell

Sr.	Officials	Qualification	Salary in Rs./month
1	Chairman	N.A.	N.A.
2	Secretary	N.A.	N.A.

Sr.	Officials	Qualification	Salary in Rs./month
3	Supervisor	M.Sc./BE Environment	19,000
4	Operators for STP – 2 Nos.	I.T.I	15,000
5	Operator for vermicomposting – 34 No.	-.	9,000
6	Outside agency for collection of waste from door to door	-	20,000
7	Outside agency for monitoring and six monthly	-	20,000
8	Disaster Management Supervisor	M.Sc.& Diploma in Fire & Safety	15,000
9	Officer	B.Sc.& Diploma in Fire & Safety	12,000

15.4 Natural resource augmentation

Rain water harvesting: Roof top rain water harvesting is proposed through 2 nos. of bore well recharge pits. 2 no. bore well recharge pits are already provided on site.

Trees: Proponent has planted around 392 nos. of native trees at plot and provided green spaces (2,045.85 m^2) in the project premises that would serve as a carbon sink for the site, assembly point during emergencies and would improve the aestheticism of the area

Renewable Energy: We have installed solar panel for residential buildings having capacity 135000 KWH/Annum. This is helping to reduce the carbon footprint. Solar hot water system is provided for buildings having capacity 57420 KWH/Annum

Building Material: The project design uses high energy performing building materials which would have low U value (Thermal Conductance) as compared to the conventional materials. The external wall of proposed building would use fly ash blocks, AAC blocks & glass have mandatory SHGC as required by ECBC.

Water Recycling: Total water requirement during the operational phase of constructed buildings is 185 KLD. The treated water from STP is

recycled for flushing, gardening purposes This is helping to reduce the fresh water requirement. The freshwater requirement is 123 KLD.

15.5 Community resource augmentation plan

The project is a residential project and the major benefit due to the project activities are in the field of generating direct and indirect employment for the nearby locality of the region. The local people were given priority during the construction period as labourers. The project has been providing positive impact on the economic development of the region in terms of employment opportunities.
The significant positive impact on employment and occupation is envisaged on account of;

- Better Economic status of the community due to better earnings
- Permanent employees Housekeeping staffs, Security guards, Electricians, Plumbers, etc. has been employed from the locality of the project.
- Higher input towards infrastructural facilities due to the activities of the project.
- Community infrastructure and services has been improved under Corporate Social Responsibility (CSR).

Project Proponent has set out responsibilities the for implementation and monitoring the of augmentation plan. Monitoring the of Augmentation Plan has been done to determine:

- Whether the measures have been implemented as per plan;
- The success of implemented measures;
- Identification and reporting of measures which are not proving effective;

15.6 Calculation of cost of remediation plan and natural & community resource augmentation plan

Penalty provision for violation application as per approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance available on the portal: "ecmpcb.in".

Sr.	Description	Details	Amount
A	**Assessment of Environment Damage**		
1.	Total of recurring cost	Cost arrived from above table per day X number of days in violation	Rs.5,657/day x violation days 2,568 Nos. = Rs.145 Lakh

Sr.	Description	Details	Amount
2	Non-recurring cost	Cost as arrived from above tables	Rs.146 Lakh
3	**Subtotal (1+2 above)**	**Subject to minimum Rs. 1 Crore**	Rs.291 Lakh
4	Excluding Cost of STP, rechange bore well, planted trees, cost of barricades around the project site and O & M cost		Rs.121 Lakh
5	**Overall total (3-4 above)**		Rs.170 Lakh
B	**Economic benefits accrued due to violation**		
1.	Economic benefits	1 % of Total project cost including land, as declared by PP before SEAC, subject to maximum Rs. 10 crores	• Total project cost of constructed building is Rs.27.33 Crore • 1% of project cost i.e. Rs.27.33 Lakh
2.	Track record of Project proponent	Incremental cost of Rs. 10 lakhs for each EC violation by PP observed at any other projects in last 3 years.	All directors on board have no track record of other violation
C	Cost of remediation plan and natural community resource augmentation plan	Sum of A & B above or amount equivalent to the MoEF&CC's office Memorandum no. F. No. 22-65/2017-IA-III dated 01/05/2018, whichever is higher.	• Sum of A & B – Rs.197.5 Lakh • As per MoEF&CC's office Memorandum no. F. No. 22-65/2017-IA-III dated 25/02/2021, CER not applicable for B2 category projects. • Therefore, the cost of remediation plan is **Rs.197.5** Lakh which is higher.

Penalty provision for violation application as per OM dated 07.07.2021 and OM 28.01.2022 under EIA Notification 14.09.2006 for new project as follows;

Sr.	Details	Amount in INR
A.	Project cost attributed to violation area incurred up to the date of filing of the application	Rs.27.33 Crore
B.	1% of A	Rs.27.33 Lakh
C.	Total project turnover during the period of violation	Rs.95.87 Crore
D.	0.25% of the total turnover during the period of violation	Rs.23.97 Lakh
E.	**B+D**	**Rs.51.3 Lakh**

15.7 Remediation cost bifurcation:

Sr.	Description of Activity	% allocation	Total cost will be spent within one years after the receipt of EC (Rs. In Lakh)	Activities to be done at	Implementing agency	Remarks
1.	Afforestation (can include plantation, garden development)	25%	49	Plantation will be done at both sides of roads & garden in the 1 km to 3 km vicinity from the project site.	Social forestry and Local body (Pune Municipal Corporation)	The afforestation can be either through social forestry or the local body. Preferably within 50 km from project site
2.	Water conservation program (Jalyuktshivar, etc.)	25%	49	In consultation with Pune Municipal Corporation in the water shortfall areas.	Local body (Pune Municipal Corporation)	Preferably within 50 km radius from project site
3.	Urban environment and sanitation (can include swatchta Bharat, playground development, urban ground-water recharge schemes etc.)	20%	40	Slum area at Pune village in consultation with respective local authority	Local body (Pune Municipal Corporation)	
4.	Sewerage lines and STP, solid waste management	20%	39	Development of sewerage line and STP & solid waste management in slum area of Pune Municipal	Local body (Pune Municipal Corporation)	

Sr.	Description of Activity	% allocation	Total cost will be spent within one years after the receipt of EC (Rs. In Lakh)	Activities to be done at	Implementing agency	Remarks
				Corporation.		
5.	Urban air/noise Pollution control initiatives	10%	20.5	We will be provided air pollution measure machines & noise barrier in traffic prone areas near project site and also in consultation with Pune Municipal Corporation.	Local body (Pune Municipal Corporation)	
		100%	**197.5**			

***

Environmental Damage Assessment Report
and
Capital / Recurring Cost
for
Environment Management Plan
for
BramhaCorp Ltd.

Proposed residential project
"Bramha Exuberance"
at
S. No. 13, H. No. 1, 2 & 3, Village Kondhwa Khurd,
Taluka Haveli, District Pune, Maharashtra

Prepared by NABET ACCREDITED CONSULTANT
Mahabal Enviro Engineers Pvt. Ltd.
Plot F-7, Road 21, MIDC Wagle Estate, Thane-400604
Phone: 02235087207; mahabal.thane@gmail.com

INDEX

1. INTRODUCTION 3
1.1 LOCATION 3
Figure 1: Google Image showing the Project site 4
Table 1: Construction status at site 4
Figure 2: Master Layout 5
Table 2: Constructed area statement 5
1.2 SITE PHOTOGRAPHS 7
2.0 PROJECT DETAILS 9
3.0 ATTRIBUTES FOR ENVIRONMENTAL DAMAGES 10
Figure 4: Time Lapse Google Images 11
3.1 AIR ENVIRONMENT 16
3.2 NOISE ENVIRONMENT 17
3.3 LAND ENVIRONMENT 17
3.4 WATER ENVIRONMENT 17
3.5 AESTHETICS 18
3.6 SOCIO-ECONOMIC ENVIRONMENT 19
3.7 ECOLOGY 19
4.0 DESCRIPTION OF ACTIVITIES CONTRIBUTING TO THE ENVIRONMENTAL DAMAGE AND DEGRADATION; 21
5.0 REMEDIATION PLAN AND NATURE AND COMMUNITY RESOURCES AUGMENTATION PLAN 35
5.1 Environmental Management Plan 35
Table 4: Environmental Management Plan for Operation Phase 35
5.2 BUDGET ALLOCATION (OPERTION PHASE) 38
Table 5: Budget Allocation for Operation Phase 38
5.3 COST BENEFIT ANALYSIS 39
Table 6: Qualification & Cost of Officials/Persons of Environment Management Cell 39
5.4 NATURAL RESORCE AUGMENTATION 41
5.5 COMMUNITY RESOURCE AUGMENTATION PLAN 41
5.6 CALCULATION OF COST OF REMEDIATION PLAN AND NATURAL & COMMUNITY RESOURCE AUGMENTATION PLAN 42
5.7 REMEDIATION COST BIFURCATION: 44

Environmental Damage Assessment Report

1. INTRODUCTION

Damage Assessment is the assessment of actual impacts in terms of air, water, land, ecology, and socio-economic aspects on a particular area resulting from the incidents like a disaster, construction etc. Ministry of Environment and Forest (MoEF&CC) has issued a notification on the procedure to be adopted for dealing with the EC violation cases on 07.07.2021, 28.01.2022 and these violations are primarily related to initiating the project work or carrying out the project activities without obtaining the mandatory EC. The Office Memorandum (OM) dated 07.07.2021 and 28.01.2022 stipulated the procedure for consideration of such cases where construction of projects was carried out without obtaining EC, treating such cases as violation cases.

Bramha Corp Ltd. intends to develop Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra.

The total plot area is 17,433.10 m^2. Total FSI area is 21,798.69 m^2. The total construction area is 50,548.37 m^2.

The project consists of total 5 Residential buildings i.e. Building A, B (4 wings each), C, D, and E (5 wings each) with total 249 nos. of flats.

The Construction of 5 Residential buildings i.e. Building A, B (4 wings each), C, D, E (5 wings each) with services (STP, vermicomposting pits and Transformer & DG) was completed on site covering total built up area of **50,548.37 m^2**. The construction of area above 20,000 m^2 is comes under violation of EIA Notification 2006 and shall be dealt with procedure stipulated in the office memorandum (OM) dated 07.07.2021 and 28.01.2022 issued by the Ministry of Environment, Forest and Climate Change (MoEFCC), New Delhi.

The damage assessment plan and remediation & Natural community augmentation plan is prepared as per approach paper "Assessment for Environmental Damage and Estimation of Remediation Costs for Building Construction Projects initiated without obtaining mandatory Environmental clearance (Violation Cases) dated 18.03.2019" issued by SEIAA Maharashtra.

1.1 LOCATION

The Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra.

The Latitude and Longitude of project site is as follows:

Latitude: 18°28'31.22"N

Longitude: 73°53'42.44"E

The google Image of the project is given below:

Figure 1: Google Image showing the Project site

Proposed Development and present status:

The details of the proposed building configuration and the present status of the project is given in Table 1

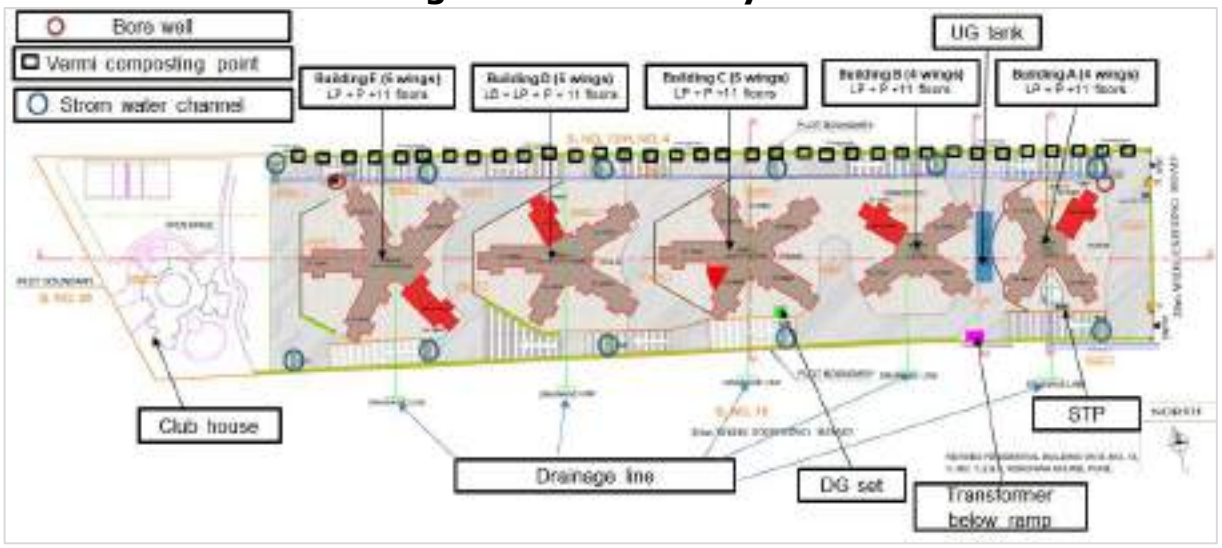
Table 1: Construction status at site

Sr.	Building Name	Building configuration	Present status
1	A Building	LP + P +11 floors	Completed (2009)
2.	B Building	LP + P +11 floors	Completed (2009)
3.	C Building	LP + P +11 floors	Completed (2019)
4.	D Building	LB + LP + P + 11 floors	Completed (2009)
5.	E Building	LP + P +11 floors	Completed (2009)

Sr.	Building Name	Building configuration	Present status
6.	Club House	G + 1	Completed (2009)

The layout plan of the proposed development is given in Figure 2

Figure 2: Master Layout



The constructed area on site as of today is 50,548.37 m^2

Table 2: Constructed area statement

Sr	Particulars		Building A	Building B	Building C	Building D	Building E	Total
1	**FSI**		3191.55	3191.55	4706.14	4867.09	5443.65	21399.98
2	**Excess balcony**						398.71	398.71
3	**Staircase**		213.73	213.73	94.38	97.46	136.84	756.14
4	**Lift area**		10.24	10.24	7.82	10.24	10.24	48.78
5	**Balcony area**		564.08	564.08	692.78	846.45	928.18	3595.57
6	**Lobby area**		487.30	487.30	922.57	645.70	817.96	3360.83

Sr	Particulars		Building A	Building B	Building C	Building D	Building E	Total
7	**Terrace area**			1199.46	970.89	418.09	703.25	3291.69
8	**Refuge area**		73.25	73.25	25.60	72.57	99.69	344.36
9	**Podium area**		1464.70		3023.17	1474.18	1763.76	7725.81
10	**Lift M. room**		--	--	--	--	--	--

11	**Built up Area of residential buildings**	40921.87
12	**Area of club house**	310.06
13	**Area of Transformer room**	20
14	**Area of undergrounds tanks**	100
16	**Area of Security cabin**	25
17	**Area of Parking below podium**	7197.37
18	**Terrace (11th floor of each building)- A=296.80+B=296.80+C=427.47+D=449.06+E=503.94**	1974.07
	Total built up area of the project	**50548.37**

1.2 SITE PHOTOGRAPHS

Figure 3: Site Photographs

Project entry gate

B Building

B Building

C Building

Club House

E Building

Construction completed

2.0 PROJECT DETAILS

1	Name and address of Project	Proposed residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra by Bramha Corp Ltd.	
2	Name of Directors	Mr. Sachin Shah	
3	Total construction completed (built- up area as per EC notification):	FSI area	21,798.69 m^2
		Non FSI area	28,749.68 m^2
		Total construction area	50,548.37 m^2
4	Total construction proposed, built- up area as per EC notification	FSI area	21,798.69 m^2
		Non FSI area	28,749.68 m^2
		Total construction area	50,548.37 m^2
5	Whether the project has any EC; if yes, give details including approved built-up area	No	
6	The total cost of the project and total cost of the project already executed? Also, give total cost of the project constructed without EC.	Total cost of the project – Rs. 27.33 Crore.	
7	Date of commencement of project	Building A & C - As per commencement certificate CC/2342/05 dt. 21.09.2005 Building B, D, E, Club House-As per commencement certificate CC/3387/05 dt. 30.12.2005	
8	Date of violation of EC regulation (please justify with documentary evidence)	Dated 20.11.2006 total construction area exceeds the threshold limit of 20,000 m^2	

9	Date of first submission of information of such violation to the SEIAA or SEAC, if self-notified, along with stoppage of construction work	Date of application for EC: 17.05.2022 Completion/Stoppage of construction: **Building C OC no. OCC/1333/18** dated 18.01.2019
	No. of days of violation (9-8)	5,657 days
10	Name and address of Environmental consultant, with date of engagement of such consultant	**Mahabal Enviro Engineers Pvt. Ltd.** Plot F-7, Road 21, MIDC Wagle Estate, Thane-400604 Phone: 02235087207 mahabal.thane@gmail.com
11	Any other case of EC violation is reported or pending or decided earlier for projects where any of the directors are involved? If yes, give details	No
12	Any court case related to EC violation pending or decided against any of the directors including High Court, NGT and sessions court?	Yes Court case details- NGT Western zone bench at Pune – Case no.65/2019

3.0 ATTRIBUTES FOR ENVIRONMENTAL DAMAGES

The PP and consultant described the details of each attribute in qualitative and quantitative manner as below;

The construction of project (Building A to E) proposed was on vacant land; hence, no demolition work was carried out. The field assessment was carried out to assess the impact of proposed development on flora and fauna. It is evident from google images that plot was vacant and there was no tree on plot. The time-lapse of the project site is given in following figures

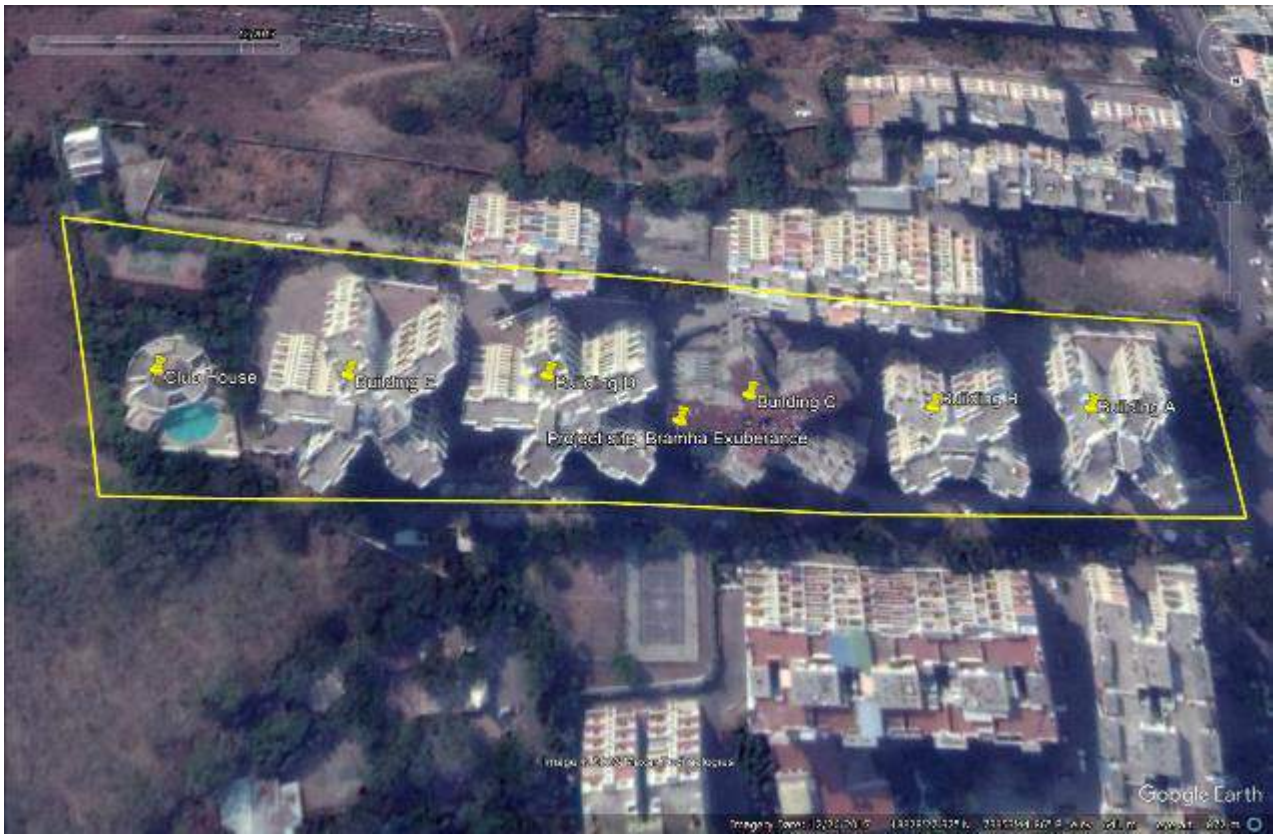
Figure 4: Time Lapse Google Images

17.11.2005

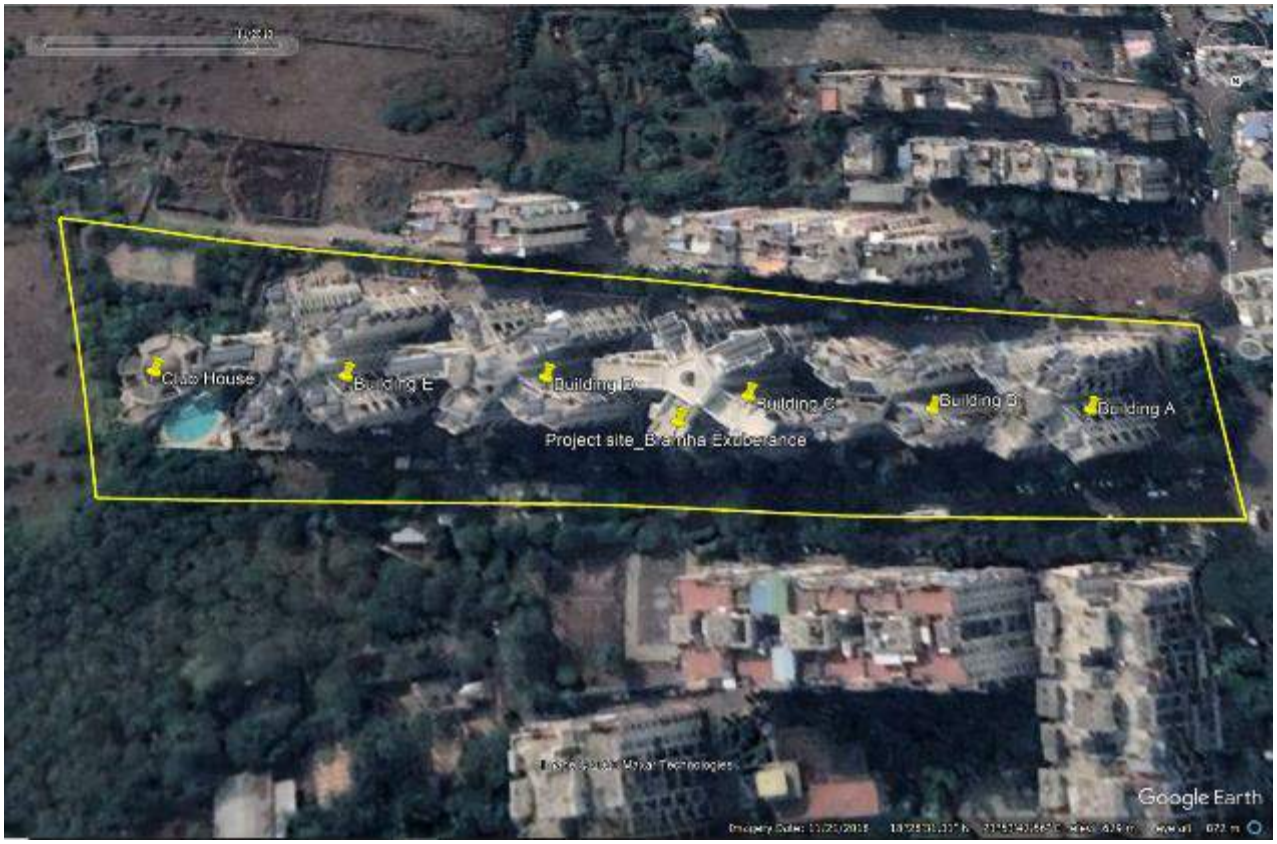
01.03.2010

25.05.2014

10.11.2014



26.12.2017



21.11.2018

27.11.2019

02.11.2020

12.11.2022

Land/soil environment was temporarily affected due to activities like site preparation, excavation for foundation purposes, material handling & storage etc. during the construction phase. The excavated soil generated was used at the site itself for the purpose of site development, landscaping and green area development.

The debris generated during construction activities was limited to the project site only and during the construction phase only. These were reused for backfilling and road development after manual segregation. These wastes have been utilized for the construction of roads. Conclusively, it can be stated that impacts may be confined to small area (mainly due to project site) and for short duration.

Small quantity of fugitive emission was envisaged during transport and handling of construction material. Such emission was temporary and that was controlled by providing water sprinkling technique.

The machinery which was used for construction was of high standard. These standards itself take care of noise pollution control / vibration control and air emission control. Hence insignificant impacts due to construction machinery are envisaged. Apart from this, the construction activities were restricted to daytime only.

The project activities have not affected the surroundings & any significant land disturbance, resulting in soil erosion, subsidence and instability. The area is not susceptible to erosion. The excavated earth materials had

utilized at the site for levelling, backfilling and landscaping/green area development.

The labour colony was provided to workers. Also, local employees were deployed for construction. The sanitary facilities with a Septic tank and soak pit were provided to workers. Hence there was no disposal of untreated sewage in the water body.

The ground surface of the project is flat. The project is not likely to alter or obstruct any natural drainage courses. There is no natural watercourse passing through the site. Hence the project does not involve the alteration of natural drainage systems.

Observation & interpretation

Project falls under residential zone as per DP of the PMC. Prior construction, the land was devoid of vegetation any ecologically important biodiversity. Project being small, does not affect these zones directly or indirectly.

The area surrounding the plot of project site, in 2005 was comparatively underdeveloped with less population density. Pune has experienced an exponential growth with respect to the urbanization of the area. It has developed both residentially and commercially. Damage caused to the area is the combined effect of overall development of the area. Specific impact of the project is negligible as the project doesn't involve changing of land use pattern, destruction of vegetation and pollution of environment.

3.1 AIR ENVIRONMENT

Construction of the project involved various activities that generate high levels of dust causing air pollution. Excavation of the earth for foundation purpose, land clearing, burning, mixing of cement, loading and unloading of material, diesel used in generators is also responsible for emissions of Carbon Monoxide, Hydrocarbons, Carbon dioxide etc. Project site involved excavation of the earth for foundation purpose. However, these activities were limited to the site only and till the construction phase. The only source of air pollution during the operational phase is vehicular traffic emissions and DG Set emissions.

Proponent in both construction and operation phase took number of measures in order to ease avoid dust emissions as stated in Section 5.1. As a remediation, on project site total 392 no. of existing trees and provided green spaces (2,045.85 m^2) within the layout that would serve as a carbon sink for the site, assembly point during emergencies and would improve the aestheticism of the area.

Also, awareness is created amongst the employees for maintenance of their vehicles. Proponent ensures that the stack height of the DG set is in accordance with the CPCB norms.

3.2 NOISE ENVIRONMENT

Construction site involves noises mainly from the heavy equipment's used for excavation purposes; drilling and DG set generators at the site. Transportation noise, to some extent, can also create a noise nuisance. As the development is inevitable, and the construction work is inherent noise, control measures were proposed to reduce the impact on workers in the surrounding area.

Proponent provide different type of Personal Protective Equipment's (PPE) to the workers working in high noise level area. Work hours were restricted to the day time.

High decibel noise during an operational phase is of Diesel Generator and vehicular traffic noise to a particular extend. Various measures are implemented to minimize the level of noise.

Proponent ensured the area assigned for the DG set is acoustically treated (sound proof) by the manufacturer. DG set location side plot is surrounded by a thick hedge of trees to buffer the area from noise coming across the premises. The proposed project is adjacent to 20 m wide DP Road and 6 m wide internal road, vehicular noise can create nuisance. On project site total 392 no. of existing trees and provided green spaces (2,045.85 m^2) within the layout.

3.3 LAND ENVIRONMENT

The construction phase involves excavation, drilling, levelling of the earth causing erosion and degrading the fertility of the soil. The excavation was carried out for foundation and land levelling purpose. The construction debris thus generated was about 667 m^3.

The excavated material and construction debris were utilized at site only for land levelling and filling of low laying area. Top soil excavated during the construction was preserved and used later for landscaping purposes. This type of damage is restricted only to the construction phase and is site specific.

Land in operational phase can be polluted due to the garbage disposed without treating or reusing. Amount of solid waste generating is 699 kg/day out of which, 419 kg/day is a biodegradable component and 280 kg/day is nonbiodegradable component. Solid waste generation from occupied residential building is 699 kg/day. Vermicomposting pits has been provided for the management of biodegradable component. Inert waste handing over to the vendor for recycle and reuse of the waste.

3.4 WATER ENVIRONMENT

Water was used in almost all the stages of construction serving different purposes like curing, washing, material preparation, drinking and flushing

purpose for construction workers. Drinking water was sourced from PMC. Water required for construction purpose was sourced from water tanker. Septic tanks were provided as sanitation facility to the workers at site. Around 100 workers were deployed in the construction of the project.

Total water requirement in its operational phase is 185 KLD. The freshwater required is 123 KLD. The water demand is met by Pune Municipal Corporation. The water storage facility is provided at ground level (underground water tank) as well as the top floor (overhead water tank). Sewage generation is 173 KLD. The total water consumption for an occupied building is 185 KLD. The freshwater consumption for occupied building is 123 KLD. Proponent provided 70 KLD STP but society not using the STP. All sewage is connected to municipal sewer line.

Vermicomposting pits

DG Set

Corporation water supply network

Existing STP

3.5 AESTHETICS

Aesthetics generally refers to the identification of visual resources, the quality and character of what can be seen, and the overall visual perception of the environment. Prior development the plot area was barren land and devoid of vegetation. The plot, on its East and West side was covered with residential buildings.

Construction Phase: The aesthetics of the project area was not disturbed during the construction phase as the site was barren land.

Operation Phase: The proposed land use of the site is Residential Building and will not result in obstruction of view, scenic amenity or landscape. However, the building layout was planned with open areas and landscaped areas. Moreover, with the passage of time, various other developments with advanced planning have emerged that has positive synergistic effect on the aesthetic view of the area.

3.6 SOCIO-ECONOMIC ENVIRONMENT

Construction phase: Majority of the labours was recruited locally and some skilled workers were outsiders, which is anticipated to be very small number and will not alter the existing demographic profile of the area.

Temporary sheds were provided to the workers with proper arrangement of sanitation and drinking water supply. Short term employment was created during the construction phase of the project.

The project is located in well urbanized area and has all basic infrastructural facilities as School, Colleges, Hospital, community facilities & places of worship etc.

Functional phases: As the project is residential direct and indirect employment opportunities has been generated in various sectors. It creates long term employment in activities such as maintenance of the buildings and ancillary services for below poverty line local residents.

Such employment has positive impact on the local economy, thereby increasing the quality of life.

3.7 ECOLOGY

No ecological sensitive places or ecological importance species within 5 km radius of study area. Mutha river is 6.7 km away from the project site. The project being a residential building, will not affect the flora and fauna in the area. Terrain of the site was almost plain without much undulation. In 2005, the site was an open land with devoid of vegetation.

After part completion of the project, proponent has designed a landscape and green spaces within the layout. Around 2,045.85 m^2 area is provided for green belt development, an open green space for recreational activities. At present there are 392 nos. of trees are planted within the layout. The trees are planted along the compound wall and RG area with adequate space between them so that their growth is not hampered.

Tree Plantation photographs

CONCLUSION

The project activities have been confined within the project in the site only and the likely impacts on land-use, residential facilities and open space is very merger. Proponent has taken every possible measure that would reduce the extent of pollution caused during construction as well as operation. No major damage has been caused due during and after the commencement of the project. The negligible amount of pollution caused is common to every site under construction. However, remediation plan discussed in Section 5 of this report suggests all the measures undertaken in both the phases have been discussed in detail.

4.0 DESCRIPTION OF ACTIVITIES CONTRIBUTING TO THE ENVIRONMENTAL DAMAGE AND DEGRADATION;

A.	Demolition, site preparation	
1	Whether any demolition work was carried out prior to EC? If yes what is date of commencement of demolition and also date of completion of demolition?	No. The construction was done on vacant plot
2	Whether such demolition or site had some asbestos, industrial waste or contaminated soil or hazardous waste etc. and if yes, how these types of waste have been segregated and disposed?	No
3	If the project is located on any industrial site, whether any due diligence or environmental status of site was assessed? If yes, give details	No. The plot was vacant.
4	State the quantity of demolition waste disposed from the site, including quantity and disposal location along with location map and photographs	Not applicable

<table>
<tr><td>5</td><td>Any air quality (including noise) monitoring done during demolition work? If yes, results</td><td>Not applicable</td></tr>
<tr><td>6</td><td>Whether building plan and layout approved and permission from local authorities is taken to commence the work prior to demolition work</td><td>Not applicable</td></tr>
<tr><td>B.</td><td>Construction stage</td><td></td></tr>
<tr><td>1</td><td>Date of Commencement of construction and completion of construction, if any</td><td>As per commencement certificate
<table>
<tr><th>Building name</th><th>File no.</th><th>Date</th></tr>
<tr><td>Building A & C-</td><td>CC/2342/05</td><td>21.09.2005</td></tr>
<tr><td>Building B, D, E, Club House</td><td>CC/3387/05</td><td>30.12.2005</td></tr>
</table>
As per Completion certificate
<table>
<tr><th>Building name</th><th>File no.</th><th>Date</th></tr>
<tr><td>Building A, B, E</td><td>BCO/14/7/148</td><td>22.10.2007</td></tr>
<tr><td>Building D (Part I)</td><td>350</td><td>05.10.2009</td></tr>
<tr><td>Building D (Part II)</td><td>421</td><td>04.12.2009</td></tr>
<tr><td>Building C (Part I)</td><td>OCC/0717/18</td><td>01.09.2018</td></tr>
<tr><td>Building C (Part II)</td><td>OCC/1333/18</td><td>18.01.2019</td></tr>
</table></td></tr>
<tr><td>2</td><td>Whether the construction carried out is strictly as per the sanction plan given by concerned local authority? If yes, please provide such certification.</td><td>Yes, construction of residential building completed as per sanction received from Pune Municipal Corporation dated 21.09.2005, 30.12.2005 & 04.03.2014.</td></tr>
</table>

<table>
<tr><td>3</td><td>In the additional construction, how much construction material including, sand, bricks, cement etc. was required to be transported? No. of truck sand it save rage haulage?</td><td>Construction material for already constructed area;
<table>
<tr><th>Sr.</th><th>Material</th><th>Unit</th><th>Total</th><th>Life Span years</th></tr>
<tr><td>1.</td><td>RMC</td><td>cum</td><td>2,389</td><td>70</td></tr>
<tr><td>2.</td><td>Cement</td><td>MT</td><td>8,960</td><td>70</td></tr>
<tr><td>3.</td><td>Fly Ash</td><td>bags kg</td><td>6,65,870</td><td>70</td></tr>
<tr><td>4.</td><td>Gravel</td><td>cum</td><td>11,639</td><td>70</td></tr>
<tr><td>5.</td><td>Steel</td><td>MT</td><td>1,575</td><td>75</td></tr>
<tr><td>6.</td><td>Crush Sand</td><td>cum</td><td>14,479</td><td>70</td></tr>
<tr><td>7.</td><td>AAC block (Autoclaved aerated concrete)</td><td>cum</td><td>9,94,705</td><td>50</td></tr>
<tr><td>8.</td><td>River sand</td><td>cum</td><td>9,210</td><td>70</td></tr>
<tr><td>9.</td><td>Tiles</td><td>m^2</td><td>54,271</td><td>25</td></tr>
<tr><td>10.</td><td>Flush Doors</td><td>m^2</td><td>1,372</td><td>50</td></tr>
<tr><td>11.</td><td>Glass</td><td>m^2</td><td>3,114</td><td>70</td></tr>
</table></td></tr>
<tr><td>4</td><td>How many labors were engaged in construction, average per day?</td><td>100 no. of labours/ day</td></tr>
<tr><td>5</td><td>Whether, the additional construction work, over and above valid EC, if so available, has any additional ground footprint? If yes please state, ground footprint in sqm as per EC, approved layout and current proposed layout?</td><td>No</td></tr>
</table>

6	Whether the expansion was carried out simultaneously with EC approved work? If not give details of time frame? If yes, please give incremental additional time required for construction of additional area	No
7	Is there any change in foundation design, i.e. depth of foundation, basement etc. that were done due to additional area? If yes, what is the additional soil quantity excavated for such incremental foundation depth? Where it is disposed?	No change in foundation design.
8	What is the quantity of top soil removed and how it is managed?	920 m^3 of Top soil excavated during the construction phase of the existing building is reused for plinth filling, backfilling, landscaping & gardening.
9	Also, if water is encountered at such foundation depth, what is the volume of water pumped for such additional depth of excavation?	Groundwater was not encountered during the excavation and foundation work of completed work.
10	How much additional water was required for curing and construction purpose? Source of water?	The quantity of water required for the construction of an additional area of 1,01,097 KLD (2 KL/ m^2 x 50,548.37 m^2 violation area= 1,01,097 KLD) The source of water is through water tanker.

11	Rain Water harvesting details	The rainwater harvesting work is completed at site for existing buildings. 2 No. of borewell are constructed on site.
12	Solar PV panels, water heating details	We have installed solar panel for residential buildings Solar PV panels having capacity 135000 KWH/Annum. Solar water heating system having capacity 57420 KWH/Annum.
13	Use fly ash bricks ensured? Details there of	Not Applicable
14	Whether any noise or air pollution control measures taken, if so what are they?	For Noise and Air pollution control Barricading was done along the periphery of the site. Regular water sprinkling to avoid spreading of dust particles
15	Whether any air quality and noise level monitoring done during construction stage, if yes attach results	**Air Pollution Control Measures** • Water sprinkling on unpaved roads to arrest air bourne dust • Covered vehicles for carrying construction materials • Sand, murram, loose soil, cement, stored on site • covered adequately so as to prevent dust pollution. • Use of ready-mix concrete • Use of PUC certified vehicles **Noise Pollution Control Measures** • Barricading to plot boundary • No excavation and foundation were done during night time • PPEs were provided to construction workers • Plantation along the plot boundary
16	Whether any third-party rights are created on the construction without EC?	Not applicable

<table>
<tr><td>17</td><td>Whether any of the construction without EC has already been occupied? If yes, number of families gave such occupation. Also give total commercial area being used presently. Also, state type of commercial activity i.e. offices, shops, hotels, restaurants, etc.</td><td>Yes,
249 nos. of tenements (A building -43 nos., B building-43 nos., C building - 55 nos., D building – 54 nos., E building-43 nos.) are occupied.</td></tr>
<tr><td>18</td><td>How many flats sold which are in the area of EC violation and total sale value of such flats?</td><td>249 nos. of tenements are sold (A building - 43 nos., B building-43 nos., C building - 55 nos., D building – 54 nos., E building-43 nos.)
Total turnover=Rs.95.87 Crore</td></tr>
<tr><td>19</td><td>How much commercial area sold which is in area of EC violation and total sale value of such commercial area.</td><td>Not applicable</td></tr>
<tr><td>C</td><td>Commissioning of project</td><td></td></tr>
<tr><td>1</td><td>Date of when the project was made operational either by giving possession of residential or commercial areas of the project?</td><td>As per Completion certificate
<table>
<tr><th>Building name</th><th>File no.</th><th>Date</th></tr>
<tr><td>Building A, B, E</td><td>BCO/14/7/148</td><td>22.10.2007</td></tr>
<tr><td>Building D (Part I)</td><td>350</td><td>05.10.2009</td></tr>
<tr><td>Building D (Part II)</td><td>421</td><td>04.12.2009</td></tr>
<tr><td>Building C (Part I)</td><td>OCC/0717/18</td><td>01.09.2018</td></tr>
<tr><td>Building C (Part II)</td><td>OCC/1333/18</td><td>18.01.2019</td></tr>
</table></td></tr>
<tr><td>2</td><td>How many families are staying in project?</td><td>249 nos. of families staying in building A, B, C, D & E.</td></tr>
</table>

3	What is total water supply to project, source and quality	Source of water – Pune Municipal Corporation. Fresh water required for the project – 123 m^3 /day Total water requirement for project 185 m^3 /day
4	Total sewage generation m^3 /day	Total sewage generation of project is 173 m^3 /day
5	STP details	Existing STP - 70 KLD
6	Treated waste water disposal	Total sewage generated from whole project is 173 KLD and it is connected to municipal sewer line.
7	Any DG sets, are they complying the norms	**Existing:** We have installed 1 no. X 82.5 kVA DG set on project site.

Format of Assessment of Environmental Damage

Attributes	Scope of saving on account of environmental protection measures	Non-recurring cost (Rs.)	Recurring cost, Rs. /day
Air Pollution	• Water requirement for sprinkling (KL/day): • Plot area of the project 17,433 m^2. • Water requirement for sprinkling per m^2 = **2 liters (Calculated as per CSIR NEERI, Dust suppressant note)** • Total water requirement for 17,433 m^2 = **35 KLD** • Water from borewell was used for sprinkling purpose • **As per (As per CGWA notification dt 24th September, 2020, Page No. 41 Ground water abstraction charges for infrastructure project is Rs.1/m^3. However, we have considered Rs.15/m^3)** • Cost of 1 KL water (Rs.) considered is Rs.15 per kL • Recurring cost for 35 KLD water consumption = 35 KLD x Rs.15/KL =Rs.525 • Water helped to reduce 25%-30% pollutants which holds moisture for about 15 min. Application in 1 hr. in a day. i.e., total cost in rupees for 1 hr.= Rs.525 x 1 **= Rs.525 day**	**Nil**	**525**
Water	A. Cost of water requirement:		

Attributes	Scope of saving on account of environmental protection measures	Non-recurring cost (Rs.)	Recurring cost, Rs. /day
Pollution	• Construction phase: • No. of labour = 100 nos. • Total water consumption=4.5 KLD • **PMC domestic water supply rate is Rs.8 per m^3** • Cost of 1 KL water is Rs.8 • Recurring cost for 4.5 KLD water consumption = **Rs.36/day** • Violation construction area=50,548.37 m^2 • The water required for construction has been considered from a Research paper titled "Assessment of water resource consumption in building construction in India" - Rs. 2KL / m^2 • Total water required during construction =50,548.37 m^2 x 2KL/m^2 =101097 KL • Cost for construction water=**Rs.15,16,451**	**15,16,451**	**36**
	a) Operation phase: • Building A, B, C, D & E is in under violation • No. of flats of Building A, B, C, D & E -249 nos. (2 BHK-130 nos., 3 BHK-119 nos.) • Total fresh water= (No of flats x residential occupancy x 90 lpd water as per NBC 2016) + 5% visitors x 5 lpd water as per NBC 2016	**69,513**	**984**

Attributes	Scope of saving on account of environmental protection measures	Non-recurring cost (Rs.)	Recurring cost, Rs. /day
	= (130 x 5 x 90) + (119 x 6 x 90) + 68 x 5 = 123 KLD • **PMC domestic water supply rate is Rs.8 per m^3** • Cost of 1 kL water is Rs.8 • Recurring cost for 123 KLD water consumption = **Rs.984/day** • Total water supply pipeline cost = **Rs.69,513 (As per water connection charges & road cutting charges paid challan)**		
	B. Cost of sewage treatment, reuse & disposal:		
	a) Construction phase: • No. of labours = 100 nos. • Total water consumption=4.5 KLD • Sewage generation= 4 KLD • Cost for capacity of 5 KLD Septic tank = **Rs.25,000** (As per regular practice) • O & M -10% of capital cost/day=**Rs.7/day**	**25,000**	**7**
	b) Operation phase: • Total Sewage generation of buildings = 173 KLD • Required STP-182 KLD • Provided STP capacity for all building = 70 KLD • Total capital cost of sewage treatment in MBBR is **Rs.32,25,000**	**32,25,000**	**442**

Attributes	Scope of saving on account of environmental protection measures	Non-recurring cost (Rs.)	Recurring cost, Rs. /day
	• O & M cost/day=**Rs.442** • Cost of 70 KLD sewage treatment in MBBR =Rs.11,25,000 **(As per STP work order)** • O & M cost/day = Rs.154/day		
	C. Quantity of water pumped out during excavation and a lumpsum cost of Rs. 50 per cum for such unauthorized water extraction and disposal (Ground water was not encountered during excavation and foundation work of completed work.)	**Nil**	**Nil**
	C. Cost of construction & maintenance of recharge well: • No. of required recharge pits= 4 nos. • **Cost of recharge pit as per DSR 2022-2023 is Rs.51,500 (pg. no.317) i.e. Rs.51,500/rechange pit** • Construction cost of 4 recharge pits = **Rs.2,06,000** • On project site we have constructed total 2 nos. of recharge pits • Operation and maintenance cost/day= **Rs.28/day**	**2,06,000**	**28**
Soil environment	In case of demolition has carried out, the cost of demolition waste management	**Nil**	**Nil**

Attributes	Scope of saving on account of environmental protection measures	Non-recurring cost (Rs.)	Recurring cost, Rs. /day
	plan needs to be discussed and finalized as non-recurring cost. Demolition work not done.		
	In case the`re is some hazardous waste like asbestos or the site is located on industrial area where hazardous chemical or waste was handled, the cost based on due diligence of the project site, as given by consultants. (The report must include soil analysis, water analysis, MPCB consent copies, manifest of HW if any). This requires critical examination from SPCB.	-	No Hazardous waste generation
	Cost of preservation of top soil& excavated earth to be considered. • Excavated quantity: 920 m^3 • **Cost of excavation of soil as per the CSR 2022-2023 for 1 m^3 is Rs.98.90 (pg. no. 21)** • Cost for excavation = 920 x 98.90 = **Rs.90,988**	**90,988**	**Nil**
Noise and Vibration	For damage due to noise pollution & vibration, the cost of barricades around the project site should be considered. [perimeter(m)x height of the barricade (m)x cost of the sheet) • **Barricading cost as per DSR 2022-2023 is Rs.5,078 (pg. no. 298)**	**91,49,794**	Barricading was done during construction. No saving on this item.

Attributes	Scope of saving on account of environmental protection measures	Non-recurring cost (Rs.)	Recurring cost, Rs. /day
	• Perimeter (720.74 m) x height of the barricade (2.5 m) x cost of the sheet (Rs.2,539) = **Rs. 91,49,794**		
Green Belt	In case of any tree cutting without EC Cost of Rs.10000/-per tree apart from any statutory action for such tree cutting if any, Cost of planting & maintaining trees (Number of trees as per the bye-laws) Cost of compensatory tree plantation (5 trees for each tree cut) • No. of required trees=218 nos. • On project site we have planted 392 nos. of trees. • Labour rates has been considered from the gazette of India circular under Gramin Vikas Mantralay - Rs. 256/ day. Tree sapling rate a has been considered from Krishi Aayuktalay – Maharashtra circular published in 2021 - Rs. 200/ Tree (maximum has been considered) • No trees were cut. • Tree plantation cost= 392 x 200=Rs.74,800 • Cost of labour for pits: Pits dug per day=10 no. • Labor cost=256 x 392/10=Rs.10,035 • Total cost= Rs.74,800 +	**88,435**	**Nil**

Attributes	Scope of saving on account of environmental protection measures	Non-recurring cost (Rs.)	Recurring cost, Rs. /day
	Rs.10,035 **=Rs.88,435**		
RH/OHS	Cost of workers benefits to be considered in view of Building and Other Construction Workers Welfare Cess Act,1996		
	A. Cost of health checkups of workers B. Cost of safety measures including PPEs: • The Cost of Health check-up for labour has been considered as per the full body check-up plans available in the diagnostic centers - Rs.1500/ Labour • Total labour 100 no. • Cost of PPE has been calculated considering the requirements such as Safety Harness: Rs.1000, Helmet: Rs. 210, Shoes: Rs. 400, Goggles: Rs. 100, Safety Gloves: Rs. 470, Masks and ear plugs: Rs. 100 and First aid Kits: Rs. 200 -Rs.2480 / PPE Kit. • The Cost of Health check-up for labour has been considered as per the full body check-up plans available in the diagnostic centers - Rs. 1500/ Labour = (100 x 1500 + 2480 x 20) = 1,99,600/- • Total cost=**Rs. 1,99,600**	**1,99,600**	**546**
Total		**1,45,70,781**	**2,568/day**

5.0 REMEDIATION PLAN AND NATURE AND COMMUNITY RESOURCES AUGMENTATION PLAN

5.1 Environmental Management Plan

The Environmental Management Plan (EMP) has been developed to ensure that the project is implemented in an environmentally sustainable manner where all contractors and subcontractors, including proponent, understand the potential environmental risks arising from the project and take appropriate actions. EMP also ensures that the project implementation is carried out in accordance with the design and by taking appropriate mitigative actions to reduce adverse environmental impacts during its life cycle.

Table 4: Environmental Management Plan for Operation Phase

Operational Activities	Potential Impacts	Mitigation Measures
Impact due to Water Consumption & Wastewater Generation	Fresh water consumption	• Use of low flow and low flush – water saving plumbing fixtures, automatic level controllers at water tanks to reduce / optimize the demand side of water resource.
	Sewage generation & disposal problems	• Onsite Sewage Treatment Plant of capacity 70 KLD based on MBBR technology has been provided.
Impact due to rainwater discharges	Water Pollution	• Rain water harvesting through 2 recharge borewell. • Rain water & storm water management plan is incorporated. • Annual Cleaning of Recharge pits, RWH filters and SWD.
	Flooding conditions	• Adequate Storm water drains to collect, carry, recharge/discharge storm- water runoff. • Regular Cleaning of SWD
	Biological Environment	• Plantation of Native trees along the plot boundary and RG area • Tree already planted: 392 Nos.

Operational Activities	Potential Impacts	Mitigation Measures
		• Landscape area provided: 2,045.85 m^2
Impacts due to Solid Waste generation	Land pollution	• Separate dustbins for collection of wet & dry waste have been provided. • Wet garbage has composted using vermicomposting system and used as organic manure for landscaping • The inorganic material is handed over to authorized vendors.
Impact due to Energy Consumption	Energy Consumption for building utilities and functions	• We have installed solar PV panel for residential building having capacity 135000 KWH/Annum. • Solar hot water system is provided for buildings having capacity 57420 KWH/Annum • The site planning has been done such that none of the building blocks are hinder light access to other buildings • The project is using pumps, motors and transformers with minimum losses and as per the ECBC 2007 requirements.
Parking	Traffic congestion	• Proper entry and exit points and driveways are provided for easy movement of vehicles • Vehicular movement and signages have been installed. • Adequate parking space is provided
DG set and Traffic	Noise Pollution	• Existing DG set: We have installed 1 no. X 82.5 kVA DG set on project site. • Traffic management measures to reduce noise. • Plantation along plot boundary, Creepers on Plot boundary
Energy Consumption for Thermal Comfort	• Tree plantation done along the periphery of the project site ensuring adequate buffer and reducing heat gain by the building	

Operational Activities	Potential Impacts	Mitigation Measures
of people	• The project design uses high energy performing building materials which would have low U value (Thermal Conductance) as compared to the conventional materials. The external wall of proposed building would use fly ash blocks & glass have mandatory SHGC as required by ECBC.	
Energy Consumption for Lighting	• Internal and external lighting designs are provided as required by ECBC with Lighting Power Density as per space requirements. • The project provides 20% lower LPD than as specified in ECBC, to achieve energy saving, while providing the require illumination levels, by using high efficacy lighting. • Solar PV units of having capacity 135000 KWH/Annum provided for buildings. • Solar hot water system is provided for buildings having capacity 57420 KWH/Annum.	
Safety hazards	• The Transformer or the Sub Station for the project are adequately protected from entry, allowing only authorized personnel to enter the facility • All required energy protection measures such as high voltage cut-off, shock protector etc. had installed.	
Impacts due to Cleaning & repairing activities	• A Manual is created by the PP to make occupants aware of these measures to be undertaken: • Choose non-toxic, biodegradable substitutes for household cleaning agents. • Avoid products with potentially harmful ingredients such as sponges with antibacterial ingredients. • Conserve water, sweep instead of wet mop when possible. • Use biodegradable drain clog removers made with natural enzymes. • Don't pour hazardous chemicals through the sink or the drain; Don't use chlorine-based bleach for cleaning • The regular monitoring & repairing of the equipment's such as STP, DG sets etc. to avoid the sudden failure.	

Operational Activities	Potential Impacts	Mitigation Measures
	• Cleaning of building premises, parking areas and common areas are doing on a regular basis, taking care to see that no solid waste is carried to the storm water drains. • Green Guideline Brochure circulated to AMC workers.	

5.2 BUDGET ALLOCATION (OPERTION PHASE)

It is necessary to include the environmental cost as a part of the remediation plan as it is a sum provided for mitigation measures taken in accordance to the loss that has or would be suffered. It is proposed to take up protective measures like water sprinkling on road during construction, STP, rainwater harvesting, Solar PV units, Solar hot water, vermicomposting plant and green belt development for execution of Environmental Management Plan.

The details of adequate budgetary provision are given below;

Table 5: Budget Allocation for Operation Phase

Sr.	Component	Details	Capital cost Rs. Lakh	O&M cost Rs. Lakh/year
1.	Storm water management	Laying of storm & Sewer line up to final disposal point	11.00	0.90
2.	Sewage Treatment Plant	1 no. of STP having capacity 70 KLD existing	11.25	0.50
3.	Rain Water Harvesting	2 no. of Borewell	1.90	0.50
4.	Solid Waste Management	Cost for Treatment of biodegradable garbage in vermicomposting	3.00	0.40
5.	Landscape development	Tree Plantation	17.26	1.50
6.	Energy Conservation	Solar PV panels for electricity generation, LED etc.	25.00	2.60

Sr.	Component	Details	Capital cost Rs. Lakh	O&M cost Rs. Lakh/year
7.	Environmental Monitoring	Monitoring and analysis of Air, Water, Noise, Soil, surface water, STP treated water etc.	5.00	0.50
8.	Firefighting system	Installation and operation of Fire Fighting system	14.50	1.70
	Total		**88.91**	**8.60**

5.3 COST BENEFIT ANALYSIS

Cost benefit analysis is a method of assessing a project that quantifies in monetary terms the value of all the effects of the project on the investor and / or society. The main purpose of cost benefit analysis is to base funding decisions and implementation of construction projects. Every project has the potential to result in benefits to the community. These benefits are primarily economic and include employment and workforce training.
Secondary benefits are in term of up gradation of the connected area like local businesses always flourish with any construction project. Benefits in monetary terms are given in table below:

Table 6: Qualification & Cost of Officials/Persons of Environment Management Cell

Sr.	Officials	Qualification	Salary in Rs./month
1	Chairman	N.A.	N.A.
2	Secretary	N.A.	N.A.
3	Supervisor	M.Sc./BE Environment	19,000
4	Operators for STP – 2 Nos.	I.T.I	15,000
5	Operator for vermicomposting – 34 No.	-.	9,000
6	Outside agency for collection of	-	20,000

Sr.	Officials	Qualification	Salary in Rs./month
	waste from door to door		
7	Outside agency for monitoring and six monthly	-	20,000
8	Disaster Management Supervisor	M.Sc.& Diploma in Fire & Safety	15,000
9	Officer	B.Sc.& Diploma in Fire & Safety	12,000

5.4 NATURAL RESORCE AUGMENTATION

Rain water harvesting: Roof top rain water harvesting is proposed through 2 nos. of bore well recharge pits. 2 no. bore well recharge pits are already provided on site.

Trees: Proponent has planted around 392 nos. of native trees at plot and provided green spaces (2,045.85 m^2) in the project premises that would serve as a carbon sink for the site, assembly point during emergencies and would improve the aestheticism of the area

Renewable Energy: We have installed solar panel for residential buildings having capacity 135000 KWH/Annum. This is helping to reduce the carbon footprint. Solar hot water system is provided for buildings having capacity 57420 KWH/Annum

Building Material: The project design uses high energy performing building materials which would have low U value (Thermal Conductance) as compared to the conventional materials. The external wall of proposed building would use fly ash blocks, AAC blocks & glass have mandatory SHGC as required by ECBC.

Water Recycling: Total water requirement during the operational phase of constructed buildings is 185 KLD. The treated water from STP is recycled for flushing, gardening purposes This is helping to reduce the fresh water requirement. The freshwater requirement is 123 KLD.

5.5 COMMUNITY RESOURCE AUGMENTATION PLAN

The project is a residential project and the major benefit due to the project activities are in the field of generating direct and indirect employment for the nearby locality of the region. The local people were given priority during the construction period as labourers. The project has been providing positive impact on the economic development of the region in terms of employment opportunities.
The significant positive impact on employment and occupation is envisaged on account of;

- Better Economic status of the community due to better earnings
- Permanent employees Housekeeping staffs, Security guards, Electricians, Plumbers, etc. has been employed from the locality of the project.
- Higher input towards infrastructural facilities due to the activities of the project.
- Community infrastructure and services has been improved under Corporate Social Responsibility (CSR).

Project Proponent has set out responsibilities the for implementation and monitoring the of augmentation plan. Monitoring the of Augmentation Plan has been done to determine:

- Whether the measures have been implemented as per plan;

- The success of implemented measures;
- Identification and reporting of measures which are not proving effective;

5.6 CALCULATION OF COST OF REMEDIATION PLAN AND NATURAL & COMMUNITY RESOURCE AUGMENTATION PLAN

Penalty provision for violation application as per approach paper for assessment for environmental damage and estimation of remediation costs for building construction projects initiated with obtaining mandatory environmental clearance available on the portal: "ecmpcb.in".

Sr.	Description	Details	Amount
A	**Assessment of Environment Damage**		
1.	Total of recurring cost	Cost arrived from above table per day X number of days in violation	Rs.5,657/day x violation days 2,568 Nos. = Rs.145 Lakh
2	Non-recurring cost	Cost as arrived from above tables	Rs.146 Lakh
3	**Subtotal (1+2 above)**	**Subject to minimum Rs. 1 Crore**	Rs.291 Lakh
4	Excluding Cost of STP, rechange bore well, planted trees, cost of barricades around the project site and O & M cost		Rs.121 Lakh
5	**Overall total (3-4 above)**		Rs.170 Lakh
B	**Economic benefits accrued due to violation**		
1.	Economic benefits	1 % of Total project cost including land, as declared by PP before SEAC, subject to maximum Rs. 10 crores	• Total project cost of constructed building is Rs.27.33 Crore • 1% of project cost i.e. Rs.27.33 Lakh

Sr.	Description	Details	Amount
2.	Track record of Project proponent	Incremental cost of Rs. 10 lakhs for each EC violation by PP observed at any other projects in last 3 years.	All directors on board have no track record of other violation
C	Cost of remediation plan and natural community resource augmentation plan	Sum of A & B above or amount equivalent to the MoEF&CC's office Memorandum no. F. No. 22-65/2017-IA-III dated 01/05/2018, whichever is higher.	• Sum of A & B – Rs.197.5 Lakh • As per MoEF&CC's office Memorandum no. F. No. 22-65/2017-IA-III dated 25/02/2021, CER not applicable for B2 category projects. • Therefore, the cost of remediation plan is **Rs.197.5** Lakh which is higher.

Penalty provision for violation application as per OM dated 07.07.2021 and OM 28.01.2022 under EIA Notification 14.09.2006 for new project as follows;

Sr.	Details	Amount in INR
A.	Project cost attributed to violation area incurred up to the date of filing of the application	Rs.27.33 Crore
B.	1% of A	Rs.27.33 Lakh
C.	Total project turnover during the period of violation	Rs.95.87 Crore
D.	0.25% of the total turnover during the period of violation	Rs.23.97 Lakh
E.	**B+D**	**Rs.51.3 Lakh**

5.7 REMEDIATION COST BIFURCATION:

Sr.	Description of Activity	% allocation	Total cost will be spent within one years after the receipt of EC (Rs. In Lakh)	Activities to be done at	Implementing agency	Remarks
1.	Afforestation (can include plantation, garden development)	25%	49	Plantation will be done at both sides of roads & garden in the 1 km to 3 km vicinity from the project site.	Social forestry and Local body (Pune Municipal Corporation)	The afforestation can be either through social forestry or the local body. Preferably within 50 km from project site
2.	Water conservation program (Jalyuktshivar, etc.)	25%	49	In consultation with Pune Municipal Corporation in the water shortfall areas.	Local body (Pune Municipal Corporation)	Preferably within 50 km radius from project site
3.	Urban environment and sanitation (can include swatchta Bharat, playground development, urban ground-water recharge schemes etc.)	20%	40	Slum area at Pune village in consultation with respective local authority	Local body (Pune Municipal Corporation)	
4.	Sewerage lines and STP, solid waste management	20%	39	Development of sewerage line and STP & solid waste management in slum area of Pune Municipal Corporation.	Local body (Pune Municipal Corporation)	

Sr.	Description of Activity	% allocation	Total cost will be spent within one years after the receipt of EC (Rs. In Lakh)	Activities to be done at	Implementing agency	Remarks
5.	Urban air/noise Pollution control initiatives	10%	20.5	We will be provided air pollution measure machines & noise barrier in traffic prone areas near project site and also in consultation with Pune Municipal Corporation.	Local body (Pune Municipal Corporation)	
		100%	**197.5**			

***

DATE: - 25.06.2022	DESIGN BASIS REPORT	AQUATECH ENGINEERS
Page1 of 6	CLIENT: Bramhacorp	

DESIGN BASIS

This Sewage treatment plant has been designed to treat the domestic wastewater generated in the project of **Bramhacorp Exuberance-75 KLD** By considering following wastewater characteristics:

Flow	:	75 m^3 /d Average
Peak factor	:	3 times for Averag e flow
Operating Hours	:	20 Hours.

DESIGN PARAMETERS WITH INLET & OUTLET CHARACTERISTICS:

Sr. No.	Design Parameters	Inlet Characteristics	Outlet Characteristics	MOEF Standards
1.	**pH**	6.0 – 8.5	5.5 – 9.0	5.5 – 9.0
2.	**Oil & Grease (mg/l)**	10 – 20	< 5	< 5
3.	**BiologicalOxygenDemand (BOD) (mg/l)**	200 – 300	< 10	< 10
4.	**ChemicalOxygenDemand (COD) (mg/l)**	350 – 450	< 30	< 30
5.	**Total Suspended Solid (TSS) (mg/l)**	150 – 200	< 10	< 10
6.	**Total Nitrogen (mg/l)**	20-25	< 50	< 50
7.	**Nitrate (mg/l)**	15-16	< 10	< 10
8.	**Dissolve PO_4 (mg/l)**	6-8	< 5	< 5
9.	**Fecal Coliform (MPN/100 ml)**	10^6	Nil	Nil

ASSUMED PARAMETERS:

1. The plant is designed to operate at max. +/– 10 % variation in raw wastewater parameters.
2. No other parameters other than mentioned above is present in the raw wastewater which is beyond Pollution Control Norms and hazardous to micro – organisms.

LEVEL OF AUTOMATION

The plant design is based on **Moving Media Bio Reactor (MMBR),** which needs skilled Oprater /no skilled manpower for its operation. The operations involved are ON / OFF of the pumps , air blower, sludge removal system, filter backwash. The pumps are provided with level switch for ON / OFF based on the tank water level and to avoid dry run which may damage mechines. This is SEMI – AUTOMATIC process design.

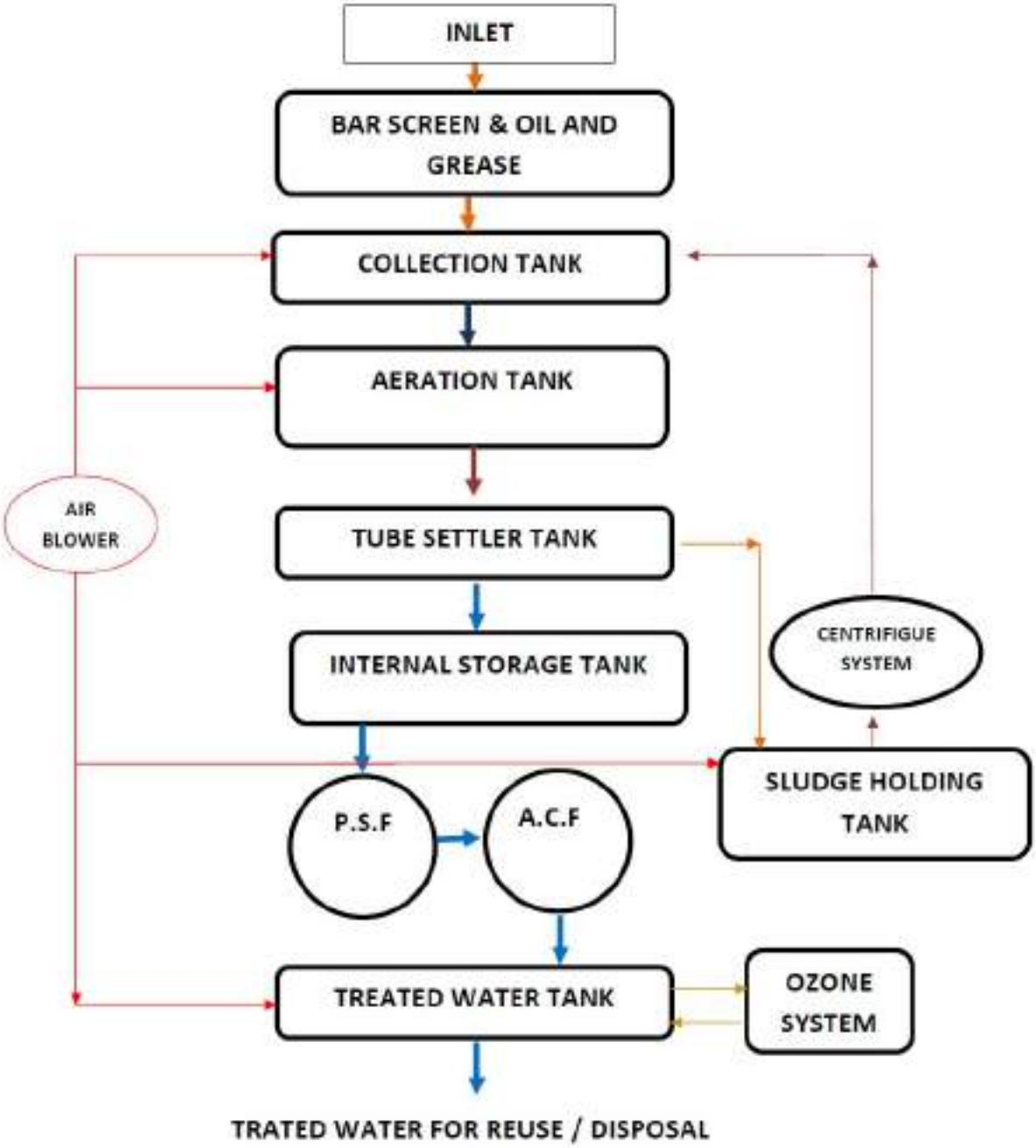
PROCESS DESCRIPTION

The raw sewage generated will be passed through the **BAR SCREEN CHAMBER** wherein the free, floating, coarse suspended solids having particle size greater than 10 mm will be trapped and removed manually. The effluent is then collected in the **EQUALIZATION TANK** wherein the wastewater will be collected by gravity as particles having specific gravity heaver than water will settle down and pumped into downstream units. The tank will be provided with coarse bubble aeration to avoid settling of solids and to keep the effluent in homogenous condition.

The effluent is then pumped into the **AERATION TANK** wherein the aerobic microbes will utilize the organic matter in presence of oxygen. In this tank dissolved Oxygen, Active micro organism and organic impurities from the raw sewage feed water are allowed to react together. This is a bio chemical reaction, organic decomposition is completed and new cells are produced. Thus BOD in the sewage is reduced and also COD reduces to that extent. The moving media is provided as surface for micro-organisms to attach.

The partially treated wastewater then flows by gravity into the **SETTLING TANK.** The dead biomass generated in the bacterial activity allow to settle under gravity. After removal of settlable solids , the parameter like BOD ,COD and TSS gets reduced. The sludge get collected in hopper bottom portion & clear water flows from top in **FILTER FEED TANK**. The sludge in the hopper bottom needs to be removed in proper intervals . The treated wastewater will be dosed with ozone for disinfection purpose.

The partially treated wastewater will then be pumped through **PRESSURE SAND FILTER** to remove fine suspended solid which is difficult to settle by gravity. After Pressure Sand Filter it is passed through **ACTIVATED CARBON FILTER**. In Activated Carbon Filter organic impurities will be removed by adsorption on surface area of Activated Carbon. This treated wastewater will be then collected in **TREATED W/W TANK** prior to reuse for suitable purpose as required by client. The tank is provided with aeration to improve the dissolved oxygen level in treated wastewater.


INLET
BAR SCREEN & OIL AND GREASE
COLLECTION TANK
AERATION TANK
AIR BLOWER
TUBE SETTLER TANK
CENTRIFIGUE SYSTEM
INTERNAL STORAGE TANK
SLUDGE HOLDING TANK
P.S.F
A.C.F
TREATED WATER TANK
OZONE SYSTEM
TRATED WATER FOR REUSE / DISPOSAL

EQUIPMENT DETAILS – CIVIL

A) Area required for STP: - 31.46 sq.m

1.	**BAR SCREEN CHAMBER**		**(T – 01)**
	Units provided	:	One
	Size	:	1200 x 1200 x 2000 mm SWD
	Material of Construction	:	R.C.C
	Volume	:	2.88 m3
2.	**COLLECTION TANK**		**(T – 02)**
	Units provided	:	One
	Size	:	3900 x 1200 x 2000 mm SWD
	Material of Construction	:	R.C.C
	Volume	:	9.36 m3
3.	**AERATION TANK**		**(T – 03)**
	Units provided	:	One
	Size	:	3200 x 2800 x 1900 mm SWD
	Material of Construction	:	M.S
	Volume	:	17.02 m3
4.	**SETTLING TANK**		**(T – 04)**
	Units provided	:	One
	Size	:	2800 x 1600 x 1800 mm SWD
	Material of Construction	:	M.S
	Volume	:	8.06 m3
5.	**FILTER FEED TANK**		**(T – 05)**
	Units provided	:	One
	Size	:	---------- mm SWD
	Material of Construction	:	SINTEX
	Volume	:	1.00 m3

ELECTRICAL DETAILS

Sr. No.	Equipment	Qty.	Connected Power (HP)	Operating Power (HP)
1.	Feed pump	2	2.0	1.0
2.	Filter Feed Pump	2	2.0	1.0
3.	Sludge Pump	1	0.5	0.5
4.	Jet Aerator	2	5.0	2.5
7.	Centrifuge system	1	0.5	0.5
8.	Backwash Pump	1	1.0	1.0
	Total		**11.0**	**6.5**
9.	Extra	1	2.0	2.0

Sludge Details:-

1) **Dewatering technique**: - Mechanical Dewatering .
2) **Dried sludge disposal**: - 6.15 kg/d, As Manure.
3) **Sludge quantity** :- 6.15 m3 /day (includes 35 – 40% Organics & 60 – 65% inerts/Minerals)

CAPITAL COST

For Civil Work	**Rs. 13,58,000 /-**
For Mechanical + Electrical + Instrumentation	**Rs.10,52,000 /-**
TOTAL	**Rs. 24,10,000 /-**

OPERATING COST (Per year)

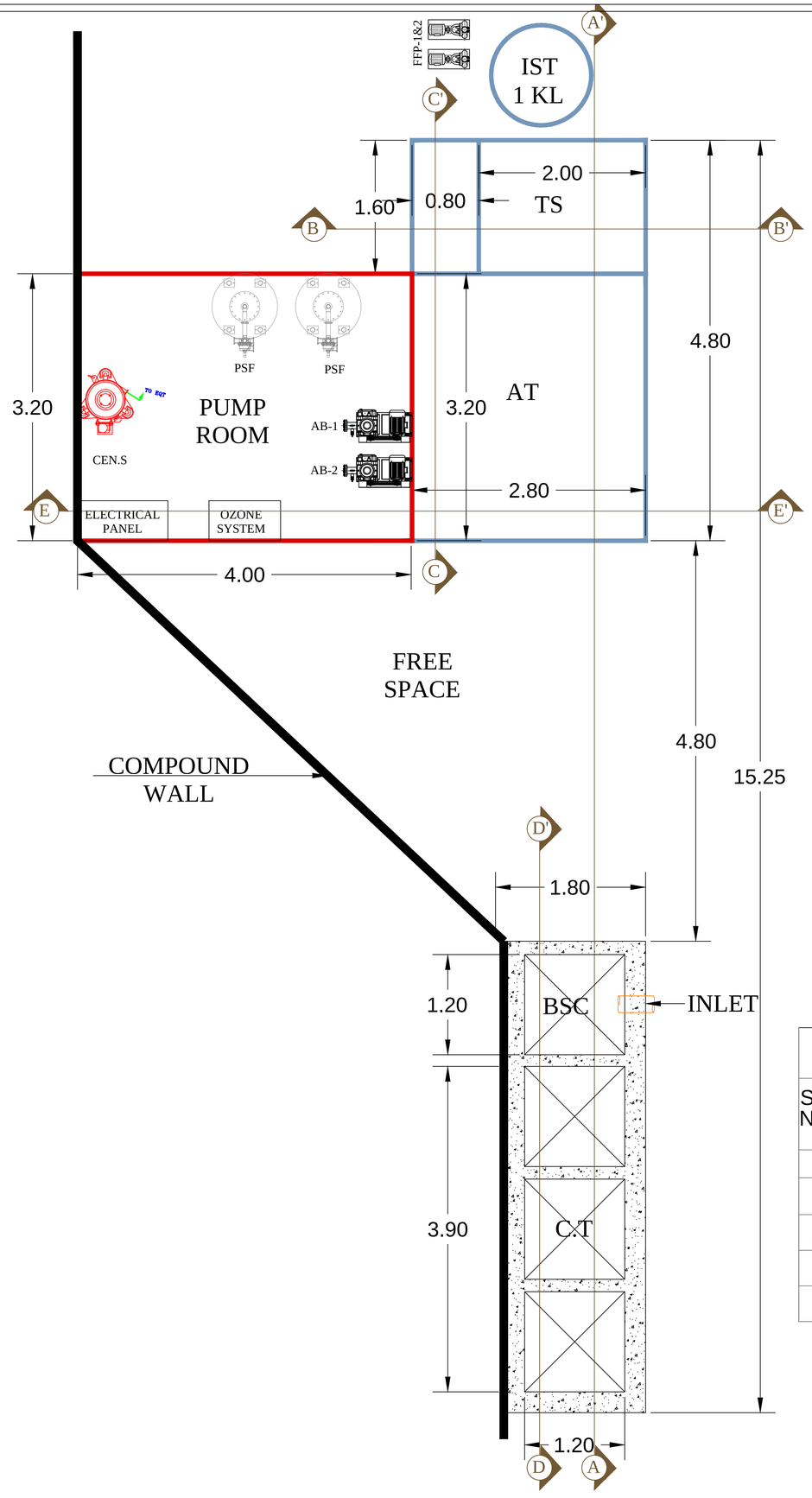
Sr. No.	Parameter	
I.	**POWER (kwh / d x Rs. 10 per unit)** For Sewage Treatment Plant (97.5 kw hrs/d x 365 days)	3,55,900/-
II.	**LUBRICANTS** Oil – 20 L/ Annum x 200 Rs./ L Grease – 3.5 kg / Annum x 400 Rs./ kg	 4000.0/- 1400.0/-
III.	**MANPOWER** Operator – 1 operator per shift x 2 shift x 12 month x 10000 Rs./ Month	2,40,000/-
	TOTAL (Rs. per year)	**6,01,300/-**

Sizing of Ozonation :
Disinfection by Ozonation is considered with a dosage of 7 ppm. After considering 70 % of mixing efficiency, actual dose will be 5 ppm of ozone.
For 75 KLD, ozonation system provided is for 30 gm/hr.

Electrodes :
Electrode in ozone generator is of stailess steel 316. And dielectric used is quartz which can withstand very high temperature.Our ozone generator has multiple ozone cells operated together to produce desired quantity of ozone.

ORP
Oxidation – Reduction potential of over 600 mV ensures complete disinfection. Using an online ORP controller the ozone generator is turned on & Off to maintain ORP between 650 – 750 mV.

ORP make : HACH
Make of Ozonator manufacturer:
Universal Ozone Generator / Eltech Engineers /Equivalent .



LEGEND:		PS	SLUDGE PUMP
SC	SCREEN CHAMBER	MH	MANHOLE (900MM X 600MM)
O&G	OIL &GREASE	RS	ROLLING SHUTTER (2500MM X 2500MM)
CT	COLLECTION TANK	SHT	SLUDGE HOLDING TANK
PR	RAW PUMP	RS	RETURN SLUDGE
AT	AERATION TANK	ES	EXCESS SLUDGE
TS	TUBE SETTLER	AB	AIR BLOWER
IST	INTERMEDIATE STORAGE TANK	ECP	ELECTRIC CONTROL PANEL
PF	FILTER PUMP	PR	PUMP ROOM
PSF	PRESSURE SAND FILTER	OZ	OZONE SYSTEM
ACF	ACTIVATED CARBON FILTER	CEN.S	CENTRIFUGE SYSTEM

CAPACITY OF PLANT = 75 CUM/ DAY

SR. NO.	UNIT	NOS.	L (MM)	B (MM)	LD (MM)	TD (MM)	VOLUME (CUM)
1	BAR SCREEN CHAMBER	1	1200	1200	2000	2300	2.88
2	COLLECTION TANK	1	3900	1200	2000	2300	9.36
3	AERATION TANK	1	3200	2800	1900	2100	17.02
4	TUBE SETTLER TANK	2	2800	1600	1800	2100	8.06
5	INTERNAL STORAGE TANK	1	-----	----	----	----	1.00

CLIENT:
BRAMHACORP

ARCHITECT:

MEP CONSUTANT:
— — — — — —

SERVICE CONSULTANT:

AQUATECH ENGINEERS
Plot no.5, shriman society ,
karve Nagar Pune - 411 052

REV	DATE	DESCRIPTION
1		
2		
3		
4		
5		

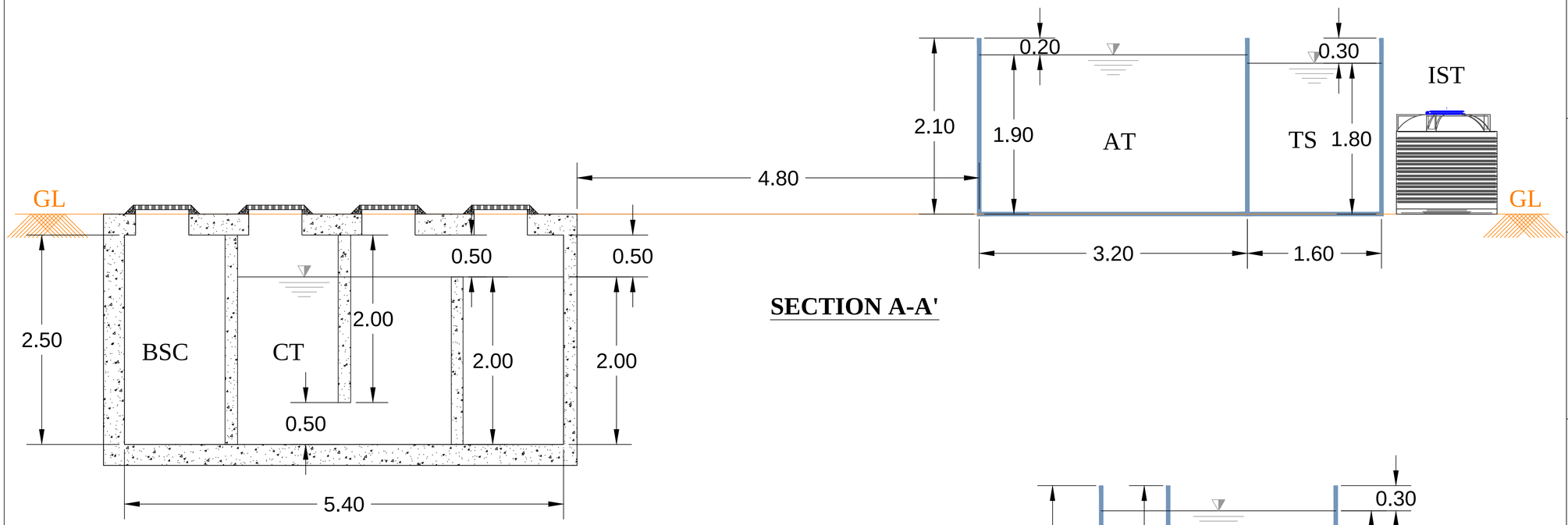
SCALE: 1:1
DATE: 25/06/2022
DRAWN: NIYAMAT
CHECKED: SACHIN KARNE

PROJECT:
BRAMHACORP EXUBERANCE

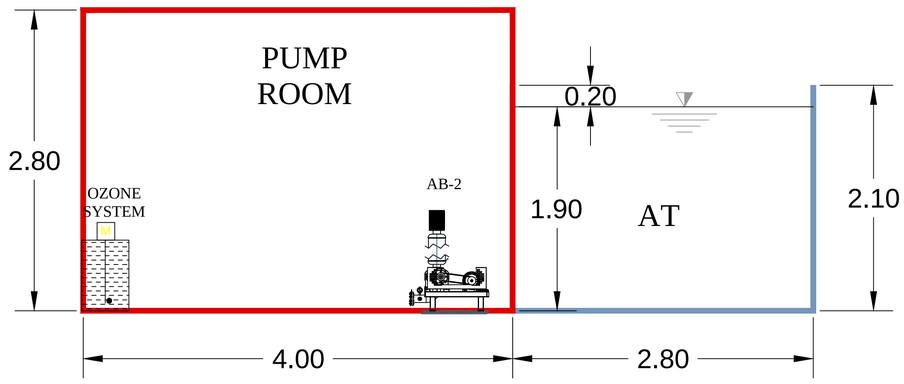
DRAWING TITLE:
SWAGE TREATMENT PLANT -75 KLD

DRAWING NO:
BE/DETAILS/03

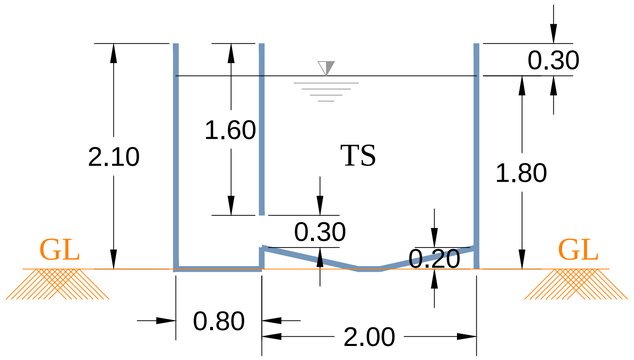
SHEET NO: 03
NO OF SHEET: 03
REVISION: 00



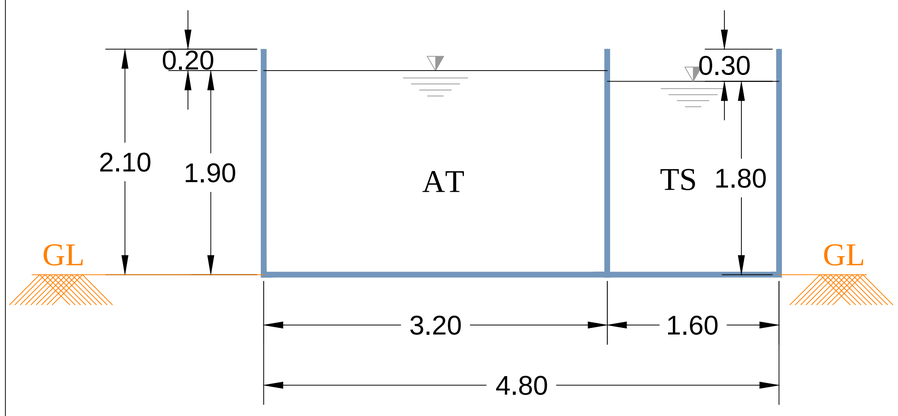
SECTION A-A'



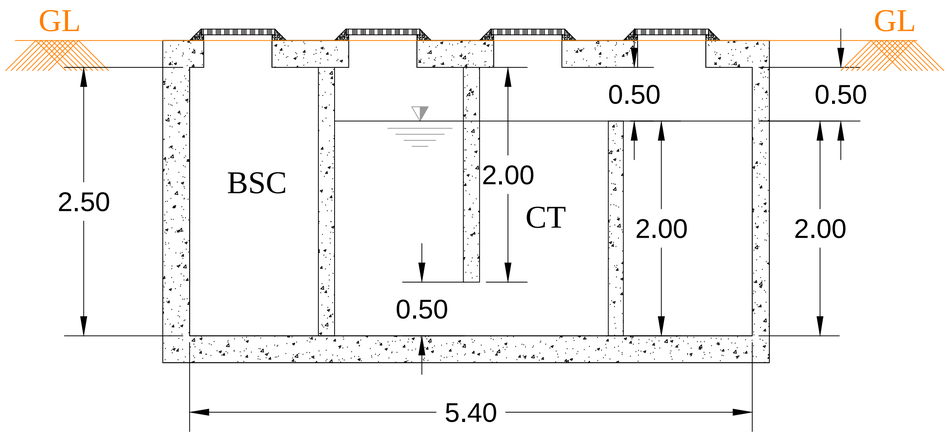
SECTION E-E'



SECTION B-B'



SECTION C-C'



SECTION D-D'

CLIENT:
BRAMHACORP

ARCHITECT:

MEP CONSUTANT:
— — — — — —

SERVICE CONSULTANT:

AQUATECH ENGINEERS
Plot no.5, shriman society ,
karve Nagar Pune - 411 052

REV	DATE	DESCRIPTION
1		
2		
3		
4		
5		

SCALE:	1:1
DATE:	25/06/2022
DRAWN:	NIYAMAT
CHECKED:	SACHIN KARNE

PROJECT:
BRAMHACORP EXUBERANCE

DRAWING TITLE:
SWAGE TREATMENT
PLANT -75 KLD

DRAWING NO:
BE/DETAILS/03

SHEET NO:	03
NO OF SHEET:	03
REVISION:	00

TERRACE CALCULATIONS

A + B BUILDING
(FLOORS 1,3,5,7,9,11)
1. 3.51 X 1.96 X 1 = 6.94 SQ.M
2. 3.66 X 1.96 X 1 = 7.24 SQ.M
TOTAL = 14.18 SQ.M
14.18 X 4 WINGS X 2 BUILDINGS X 6 FLOORS = 680.64 SQ.M

(FLOOR NO.2,4,6,8,10)
1. 3.05 X 1.96 X 1 = 6.04 SQ.M
2. 3.50 X 1.96 X 1 = 6.93 SQ.M
TOTAL = 12.97 SQ.M
12.97 X 4 WINGS X 2 BUILDINGS X 5 FLOORS = 518.80 SQ.M

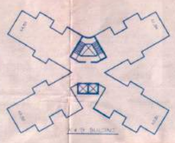
TOTAL 680.64+518.80 = 1199.46 SQM

C + D BUILDING
FIRST FLOOR
1. 3.50 X 1.96 X 2 = 13.66 SQ.M
2. 3.66 X 1.96 X 4 = 28.98 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
4. 3.35 X 1.96 X 2 = 6.63 SQ.M
5. 3.66 X 1.83 X 2 = 6.69 SQ.M
TOTAL = 62.56 SQ.M

SECOND FLOOR
1. 3.50 X 1.96 X 2 = 13.66 SQ.M
2. 3.05 X 1.96 X 2 = 6.03 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
4. 2.74 X 1.96 X 3 = 16.27 SQ.M
5. 3.66 X 1.83 X 2 = 13.39 SQ.M
TOTAL = 55.95 SQ.M
TOTAL OF FIRST AND SECOND FLOOR = 62.56 + 55.95 = 118.51 X 2 BUILDINGS = 237.02 SQ.M

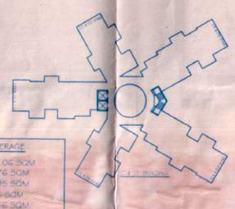
E BUILDING
(FLOOR NO. 1,3,5,7,9,11)
1. 3.66 X 1.83 X 4 = 26.79 SQ.M
2. 3.35 X 1.83 X 1 = 6.13 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
4. 3.66 X 1.96 X 3 = 21.74 SQ.M
5. 3.51 X 1.83 X 1 = 6.43 SQ.M
TOTAL = 66.85 SQ.M
TOTAL = 66.85 X 6 FLOORS = 401.70 SQ.M

(FLOOR NO. 2,4,6,8,10)
1. 3.66 X 1.83 X 4 = 26.79 SQ.M
2. 2.74 X 1.96 X 5 = 27.12 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
TOTAL = 60.31 SQ.M
TOTAL = 60.31 X 5 FLOORS = 301.55 SQ.M
401.70+301.55 = 703.25 SQM



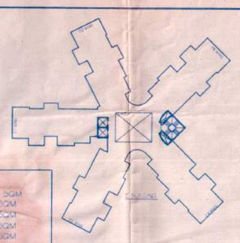
A + B BUILDING GROUND COVERAGE

1. NET BUILT-UP	= 296.60 SQM
2. PASSAGE + LOBBY	= 44.30 SQM
3. BALCONIES	= 51.28 SQM
4. STAIRACASE	= 19.43 SQM
5. TERRACES	= 56.72 SQM
6. LIFTS	= 10.235 SQM
TOTAL COVERAGE PER BUILDING	= 478.765 SQM



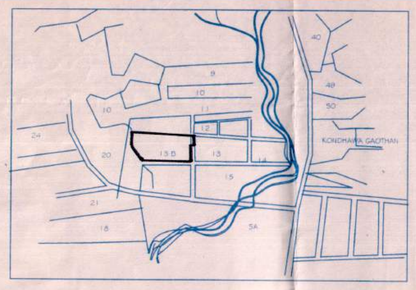
C + D BUILDING GROUND COVERAGE

1. NET BUILT-UP	= 449.06 SQM
2. PASSAGE + LOBBY	= 58.76 SQM
3. BALCONIES	= 76.85 SQM
4. STAIRACASE	= 8.66 SQM
5. TERRACES	= 62.56 SQM
6. LIFTS	= 10.235 SQM
TOTAL COVERAGE PER BUILDING	= 666.215 SQM



E BUILDING GROUND COVERAGE

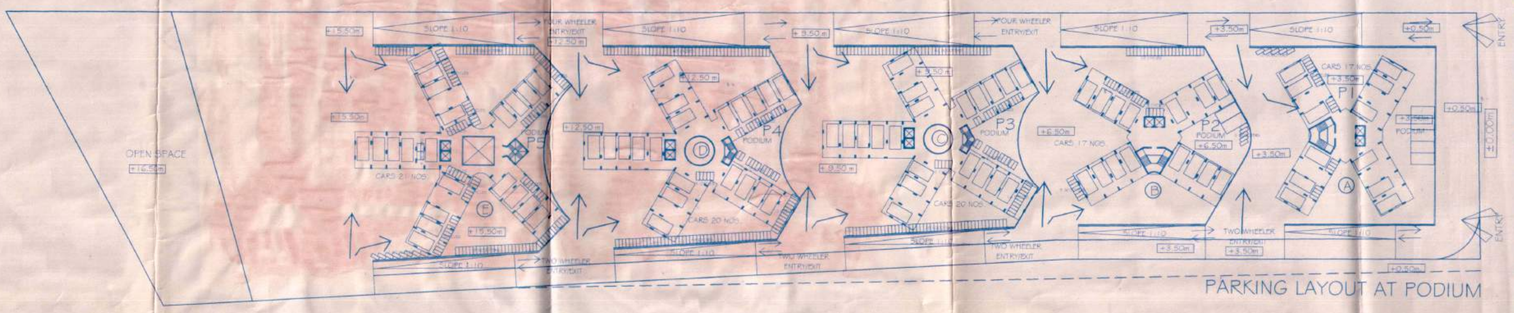
1. NET BUILT-UP	= 503.94 SQM
2. PASSAGE + LOBBY	= 74.86 SQM
3. BALCONIES	= 84.36 SQM
4. STAIRACASE	= 12.44 SQM
5. TERRACES	= 66.95 SQM
6. LIFTS	= 10.235 SQM
TOTAL COVERAGE PER BUILDING	= 752.309 SQM



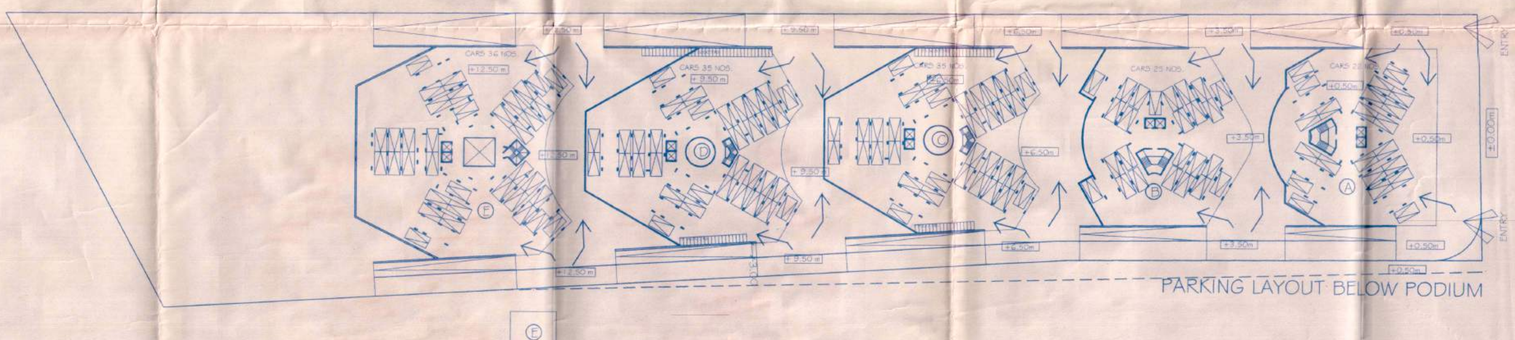
LOCATION PLAN

GROUND COVERAGE

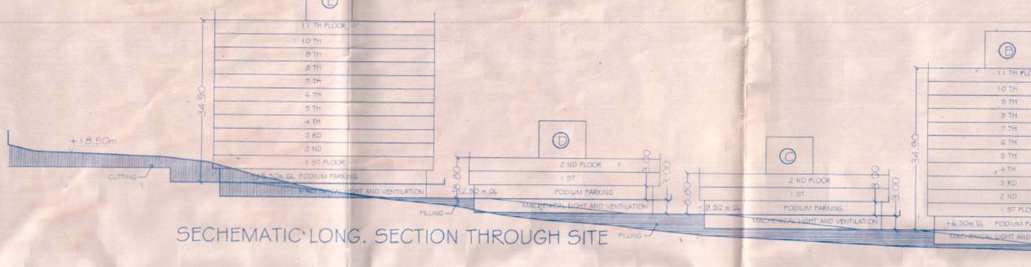
BLOCK TYPE	AREA
A	478.765
B	478.765
C + D	666.215
D	666.215
E	752.309
TOTAL	3042.269



PARKING LAYOUT AT PODIUM



PARKING LAYOUT BELOW PODIUM



SECHEMATIC LONG. SECTION THROUGH SITE

PODIUM AREAS

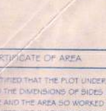
BLOCK TYPE	PODIUM NO.	AREA SQ.M
A	P1	1242.17
B	P2	1150.00
C	P3	1474.18
D	P4	1474.18
E	P5	1763.76
TOTAL		7114.29

'P1' TYPE PODIUM BLOCK PLAN

P1 AREA STATEMENT
ADDITIONS
1. 37.84 X 24.40 = 925.74 SQ.M
2. 28.64 X 7.94 = 227.41 SQ.M
3. 21.05 X 7.84 X 4.54 = 36.05 SQ.M
4. 0.5 X 20.56 X 2.55 = 51.23 SQ.M
NET AREA = 1242.17 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1242.17 SQ.M

'P2' TYPE PODIUM BLOCK PLAN



P2 AREA STATEMENT
ADDITIONS
1. 0.5 X 37.84 X 10.96 = 207.91 SQ.M
2. 37.84 X 21.59 = 820.80 SQ.M
3. 0.5 X 37.84 X 4.86 = 55.40 SQ.M
4. 2 X 0.5 X 10.73 X 3.13 = 33.56 SQ.M
NET AREA = 1156.88 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1156.88 SQ.M

'P3' TYPE PODIUM BLOCK PLAN

P4 AREA STATEMENT
ADDITIONS
1. 2 X 0.5 X 20.58 X 6.16 = 126.77 SQ.M
2. 41.16 X 17.30 = 712.07 SQ.M
3. 2 X 0.5 X 22.49 X 12.90 = 290.12 SQ.M
4. 22.49 X 15.35 = 345.22 SQ.M
NET AREA = 1456.67 = 1474.18 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1474.18 SQ.M

'P4' TYPE PODIUM BLOCK PLAN

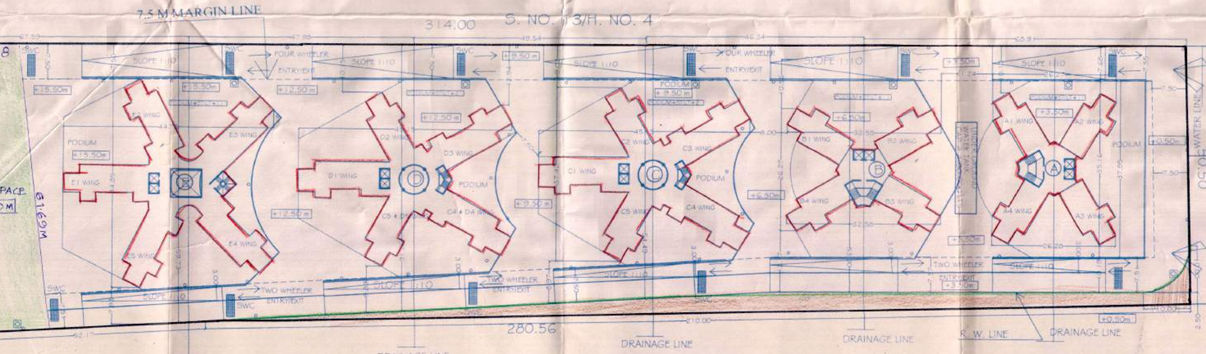
P4 AREA STATEMENT
ADDITIONS
1. 2 X 0.5 X 20.58 X 6.16 = 126.77 SQ.M
2. 41.16 X 17.30 = 712.07 SQ.M
3. 2 X 0.5 X 22.49 X 12.90 = 290.12 SQ.M
4. 22.49 X 15.35 = 345.22 SQ.M
NET AREA = 1456.67 = 1474.18 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1474.18 SQ.M

'P5' TYPE PODIUM BLOCK PLAN

P5 AREA STATEMENT
ADDITIONS
1. 39.05 X 32.84 X 7.04 = 166.09 SQ.M
2. 43.89 X 23.23 = 101.96 SQ.M
3. 2 X 0.5 X 16.23 X 8.26 = 134.38 SQ.M
4. 27.34 X 16.23 = 443.73 SQ.M
NET AREA = 1810.45 = 1763.76 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1763.76 SQ.M



LAYOUT OF BUILDINGS
SCALE 1:500

TOTAL F.S.I. STATEMENT

BLOCK TYPE	NO. OF BLDGS	FLOOR	FLOOR AREA SQ.M.	STAIRCASE AREA	NO. OF TENEMENTS	LIFT AREA SQ.M.	PASSAGE AREA SQ.M.	BALCONY AREA SQ.M.	DEDUCTION AREA SQ.M.
A+B	2	BASEMENT	296.60	19.43	4+4			51.28	44.30
		SECOND	296.60	19.43	4+4			51.28	44.30
		THIRD	296.60	19.43	4+4			51.28	44.30
		FOURTH	296.60	19.43	4+4			51.28	44.30
		FIFTH	296.60	19.43	4+4			51.28	44.30
		SIXTH	296.60	19.43	4+4			51.28	44.30
		SEVENTH	296.60	19.43	4+			51.28	44.30
		EIGHTH	223.55	19.43	3+3			51.28	44.30
		NINTH	296.60	19.43	4+4			51.28	44.30
		TENTH	296.60	19.43	4+4			51.28	44.30
		ELEVENTH	296.60	19.43	4+4			51.28	44.30
TOTAL OF A			3191.55	213.73	43	10.235		564.08	487.30
TOTAL OF B			3191.55	213.73	43	10.235		564.08	487.30
C+D	FIRST		449.06	8.66			43.95	76.95	14.75
	SECOND		449.06	8.66			43.95	76.95	14.75
TOTAL OF C			898.12	17.32	10		87.90	153.90	29.50
TOTAL OF D			898.12	17.32	10		87.90	153.90	29.50
E	FIRST		503.94	12.44	5		62.13	84.36	12.23
	SECOND		503.94	12.44	5		62.13	84.36	12.23
	THIRD		503.94	12.44	5		62.13	84.36	12.23
	FOURTH		503.94	12.44	5		62.13	84.36	12.23
	FIFTH		503.94	12.44	5		62.13	84.36	12.23
	SIXTH		503.94	12.44	5		62.13	84.36	12.23
	SEVENTH		503.94	12.44	5		62.13	84.36	12.23
	EIGHTH		404.25	12.44	4		62.13	84.36	12.23
	NINTH		503.94	12.44	5		62.13	84.36	12.23
	TENTH		503.94	12.44	5		62.13	84.36	12.23
	ELEVENTH		503.94	12.44	5		62.13	84.36	12.23
TOTAL OF E			5443.65	132.84	54		683.43	928.18	134.53
GRAND TOTAL			13622.99	599.74	160	30.705	859.23	2364.14	1168.13

NET AREA	13622.99
EXCESS BALCONY IN F.S.I.	320.69
	13943.68

EXCESS PASSAGE AREA (5% ABOVE) TAKEN IN F.S.I. = 178.08
13943.68 + 178.08 = 14121.76 SQ.M.

PARKING STATEMENT

RESIDENTIAL PARKING

PARKING REQUIRED (FOR TENEMENTS UPTO 80 SQ.M)
NO. OF TENEMENTS UPTO 80 SQ.M = 94 NOS.

CAR	SCOOTER	CYCLE	
1	4	4	(FOR 2 TENEMENTS)
47	188	188	(FOR 94 TENEMENTS)

PARKING REQUIRED (FOR TENEMENTS ABOVE 80 SQ.M)
NO. OF TENEMENTS ABOVE 80 SQ.M. = 72 NOS.

CAR	SCOOTER	CYCLE	
1	2	2	(FOR 1 TENEMENTS)
66	132	132	(FOR 66 TENEMENTS)

TOTAL PARKING REQUIRED

CAR	SCOOTER	CYCLE
113	320	320

TOTAL PARKING PROVIDED

CAR	SCOOTER	CYCLE	
153	196	134	BELOW PODIUM
95	300	308	ABOVE PODIUM
248	496	496	TOTAL

PARKING AREA REQUIRED PER UNIT VEHICLE BY NOS

VEHICLES	CAR	SCOOTER	CYCLE
AREA (SQM)	12.5	3	1.4

TOTAL PARKING AREA REQUIRED

VEHICLES	CAR	SCOOTER	CYCLE
NOS.	113	320	320
AREA (SQM)	1413	960	960

TOTAL PARKING AREA PROVIDED

VEHICLES	CAR	SCOOTER	CYCLE
NOS.	248	496	496
AREA (SQM)	3100	1488	695

LIFT MACHINE ROOM CALCULATIONS FOR A,B,C,D & E BLDGS
3.30 X 4.30 = 14.19 SQM
= 14.19 X 3
NET AREA = 42.57 SQM

OPEN SPACE BLOCK

OPEN SPACE AREA STATEMENT (OSI)
10.5 %OF TO+15.15%B+E = 647.09 SQ.M
OPEN SPACE PROPOSED = 647.09 SQ.M

PROPOSED TENEMENT

BLDG TYPE	NO.	AREA OF EACH TENEMENTS	NO. OF TENEMENTS
A+B	2	BELOW 80	56
		ABOVE 80	8
C+D	2	BELOW 80	12
		ABOVE 80	12
E	1	ABOVE 80	54
TOTAL TENEMENTS =			160

TENEMENT STATEMENT
TENEMENT RATIO = 250 TNC PER HECTARE
= 250 PER 10,000 SQ.M
NET AREA OF PLOT = 15003.54 SQ.M
PERMISSIBLE TENEMENTS = 375 TENEMENTS
PROPOSED TENEMENTS = 160 NOS.

AREA STATEMENT FOR FSI 1.00

AREA OF PART PLOT TO BE DEVELOPED (AS PER AGREEMENT) = 17433.10 SQ.M
10% OPEN SPACE = 1743.31 SQ.M
5% AMENITIES = 871.66 SQ.M
NET PLOT AREA = 14818.13 SQ.M

PERMISSIBLE F.S.I. = 1.00 X 14818.13 = 14818.13 SQ.M
A) NET F.S.I. PROPOSED = 13622.99 SQ.M
PERMISSIBLE BALCONY = (15% OF 13622.99) = 2043.45 SQ.M
PERMISSIBLE PASSAGE = (5% OF 13622.99) = 681.15 SQ.M
PROPOSED BALCONY = 2364.04 SQ.M
PROPOSED PASSAGE = 859.23 SQ.M
B) EXCESS BALCONY = 320.69 SQ.M
C) EXCESS PASSAGE = 178.08 SQ.M
TOTAL F.S.I. CONSUMED (A+B+C) = 14121.76 SQ.M.

WATER REQUIREMENT

TOTAL TENEMENTS 160
MAX PERSONS = 160X5 = 800
PER CAPITA PER DAY WATER REQUIRED = 135X800 = 108000 LTS

FOR FIRE FIGHTING
20000 LTS EACH BUILDING
TOTAL = 20000X5 = 100000 LTS

TOTAL WATER REQUIRED AT OVERHEAD STORAGE 1.5X100000 + 100000 = 262000 LTS

WATER PROVIDED

STORAGE TYPE	LTS
OVERHEADS	262000
UNDERGROUND	400000
TOTAL	662000

BALCONY CALCULATIONS

A + B BUILDING
(3.35 X 1.22) X 4 = 16.34 SQ.M
(3.50 X 1.22) X 4 = 17.08 SQ.M
(3.66 X 1.22) X 4 = 17.86 SQ.M
TOTAL BALCONY PER FLOOR = 51.28 SQ.M
NO. OF FLOORS = 11 NOS.
NO. OF BUILDINGS = 2 NOS.
TOTAL BALCONY FOR A+B = 1128.16 SQ.M

C + D BUILDING
(3.04 X 1.22) X 3 = 11.13 SQ.M
(3.35 X 1.22) X 2 = 8.17 SQ.M
(3.36 X 1.22) X 3 = 12.30 SQ.M
(3.50 X 1.22) X 3 = 12.81 SQ.M
(3.66 X 1.22) X 2 = 8.93 SQ.M
(3.61 X 1.22) X 2 = 9.29 SQ.M
(3.03 X 1.22) X 1 = 6.14 SQ.M
TOTAL BALCONY PER FLOOR = 76.95 SQ.M
NO. OF FLOORS = 2 NOS.
NO. OF BUILDINGS = 2 NOS.
TOTAL BALCONY FOR C+D = 307.80 SQM

E - TYPE BUILDING
(3.04 X 1.22) X 5 = 16.54 SQ.M
(3.35 X 1.22) X 2 = 8.17 SQ.M
(3.36 X 1.22) X 5 = 20.50 SQ.M
(3.50 X 1.22) X3 = 12.81 SQ.M
(3.66 X 1.22) X2 = 8.93 SQ.M
(3.61 X 1.22) X2 = 9.28 SQ.M
(3.03 X 1.22) X1 = 6.14 SQ.M
TOTAL BALCONY PER FLOOR = 84.38 SQ.M
NO. OF FLOORS = 11 NOS.
NO. OF BUILDINGS = 1 NO.
TOTAL BALCONY FOR E = 928.18 SQ.M

CERTIFICATE OF AREA

CERTIFIED THAT THE PLOT UNDER REFERENCE WAS SURVEYED BY ME ON AND THE DIMENSIONS OF SIDES ETC. OF PLOT STATED ON PLAN AREA MEASURED ON SITE AND THE AREA SO WORKED OUT TALLIES WITH THE AREA STATED IN DOCUMENT OF OWNERSHIP. P SCHEME RECORDS/LAND RECORDS DEPTT./CITY SURVEY RECORDS.

SIGNATURE OF LICENSED ARCHITECT/ ENGINEER/STRUCTURAL ENGINEER

SEAL AND STAMP OF APPROVAL 1/4

APPROVED SUBJECT TO CONDITIONS
APPROVAL AND COMMENCEMENT CERTIFICATE NO. 338705
Building Inspector Assistant Engineer P.M.C.

AREA STATEMENT

	SQ.M.
AREA OF PART PLOT TO BE DEVELOPED AFTER SUBDIVISION	17433.10
2 DEDUCTIONS FOR	
a. ROAD ACQUISITION AREA	—
b. PROPOSED ROAD (INTERNAL)	—
C. ANY RESERVATIONS	—
TOTAL (a + b + c)	—
3 NET GROSS AREA OF PLOT (1 – 2)	17433.10
4 DEDUCTIONS FOR	
a. OPEN SPACE (10%)	1743.31
b. AMENITY SPACE	871.66
c. TRANSFORMER ROOM	25.00
d. TOTAL (a + b + c)	2639.97
5 AREA OF PLOT (3 – 4d)	14793.13
6 ADDITION FOR FAR 4c	25.00
7 NET AREA OF PLOT (5 + 6)	14818.13
8 F.A.R. PERMISSIBLE	1.00
9 PERMISSIBLE FLOOR AREA (8 x 7)	14818.13
10 EXISTING FLOOR AREA	—
11 PROPOSED FLOOR AREA	13801.07
12 EXCESS BALCONY AREA IN F.A.R.	320.69
13 TOTAL BUILT UP AREA PROPOSED (10 + 11 + 12)	14121.76
14 BALANCE F.S.I	696.37

TENAMENT STATEMENT

a. NET AREA OF PLOT	14818.13
b. LESS DEDUCTION FOR NON – RESIDENTIAL TAKEN IN F.S.I.	—
c. AREA OF TENEMENTS (a – b)	
d. NO. OF TENEMENTS PERMISSIBLE	371
e. NO. OF TENEMENTS PROPOSED	160

PARKING STATEMENT	CAR	SCOOTER	CYCLE
PARKING REQUIRED BY RULE	113	320	320
PARKING PROPOSED	248	496	496
GARAGES PERMISSIBLE AND PROPOSED			

NET PLOT AREA	14818.13
PERMISSIBLE GROUND COVERAGE BUILDING (20%)	2963.62
PROPOSE GROUND COVERAGE BUILDING	3042.269
EXCESS GROUND COVERAGE BUILDING	78.649
PERMI GROUND COVERAGE PODIUM PARKING(50%)	7409.065
PROPOSED GROUND COVERAGE PODIUM PARKING	7113.17

LOADING UNLOADING STATEMENT

LOADING UNLOADING AREA REQUIRED	—
LOADING UNLOADING AREA PROVIDED	—

LEGEND

BLACK	PLOT BOUNDARY	RED DOTTED	DRAIN LINE
RED	PROPOSED WORK	BLACK DOTTED	WATER LINE
	EXISTING ROAD		EXISTING WORK

LEGEND
O ELECTRIC POLE
DUSTBIN
SWC STORM WATER CHAMBER

PROJECT
PROPOSED RESIDENTIAL BUILDING ON S .NO. 13, H. NO. 1, 2 & 3, KONDHWA KHURD, PUNE.

OWNERS / P.A.H.
V.S. AGARWAL & V.B. AGARWAL
BRAHMA BUILDERS

ARCHITECTS
AR. SUDHIR DESHPANDE
Architects Interior Designers
101, Mamata Apartments, Kanchanganga, Law College Road, Erandwana, Pune 411004.
Tel/Fax : 542 5224, 542 5334

NORTH

TERRACE CALCULATIONS

A & B BUILDING
(FLOORS 1,3,5,7,9,11)
1. 3.51 X 1.98 X 1 = 6.94 SQ.M
2. 3.58 X 1.98 X 1 =7.24 SQ.M
TOTAL 14.18 SQ.M
14.18 X 4 WINGS X 2 BUILDINGS X 6 FLOORS = 680.66 SQ.M

(FLOOR NO.2,4,6,8,10)
1. 3.05 X 1.98 X 1 = 6.04 SQ.M
2. 3.50 X 1.98 X 1 =6.93 SQ.M
TOTAL 12.97 SQ.M
12.97 X 4 WINGS X 2 BUILDINGS X 5 FLOORS = 518.80 SQ.M

TOTAL 680.66+518.80 = 1199.46 SQM

D BUILDING
1st,3rd,5th,7th,9th,11th FLOOR
1. 3.50 X 1.98 X 2 = 13.86 SQ.M
2. 3.66 X 1.98 X 4 = 28.98 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
4. 3.35 X 1.98 X 2 = 6.63 SQ.M
5. 3.66 X 1.83 X 2 = 6.69 SQ.M
TOTAL 62.56 SQ.M
62.56X6 =375.36 SQM
2nd,4th,6th,8th,10th FLOOR
1. 3.50 X 1.98 X 2 = 13.86 SQ.M
2. 3.05 X 1.98 X 2 = 6.03 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
4. 2.74 X 1.98 X 3 = 16.27 SQ.M
5. 3.66 X 1.83 X 2 = 13.39 SQ.M
TOTAL 55.95 SQ.M
55.95X5 =279.75 SQ.M
TOTAL
375.36+279.75=655.11 SQ.M

E BUILDING
(FLOOR NO. 1,3,5,7,9,11)
1. 3.66 X 1.83 X 4 = 26.79 SQ.M
2. 3.35 X 1.83 X 1 = 6.13 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
4. 3.66 X 1.98 X 3 = 21.74 SQ.M
5. 3.51 X 1.68 X 1 = 5.89 SQ.M
TOTAL 66.95 SQ.M
TOTAL = 66.95 X 6 FLOORS = 401.70 SQ.M

(FLOOR NO. 2,4,6,8,10)
1. 3.66 X 1.83 X 4 = 26.79 SQ.M
2. 2.74 X 1.98 X 5 = 27.12 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
TOTAL 60.31 SQ.M
TOTAL = 60.31 X 5 FLOORS = 301.55 SQ.M

401.70+301.55 = 703.25 SQM

GROUND COVERAGE

BLDG TYPE	AREA
A	479.765
B	478.765
C	530.91
D	666.215
E	752.309
TOTAL	2906.94

T.D.R CALCULATION STATEMENT

1) NET PLOT AREA = 14589.75 SQ.M
2)PERMISSIBLE REGULAR T.D.R 40% = 5839.90 SQ.M
3)PERMISSIBLE SLUM T.D.R 20% = 2919.95 SQ.M

T.D.R STATEMENT

1) PREVIOUSLY T.D.R UTILISED (DRC NO. 3774 DT. 19/3/09) = 1755.00 SQ.M
2) T.D.R TO BE UTILISED ON 14,589.75 = 464.52 SQ.M (DRC NO 004130 DT. 12/6/13)
3) NO.1341,2,3, ON 'BLDG C' KONDHWA KH. PUNE.
5) NO OF TENEMENTS PROPOSED 8 NOS
6) ON WHICH FLOOR 1 ST FLOOR (BLDG C)
7) TOTAL HT OF BLDG 9.6M
8) STAGE OF WORK LOW BASEMENT/ PODIUM PARKING
9) PROPOSED T.D.R TO BE SHOWN AS RED HATCH

A & B BUILDING GROUND COVERAGE

1. NET BUILT-UP = 296.80 SQM
2. PASSAGE+LOBBY = 44.30 SQM
3. BALCONIES = 61.28 SQM
4. STAIRACASE = 19.43 SQM
5. TERRACES = 56.72 SQM
6. LIFTS = 10.235 SQM
TOTAL COVERAGE PER BUILDING = 478.765 SQM

C BUILDING GROUND COVERAGE

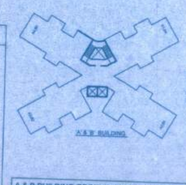
1. NET BUILT-UP = 436.08 SQM
2. TERRACES = 94.83 SQM
TOTAL COVERAGE PER BUILDING = 530.91 SQM

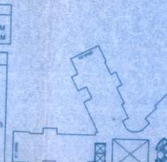
D BUILDING GROUND COVERAGE

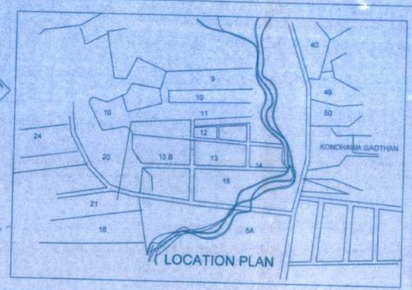
1. NET BUILT-UP = 449.08 SQM
2. PASSAGE+LOBBY = 58.76 SQM
3. BALCONIES = 48.90 SQM
4. STAIRACASE = 8.99 SQM
5. TERRACES = 62.56 SQM
6. LIFTS = 10.235 SQM
TOTAL COVERAGE PER BUILDING = 666.215 SQM

E BUILDING GROUND COVERAGE

1. NET BUILT-UP = 503.94 SQM
2. PASSAGE+LOBBY = 74.38 SQM
3. BALCONIES = 84.38 SQM
4. STAIRACASE = 12.44 SQM
5. TERRACES = 66.95 SQM
6. LIFTS = 10.235 SQM
TOTAL COVERAGE PER BUILDING = 752.309 SQM





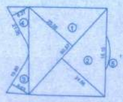


TOTAL F.S.I STATEMENT

BLDG TYPE	FLOOR	FLOOR AREA IN SQ.M.	STAIRCASE AREA	NO. OF TENEMENTS A+B	LIFT AREA SQ.M.	PASSAGE AREA SQ.M	BALCONY AREA SQ.M	LOBBY AREA SQ.M
A&B	FIRST	296.80	19.43	4+4		--	51.28	44.30
	SECOND	296.80	19.43	4+4		--	51.28	44.30
	THIRD	296.80	19.43	4+4		--	51.28	44.30
	FOURTH	296.80	19.43	4+4		--	51.28	44.30
	FIFTH	296.80	19.43	4+4		--	51.28	44.30
	SIXTH	296.80	19.43	4+4		--	51.28	44.30
	SEVENTH	296.80	19.43	4+4		--	51.28	44.30
	EIGHTH	223.55	19.43	3+3		--	51.28	44.30
	NINTH	296.80	19.43	4+4		--	51.28	44.30
	TENTH	296.80	19.43	4+4		--	51.28	44.30
	ELEVENTH	296.80	19.43	4+4		--	51.28	44.30
TOTAL OF A		3191.55	213.73	43	10.24	--	564.08	487.30
TOTAL OF B		3191.55	213.73	43	10.24	--	564.08	487.30
E	FIRST	503.94	12.44	5		--	84.38	74.36
	SECOND	503.94	12.44	5		--	84.38	74.36
	THIRD	503.94	12.44	5		--	84.38	74.36
	FOURTH	503.94	12.44	5		--	84.38	74.36
	FIFTH	503.94	12.44	5		--	84.38	74.36
	SIXTH	503.94	12.44	5		--	84.38	74.36
	SEVENTH	503.94	12.44	5		--	84.38	74.36
	EIGHTH	404.25	12.44	4		--	84.38	74.36
	NINTH	503.94	12.44	5		--	84.38	74.36
	TENTH	503.94	12.44	5		--	84.38	74.36
	ELEVENTH	503.94	12.44	5		--	84.38	74.36
TOTAL OF E		5443.65	136.84	54	10.24	--	928.18	817.96
EXISTING F.S.I OF A,B & E		11826.75	564.30	140	30.72		2056.34	1792.56
PROPOSED F.S.I								
D	FIRST	449.06	8.86	5		--	78.95	58.70
	SECOND	449.06	8.86	5		--	78.95	58.70
	THIRD	449.06	8.86	5		--	78.95	58.70
	FOURTH	449.06	8.86	5		--	78.95	58.70
	FIFTH	449.06	8.86	5		--	78.95	58.70
	SIXTH	449.06	8.86	5		--	78.95	58.70
	SEVENTH	449.06	8.86	5		--	78.95	58.70
	EIGHTH	376.49	8.86	5		--	78.95	58.70
	NINTH	449.06	8.86	5		--	78.95	58.70
	TENTH	449.06	8.86	5		--	78.95	58.70
	ELEVENTH	449.06	8.86	5		--	78.95	58.70
TOTAL OF D		4867.09	97.46	54	10.24	--	846.45	845.7
PROPOSED F.S.I								
C	G.FLOOR	46.17	8.86	1	7.82	--	--	4.17
	1ST FLOOR	436.08	8.56	5		--	48.90	83.67
TOTAL OF C		485.25	17.10	6	7.82	--	48.90	88.04
GRAND TOTAL		17179.09	670.34	200	38.54	--	2951.69	2522.13

NET PROPOSED AREA	17179.09
EXCESS BALCONY IN F.S.I.	374.63
TOTAL CONSUMED FSI	17553.92

'P1' TYPE PODIUM BLOCK PLAN

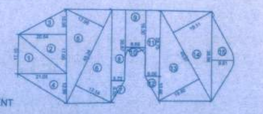


P1 AREA STATEMENT
ADDITIONS :-

1. 0.5 X 50.57 X 26.55 =	646.03 SQ.M	
2. 0.5 X 50.57 X 24.96 =	631.62 SQ.M	
3. 0.5 X 19.60 X 8.63 =	85.44 SQ.M	
4. 0.5 X 21.35 X 8.27 =	88.28 SQ.M	
5. 0.5 X 15.15 X 1.76 =	13.33 SQ.M	
NET AREA =	1464.70 SQ.M	

NET AREA OCCUPIED BY THE PODIUM = 1464.70 SQ.M

'P2' TYPE & 'P3' PODIUM BLOCK PLAN (COMBINED)



P1 AREA STATEMENT
ADDITIONS :-

1. 0.5 X 21.00 X 17.10 =	179.97 SQ.M	11. 6.06 X 28.75 =	174.22 SQ.M
2. 0.5 X 20.54 X 17.09 =	175.51 SQ.M	12. 0.5 X 6.06 X 10.99 =	33.30 SQ.M
3. 0.5 X 20.54 X 10.98 =	112.76 SQ.M	13. 0.5 X 45.07 X 19.80 =	446.19 SQ.M
4. 0.5 X 21.06 X 12.99 =	136.72 SQ.M	14. 0.5 X 45.07 X 19.11 =	430.64 SQ.M
5. 0.5 X 45.34 X 17.95 =	406.92 SQ.M	15. 0.5 X 30.96 X 9.51 =	160.35 SQ.M
6. 0.5 X 45.34 X 17.14 =	388.56 SQ.M		
7. 0.5 X 5.72 X 8.55 =	27.31 SQ.M	NET AREA =	3023.17 SQ.M
8. 5.72 X 30.67 =	175.57 SQ.M		
9. 5.69 X 16.30 =	141.46 SQ.M		
10. 0.5 X 4.84 X 1.67 X 2 =	8.67 SQ.M		

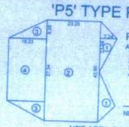
'P4' TYPE PODIUM BLOCK PLAN

P4 AREA STATEMENT
ADDITIONS :-

1. 2 X 0.5 X 20.58 X 6.18 =	126.77 SQ.M
2. 0.5 X 17.30 =	712.07 SQ.M
3. 2 X 0.5 X 22.49 X 12.90 =	290.12 SQ.M
4. 22.49 X 15.38 =	345.82 SQ.M
NET AREA = 1455.67 =	1474.18 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1474.18 SQ.M

'P5' TYPE PODIUM BLOCK PLAN



P5 AREA STATEMENT
ADDITIONS :-

1. 2 X 0.5 X 22.94 X 7.24 =	166.09 SQ.M
2. 43.84 X 23.23 =	1019.56 SQ.M
3. 2 X 0.5 X 16.23 X 8.26 =	134.38 SQ.M
4. 27.34 X 16.23 =	443.73 SQ.M
NET AREA = 1810.45 =	1763.76 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1763.76 SQ.M

WATER PROVIDED

STORAGE TYPE	LTS
OVERHEADS	2,51,625
UNDERGROUND	3,77,440
TOTAL	6,29,065

BALCONY CALCULATIONS

A & B BUILDING
(3.35 X 1.22) X4 = 16.34 SQ.M
(3.50 X 1.22) X4 = 17.08 SQ.M
(3.66 X 1.22) X4 = 17.86 SQ.M
TOTAL BALCONY PER FLOOR = 51.28 SQ.M
NO. OF FLOORS = 11 NOS.
NO. OF BUILDINGS = 2 NOS.
TOTAL BALCONY FOR A&B = 1128.16 SQ.M

D BUILDING
(3.04 X 1.22) X 3 = 11.13 SQ.M
(3.35 X 1.22) X4 = 16.35 SQ.M
(3.36 X 1.22) X 3 = 12.30 SQ.M
(3.50 X 1.22) X3 = 12.81 SQ.M
(3.66 X 1.22) X2 = 8.93 SQ.M
(3.81 X 1.22) X2 = 9.29 SQ.M
(5.03 X 1.22) X1 = 6.14 SQ.M
TOTAL BALCONY PER FLOOR = 76.85 SQ.M
NO. OF FLOORS IN D BUILDING=11 NOS.
TOTAL BALCONY FOR D =846.46 SQM

C BUILDING

WING C1	1	4.96 X 1.20 =	5.94 SQ.M	
	2	3.45 X 1.20 =	4.14 SQ.M	
WING C2	1	3.45 X 1.20 =	4.14 SQ.M	
	2	3.75 X 1.20 =	4.50 SQ.M	
WING C3	1	3.35 X 1.20 =	4.02 SQ.M	
	2	3.75 X 1.20 =	4.50 SQ.M	
	3	3.30 X 1.20 =	3.96 SQ.M	
WING C4	1	3.30 X 1.20 =	4.56 SQ.M	
	2	3.79 X 1.20 =	4.50 SQ.M	
WING C5	1	3.75 X 1.20 =	4.50 SQ.M	
	2	3.45 X 1.20 =	4.14 SQ.M	
TOTAL BALCONY FOR C =			48.90 SQM	

E - TYPE BUILDING
(3.04 X 1.22) X 5 = 18.54 SQ.M
(3.35 X 1.22) X 2 = 8.17 SQ.M
(3.36 X 1.22) X 6 = 20.50 SQ.M
(3.50 X 1.22) X3 = 12.81 SQ.M
(3.66 X 1.22) X2 = 8.93 SQ.M
(3.81 X 1.22) X2 = 9.29 SQ.M
(5.03 X 1.22) X1 = 6.14 SQ.M
TOTAL BALCONY PER FLOOR = 84.38 SQ.M
NO. OF FLOORS = 11 NOS.
NO. OF BUILDINGS = 1 NO.
TOTAL BALCONY FOR E = 928.18 SQ.M

LIFT MACHINE ROOM CALCULATIONS
FOR A,B,D & E BLDGS
3.30 X 4.30 = 14.19 SQM
= 14.19 X 3
NET AREA = 42.57 SQM

PODIUM AREAS

BLDG TYPE	PODIUM TYPE	PODIUM AREA
A	P1	1464.70
B & C	P2 & P3	3023.17
D	P4	1474.18
E	P5	1763.76
TOTAL		7725.81

OPEN SPACE AREA STATEMENT (OS1)

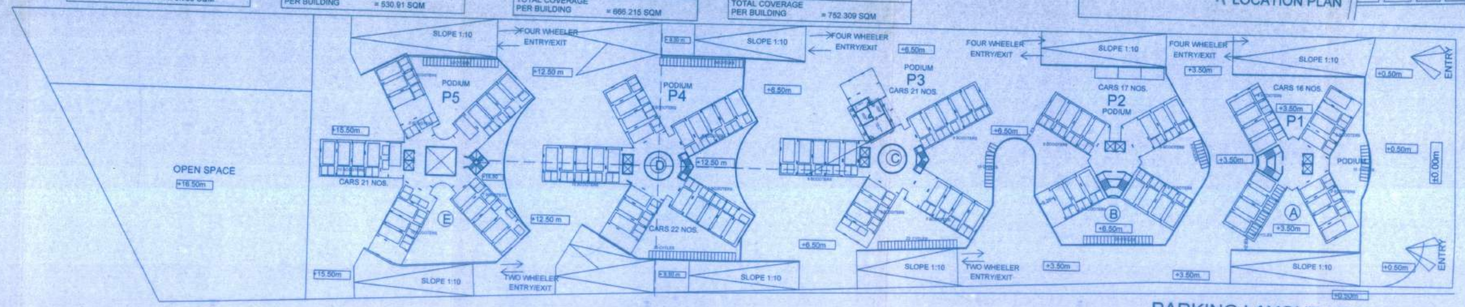
1.0.5 X 56.53X 25.161 =	711.18 SQ.M
2.0.5 X 56.53X 47.22 =	1334.87 SQ.M
OPEN SPACE PROPOSED =	2045.85 SQ.M

TENEMENT STATEMENT
TENEMENT RATIO = 250 TENE. PER HECTARE
= 250 PER 10,000 SQ.M
NET AREA OF PLOT = 14624.75 SQ.M
PERMISSIBLE TENEMENTS = 365 TENEMENTS
PROPOSED TENEMENTS = 200 NOS.

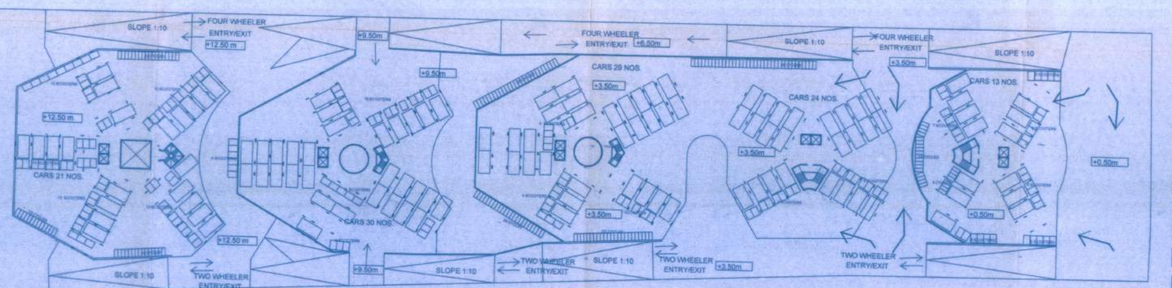
WATER REQUIREMENT
TOTAL TENEMENTS 200 NOS
MAX PERSONS = 200 X5 = 1000
O.H WATER TANK REQUIRED ;
=135X1000 = 1,35,000 LTS
ADD 20000 LIT FOR FIRE FIGHTING(FOR I BLDG.)
FOR 5 BLDGS =20000X5=100000 LIT.
1,35,000 + 1,00,000 = 2,35,000 LTS
O.H WATER TANK REQUIRED= 2,35,000 LTS
U.G WATER TANK REQUIRED;
1.5 X 235,000 = 3,52,500 LTS.

PROPOSED TENEMENT

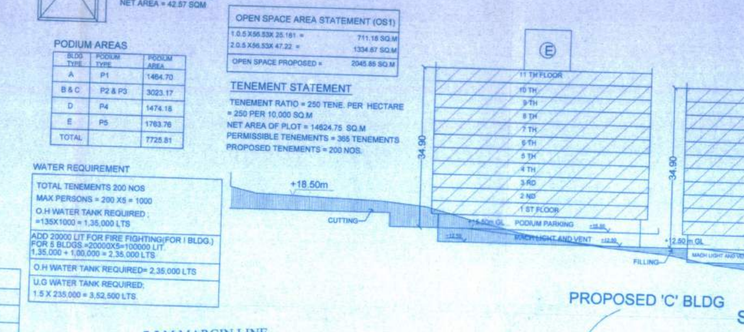
BLDG TYPE	NO.	AREA OF EACH TENEMENT(SQ.M)	NO. OF TENEMENTS
A&B	2	BELOW 80	86
D	1	BELOW 80	22
		ABOVE 80	32
E	1	ABOVE 80	54
C	1	BELOW 80	6
TOTAL TENEMENTS =			200



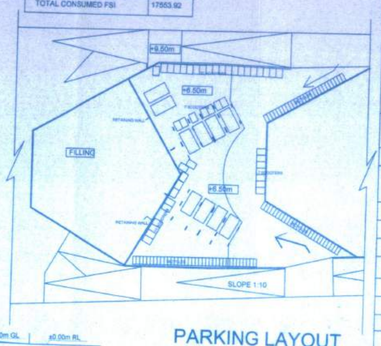
PARKING LAYOUT AT PODIUM



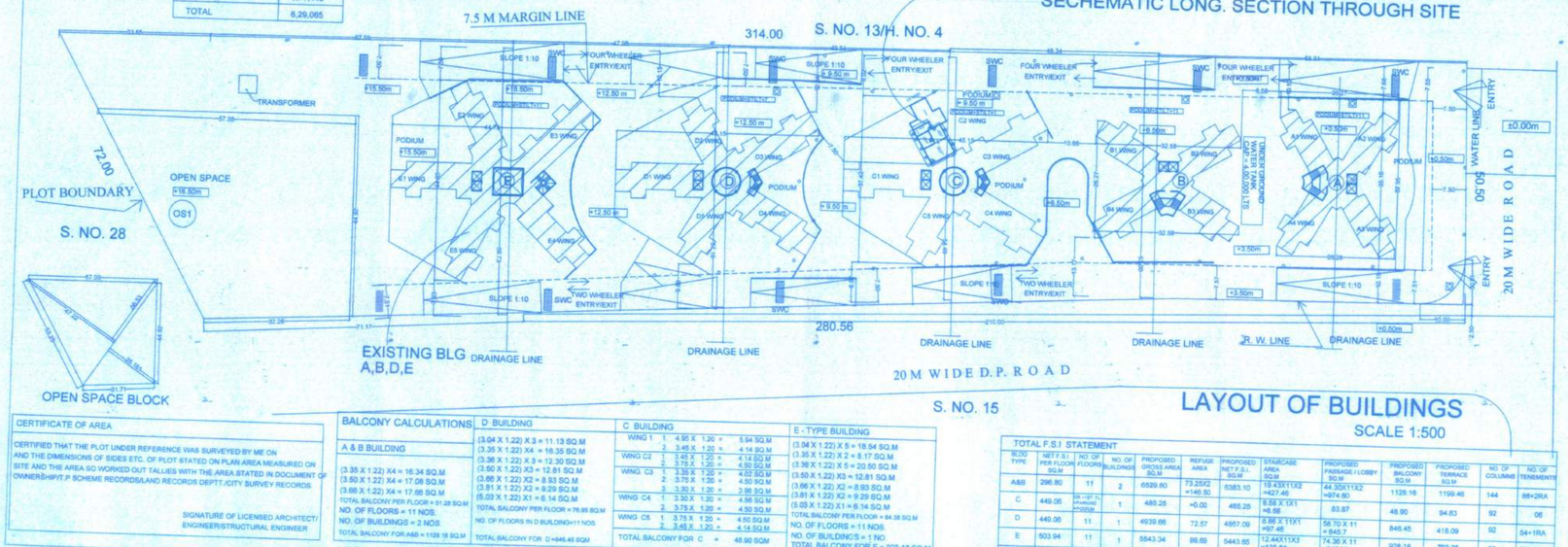
PARKING LAYOUT BELOW PODIUM



SECHEMATIC LONG. SECTION THROUGH SITE



PARKING LAYOUT BELOW PODIUM SLAB



EXISTING F.S.I STATEMENT

BLDG TYPE	F.S.I IN SQ.M.	BALCONY IN SQ.M.	EXCESS BALCONY	TOTAL BUP = 'M' + excess balc.
A	3191.55	564.08		
B	3191.55	564.08	398.71	16693.84 + 398.71 = 17092.55
D	4867.09	928.18		
E	5443.65	846.45		
TOTAL	16693.84	2902.79		17092.55 SQ.M

AREA STATEMENT

AREA OF PART PLOT TO BE DEVELOPED (AS PER AGREEMENT) = 17433.10 SQ.M
DEDUCT ROAD AREA = 762.50 SQ.M
DEDUCT 10% OPEN SPACE = 2045.85 SQ.M
DEDUCT TRANSFORMER ROOM= 25.00 SQ.M
TOTAL AREA = 14599.75
ADDITION FOR ROAD AND TRANSFORMER=762.50+25.00
TOTAL AREA = 15387.25
ADDITION FOR TDR=1755.00
ADDITION FOR TDR= 464.52
NET PLOT AREA = 15387.25+1755.00 + 464.52 =17606.77 SQ.M

PERMISSIBLE F.S.I = 17606.77 SQ.M
A) NET EXISTING F.S.I PROPOSED = 16693.84 SQ.M
PERMISSIBLE BALCONY = (15% OF 16693.84) = 2504.08 SQ.M
PROPOSED BALCONY =2902.79 SQ.M
B) EXCESS BALCONY =398.71 SQ.M

EXISTING FSI (A+B+D+E+EXCESS BALC.)
= 3191.55 + 3191.55 + 4867.09 + 5443.65 + 398.71 = 17092.55 SQ.M

PROPOSED FSI (C BUILD.)
= 485.25 + 00 (EXCESS BALC.)

TOTAL CONSUMED FSI = 17577.80

PARKING STATEMENT

RESIDENTIAL PARKING

PARKING REQUIRED (FOR TENE. UPTO 80 SQ.M) NO. OF TENEMENTS UPTO 80 SQ.M = 108 NOS.

CAR	SCOOTER	CYCLE	
1	4	4	(FOR 2 TENEMENTS.)
54	216	216	(FOR 108 TENEMENTS.)

PARKING REQUIRED (FOR TENE. ABOVE 80 SQ.M) NO. OF TENEMENTS ABOVE 80 SQ.M = 86 NOS.

CAR	SCOOTER	CYCLE	
1	2	2	(FOR 1 TENEMENTS.)
86	172	172	(FOR 86 TENEMENTS.)

TOTAL PARKING REQUIRED

CAR	SCOOTER	CYCLE
140	388	388

TOTAL PARKING PROVIDED

CAR	SCOOTER	CYCLE	
117	192+45	150+89	BELOW PODIUM
97	174	154	ABOVE PODIUM
214	411	393	TOTAL

PARKING AREA REQUIRED PER UNIT VEHICLE BY RULES

VEHICLES	1CAR	1SCOOTER	1CYCLE
AREA (SQM)	12.5	3	1.4

TOTAL PARKING AREA REQUIRED

VEHICLES	CAR	SCOOTER	CYCLE
NOS.	140	388	388
AREA (SQM)	1750	1164	543.20

TOTAL PARKING AREA PROVIDED

VEHICLES	CAR	SCOOTER	CYCLE
NOS.	214	411	393
AREA (SQM)	2675	1233	550.35

LOADING UNLOADING STATEMENT

LOADING UNLOADING AREA REQUIRED	--
LOADING UNLOADING AREA PROVIDED	--

LEGEND

BLACK	PLOT BOUNDARY	RED DOTTED	DRAIN LINE
RED	PROPOSED WORK	BLACK DOTTED	WATER LINE
	EXISTING ROAD		EXISTING WORK

LEGEND
O ELECTRIC POLE
DUSTBIN
SWC STORM WATER CHAMBER

PROJECT
PROPOSED RESIDENTIAL BUILDING ON S. NO. 13, H. NO. 1, 2 & 3, KONDHWA KHURD, PUNE.

OWNERS / P.A.H.
V.S. AGARWAL & V.B. AGARWAL
BRAHMA BUILDERS
BRAMHA HOUSE 250,251 M.G.ROAD
CAMP PUNE-1

ARCHITECTS

SIGNATURE OF OWNER SIGNATURE OF ARCHITECT

ARCHITECTS & INTERIOR DESIGNERS
ALOK KIRAD & ASSOCIATES
ADDRESS : 443 NANA PETH LAXMI ROAD, KIRAD VILLA OFF NO -1 GR.FL PUNE -2
PHONE : 020-28055252.

DRG	SCALE	DATE	DRAFT

AREA STATEMENT

	SQ.M.
AREA OF PART PLOT TO BE DEVELOPED AFTER SUBDIVISION	17433.10
2 DEDUCTIONS FOR	
a. ROAD ACQUISITION AREA	762.50
b. PROPOSED ROAD (INTERNAL)	--
C. ANY RESERVATIONS	--
TOTAL (a + b + c)	762.50
3 NET GROSS AREA OF PLOT (1 - 2)	16670.60
4 DEDUCTIONS FOR	
a. OPEN SPACE (10%)	2045.85
5 AREA OF PLOT (3 - 4a)	14624.75
6 DEDUCTION FOR (transformer room)	25.00
7 NET AREA OF PLOT (5 + 6)	14599.75
8 ADDITION FOR ROAD FSI	762.50
ADDITION FOR TRANSFORMER	25.00
	15387.25
9 ADDITION FOR TDR (DRC NO. 3774 DT. 19/3/09)	1755.00
11 ADDITION FOR TDR (DRC NO. 004130 DT. 12/6/13)	464.52
12 TOTAL PERMISSIBLE F.S.I VTH T.D.R till today	17606.77
13 EXISTING FLOOR AREA (BLDG A+B+D+E)	16693.84
14 EXISTING BALCONY AREA (BLDG A+B+D+E)	2902.79
15 EXISTING EXCESS BALCONY AREA	398.71
16 EXISTING TOTAL BUILT UP AREA ..... 13+15	17092.55
17 PROPOSED FLOOR AREA BLDG. C	485.25
18 EXCESS BALCONY AREA	00.00
19 TOTAL BUILT UP AREA PROPOSED BLDG. C	485.25
20 TOTAL CONSUMED FSI (16+17)	17577.80
21 F.S.I CONSUMPTION 20 / 12	0.99

TENAMENT STATEMENT

a. NET AREA OF PLOT	
b. LESS DEDUCTION FOR NON - RESIDENTIAL TAKEN IN F.S.I	--
c. AREA OF TENEMENTS (a - b)	
d. NO. OF TENEMENTS PERMISSIBLE	365
e. NO. OF TENEMENTS PROPOSED	200

PARKING STATEMENT	CAR	SCOOTER	CYCLE
PARKING REQUIRED BY RULE	113	320	320
PARKING PROPOSED	257	514	505
GARAGES PERMISSIBLE AND PROPOSED			

NET PLOT AREA	14599.75
PERMISSIBLE GROUND COVERAGE BUILDING (14599.75 X 20%)	2919.95
PROPOSE GROUND COVERAGE BUILDING	2906.94
EXCESS GROUND COVERAGE BUILDING	--
PERMI GROUND COVERAGE PODIUM PARKING(50%)	7409.065
PROPOSED GROUND COVERAGE PODIUM PARKING	7113.17

SEAL AND STAMP OF APPROVAL 1/2

REVISED FOR T.D.R

TRUE COPY CERTIFICATE
I, ALOK KIRAD, ... mined Originals of ... Commencement Letter No.C.T.S/3134/13 ... and certify that the ... personally and are found correct as per the plans originally approved.
Date : ALOK KIRAD Architect CA/2006/38962

TRUE - COPY
DATE :

CERTIFICATE OF AREA

CERTIFIED THAT THE PLOT UNDER REFERENCE WAS SURVEYED BY ME ON AND THE DIMENSIONS OF SIDES ETC. OF PLOT STATED ON PLAN AREA MEASURED ON SITE AND THE AREA SO WORKED OUT TALLIES WITH THE AREA STATED IN DOCUMENT OF OWNERSHIP,P.SCHEME RECORDS&LAND RECORDS DEPTT./CITY SURVEY RECORDS.

SIGNATURE OF LICENSED ARCHITECT/ ENGINEER/STRUCTURAL ENGINEER

LAYOUT OF BUILDINGS

SCALE 1:500

TOTAL F.S.I STATEMENT

BLDG TYPE	NET F.S.I PER FLOOR SQ.M	NO. OF FLOORS	NO. OF BUILDINGS	PROPOSED GROSS AREA SQ.M	REFUGE AREA	PROPOSED NET F.S.I. SQ.M	STAIRCASE AREA SQ.M	PROPOSED PASSAGE / LOBBY SQ.M	PROPOSED BALCONY SQ.M	PROPOSED TERRACE SQ.M	NO. OF COLUMNS	NO. OF TENEMENTS
A&B	296.80	11	2	6529.60	73.25X2 =146.50	6383.10	19.43X11X2 =427.46	44.30X11X2 =974.60	1128.16	1159.46	144	86+2RA
C	449.06	1	1	485.25	=0.00	485.25	8.56 X 1X1 =8.56	83.67	48.90	94.83	92	06
D	449.06	11	1	4939.66	72.57	4867.09	8.86 X 11X1 =97.46	58.70 X 11 = 645.7	846.45	418.09	92	54+1RA
E	503.94	11	1	5543.34	99.69	5443.65	12.44X11X3 =136.84	74.30 X 11 =817.96	928.18	703.25	92	54+1RA
TOTAL			5	17061.77	172.26	17179.09	670.62	2522.13	2951.69	2415.63	420	200+3RA

TERRACE CALCULATIONS

A & B BUILDING
(FLOORS 1,3,5,7,9,11)
1. 3.51 X 1.90 X 1 = 6.64 SQ.M
2. 3.68 X 1.90 X 1 = 7.34 SQ.M
TOTAL 14.18 SQ.M
19.18 X 4 WINGS X 2 BUILDINGS X 6 FLOORS = 660.96 SQ.M

(FLOOR NO.2,4,6,8,10)
1. 3.09 X 1.88 X 1 = 6.04 SQ.M
2. 3.50 X 1.85 X 1 = 6.69 SQ.M
TOTAL 12.67 SQ.M
12.67 X 4 WINGS X 2 BUILDINGS X 5 FLOORS = 618.80 SQ.M

TOTAL 660.56+618.80 = 1279.48 SQM

D BUILDING
1st,3rd,5th,7th,9th,11th FLOOR
1. 3.50 X 1.90 X 2 = 13.65 SQ.M
2. 3.90 X 1.90 X 4 = 29.60 SQ.M
3. 3.70 X 1.80 X 1 = 6.40 SQ.M
4. 2.35 X 1.90 X 1 = 6.63 SQ.M
5. 3.08 X 1.85 X 2 = 6.69 SQ.M
TOTAL = 62.56 SQ.M
62.56X6 = 375.36 SQM
2nd,4th,6th,8th,10th FLOOR
1. 3.50 X 1.88 X 2 = 13.66 SQ.M
2. 3.95 X 1.90 X 2 = 5.03 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
4. 2.74 X 1.88 X 2 = 10.27 SQ.M
5. 3.85 X 1.83 X 2 = 13.39 SQ.M
TOTAL = 65.95 SQ.M
65.95X5 = 329.75 SQ.M

TOTAL
375.36+329.75=705.11 SQ.M

E BUILDING
(FLOOR NO: 1,3,5,7,9,11)
1. 3.66 X 1.83 X 4 = 26.79 SQ.M
2. 3.35 X 1.83 X 1 = 6.13 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
4. 3.86 X 1.88 X 3 = 21.74 SQ.M
5. 3.51 X 1.68 X 1 = 5.89 SQ.M
TOTAL = 66.95 SQ.M

TOTAL = 66.95 X 6 FLOORS = 401.70 SQ.M

(FLOOR NO. 2,4,6,8,10)
1. 3.66 X 1.83 X 4 = 26.79 SQ.M
2. 2.74 X 1.98 X 5 = 27.12 SQ.M
3. 3.50 X 1.83 X 1 = 6.40 SQ.M
TOTAL = 60.31 SQ.M
TOTAL = 60.31 X 5 FLOORS = 301.55 SQ.M

401.70+301.55 = 703.25 SQM

GROUND COVERAGE

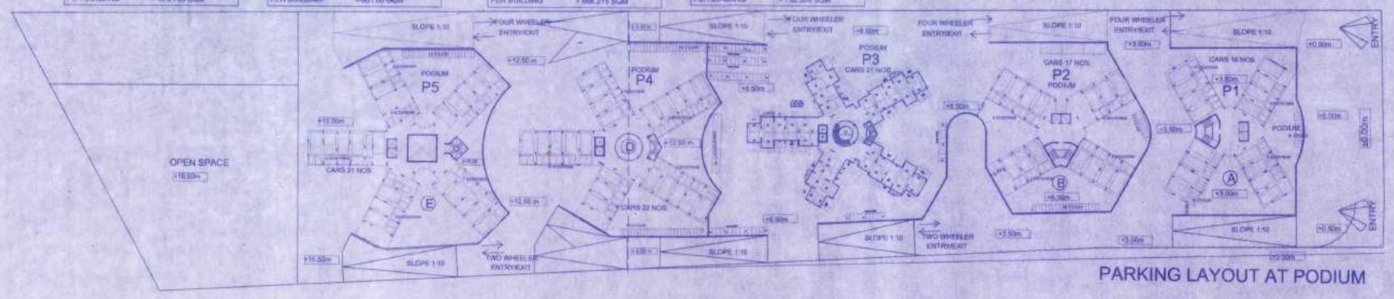
BLDG TYPE	AREA
A	476.765
B	476.765
C	931.89
D	666.215
E	732.309
TOTAL	3087.70

A & B BUILDING GROUND COVERAGE
1. NET BUILT-UP = 298.80 SQM
2. PASSAGE+LOBBY = 44.30 SQM
3. BALCONIES = 51.28 SQM
4. STAIRACASE = 19.43 SQM
5. TERRACES = 56.72 SQM
6. LIFTS = 10.235 SQM
TOTAL COVERAGE PER BUILDING = 476.765 SQM

C BUILDING GROUND COVERAGE
1. NET BUILT-UP = 436.08 SQM
2. 1ST FL TERRACES = 113.14 SQM
3. 2ND FL TERRACES = 82.43 SQM
TOTAL COVERAGE PER BUILDING = 931.89 SQM

D BUILDING GROUND COVERAGE
1. NET BUILT-UP = 449.08 SQM
2. PASSAGE+LOBBY = 58.79 SQM
3. BALCONIES = 48.90 SQM
4. STAIRACASE = 8.86 SQM
5. TERRACES = 62.58 SQM
6. LIFTS = 10.235 SQM
TOTAL COVERAGE PER BUILDING = 666.215 SQM

E BUILDING GROUND COVERAGE
1. NET BUILT-UP = 503.94 SQM
2. PASSAGE+LOBBY = 74.36 SQM
3. BALCONIES = 84.36 SQM
4. STAIRACASE = 12.44 SQM
5. TERRACES = 68.95 SQM
6. LIFTS = 10.235 SQM
TOTAL COVERAGE PER BUILDING = 752.309 SQM



PARKING LAYOUT AT PODIUM

'P1' TYPE PODIUM BLOCK PLAN

P1 AREA STATEMENT

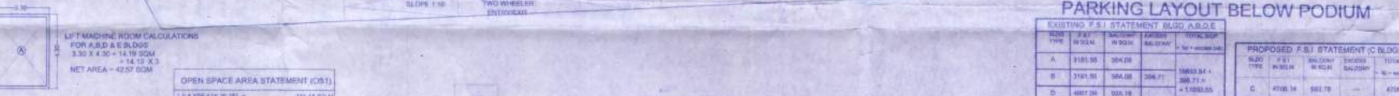
ADDITIONS		
1.	6.7 X 0.15 X 47 X 25.11 =	446.03 SQ.M
2.	5.3 X 0.15 X 37.1 X 25.11 =	101.62 SQ.M
3.	0.5 X 10.80 X 8.65 =	51.44 SQ.M
4.	5.3 X 21.20 X 8.37 =	94.21 SQ.M
5.	0.3 X 16.95 X 1.0% =	10.50 SQ.M
NET AREA =		1484.70 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1484.70 SQ.M

'P2' TYPE & 'P3' PODIUM BLOCK PLAN (COMBINED)

P1 AREA STATEMENT

ADDITIONS =		
1.	5.0 X 21.20 X 31.10 =	174.22 SQ.M
2.	5.0 X 20.34 X 17.00 =	173.51 SQ.M
3.	0.5 X 20.34 X 10.08 =	102.76 SQ.M
4.	0.5 X 20.35 X 10.38 =	104.79 SQ.M
5.	0.5 X 45.34 X 17.00 =	415.32 SQ.M
6.	0.5 X 45.34 X 17.14 =	388.36 SQ.M
7.	0.5 X 5.72 X 8.65 =	27.30 SQ.M
8.	5.72 X 8.65 =	176.07 SQ.M
9.	8.65 X 1.10 =	9.52 SQ.M
10.	0.5 X 4.66 X 1.90 X 2 =	8.87 SQ.M
11.	6.66 X 26.75 =	32.30 SQ.M
12.	0.5 X 6.66 X 10.66 =	445.16 SQ.M
13.	0.5 X 45.07 X 19.80 =	630.84 SQ.M
14.	10.5 X 45.07 X 19.11 =	195.39 SQ.M
15.	10.5 X 36.86 X 8.81 =	3023.17 SQ.M
NET AREA =		



PARKING LAYOUT BELOW PODIUM

'P4' TYPE PODIUM BLOCK PLAN

P4 AREA STATEMENT

ADDITIONS =		
1.	5.0 X 4.20 X 25.09 X 8.16 =	126.77 SQ.M
2.	5.0 X 5.1 X 37.30 =	712.07 SQ.M
3.	7.5 X 5.1 X 22.40 X 10.96 =	280.12 SQ.M
4.	32.44 X 5.35 =	346.25 SQ.M
NET AREA = 1469.87 +		1474.15 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1474.15 SQ.M

'P5' TYPE PODIUM BLOCK PLAN

P5 AREA STATEMENT

ADDITIONS =		
1.	28.1 X 47.02 X 29.84 X 7.34 =	396.05 SQ.M
2.	5.0 X 5.1 X 89.8 X 22.25 =	5043.86 SQ.M
3.	3.5 X 5.1 X 16.25 X 5.25 =	194.36 SQ.M
4.	37.33 X 16.25 =	445.75 SQ.M
NET AREA = 1800.45 +		1760.76 SQ.M

NET AREA OCCUPIED BY THE PODIUM = 1760.76 SQ.M

LIFT MACHINE ROOM CALCULATIONS
FOR A,B,D & E BLDGS
3.30 X 4.30 = 14.19 SQM
= 14.10 X 3
NET AREA = 42.57 SQM

PODIUM AREAS

BLDG TYPE	PODIUM TYPE	PODIUM AREA
A	P1	1484.70
B & C	P2 & P3	3023.17
D	P4	1474.15
E	P5	1760.76
TOTAL		7725.81

WATER REQUIREMENT :-
D.H.W.T. CAP. :- (WING, ABCD)
TENE. PROPOSED = 249 NOS.
5 x 135 x 249= 168075.00 LTS
ADD FOR FIRE = 50,000 LTR
TOTAL = 12,18,075.00 LTR
U.G.W.TANK CAP. :-
12,18,075.0 x 1.50 = 3,27,112.50 LIT
ADD FOR FIRE = 50,000 LTR
TOTAL = 3,77,112.50 LTR

WATER PROVIDED

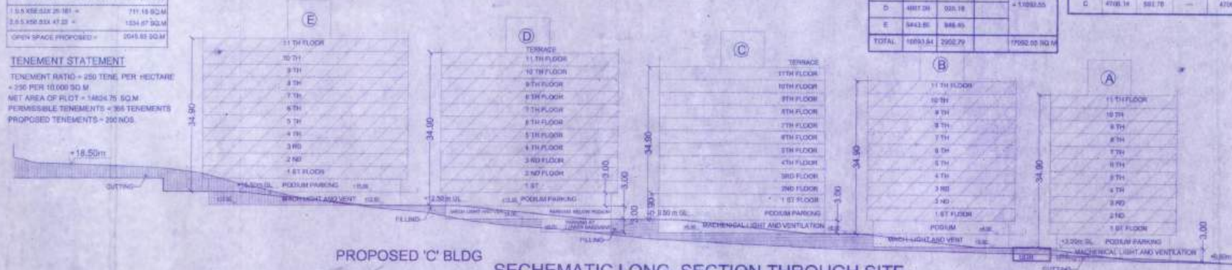
STORAGE TYPE	LTS
OVERHEADS	1218075.00 LTR
UNDERGROUND	377112.50 LTR
TOTAL	1595187.50 LTR

OPEN SPACE AREA STATEMENT (OS1)

0.5 X 656.55 X 25.181 =	711.15 SQ.M
0.5 X 656.55 X 47.02 =	1334.67 SQ.M
OPEN SPACE PROPOSED =	2045.85 SQ.M

TENEMENT STATEMENT

TENEMENT RATIO = 250 TENE. PER HECTARE
= 250 PER 10,000 SQ.M
NET AREA OF PLOT = 14624.75 SQ.M
PERMISSIBLE TENEMENTS = 366 TENEMENTS
PROPOSED TENEMENTS = 250 NOS.



PROPOSED 'C' BLDG

SECHEMATIC LONG. SECTION THROUGH SITE

LAYOUT OF BUILDINGS
SCALE 1:500

EXISTING F.S.I STATEMENT

BLDG TYPE	FLOOR	FLOOR AREA IN SQ.M	STAIRCASE AREA	NO. OF TENEMENTS A+B	LIFT AREA SQ.M	PASSAGE AREA SQ.M	BALCONY AREA SQ.M	LOBBY AREA SQ.M
A&B	FIRST	298.80	19.43	4+4		—	51.28	44.30
	SECOND	298.80	19.43	4+4		—	51.28	44.30
	THIRD	298.80	19.43	4+4		—	51.28	44.30
	FOURTH	298.80	19.43	4+4		—	51.28	44.30
	FIFTH	298.80	19.43	4+4		—	51.28	44.30
	SIXTH	298.80	19.43	4+4		—	51.28	44.30
	SEVENTH	298.80	19.43	4+4		—	51.28	44.30
	EIGHTH	223.55	19.43	3+3		—	51.28	44.30
	NINTH	298.80	19.43	4+4		—	51.28	44.30
	TENTH	298.80	19.43	4+4		—	51.28	44.30
	ELEVENTH	298.80	19.43	4+4		—	51.28	44.30
TOTAL OF A		3191.55	213.73	43	10.24	—	564.08	487.30
TOTAL OF B		3191.55	213.73	43	10.24	—	564.08	487.30
E	FIRST	503.94	12.44	5		—	84.36	74.36
	SECOND	503.94	12.44	5		—	84.36	74.36
	THIRD	503.94	12.44	5		—	84.36	74.36
	FOURTH	503.94	12.44	5		—	84.36	74.36
	FIFTH	503.94	12.44	5		—	84.36	74.36
	SIXTH	503.94	12.44	5		—	84.36	74.36
	SEVENTH	503.94	12.44	5		—	84.36	74.36
	EIGHTH	404.25	12.44	4		—	84.36	74.36
	NINTH	503.94	12.44	5		—	84.36	74.36
	TENTH	503.94	12.44	5		—	84.36	74.36
	ELEVENTH	503.94	12.44	5		—	84.36	74.36
TOTAL OF E		5443.65	136.84	54	10.24	—	928.18	817.96
EXISTING F.S.I OF A,B & E		11826.75	564.30	140	30.72		2056.34	1792.56
D	FIRST	449.08	8.86	5		—	76.95	58.70
	SECOND	449.08	8.86	5		—	76.95	58.70
	THIRD	449.08	8.86	5		—	76.95	58.70
	FOURTH	449.08	8.86	5		—	76.95	58.70
	FIFTH	449.08	8.86	5		—	76.95	58.70
	SIXTH	449.08	8.86	5		—	76.95	58.70
	SEVENTH	449.08	8.86	5		—	76.95	58.70
	EIGHTH	378.49	8.86	4		—	76.95	58.70
	NINTH	449.08	8.86	5		—	76.95	58.70
	TENTH	449.08	8.86	5		—	76.95	58.70
	ELEVENTH	449.08	8.86	5		—	76.95	58.70
TOTAL OF D		4867.09	97.46	54	10.24	—	846.45	645.70
TOTAL OF A,B,E,D		16693.84	661.76	194	40.96		2902.79	2438.26

PROPOSED F.S.I STATEMENT (C BLDG)

BLDG TYPE	F.S.I IN SQ.M	BALCONY IN SQ.M	EXCESS BALCONY	TOTAL BUP
C	4706.14	591.78	—	4706.14

PROPOSED F.S.I

BLDG TYPE	FLOOR	FLOOR AREA IN SQ.M	STAIRCASE AREA	NO. OF TENEMENTS A+B	LIFT AREA SQ.M	PASSAGE AREA SQ.M	BALCONY AREA SQ.M	LOBBY AREA SQ.M
C	G.FLOOR	—	—	—	—	—	—	—
	1ST.FLR	436.38	8.86	5		—	63.45	83.87
	2ND.FLR	427.47	8.58	5	7.82	—	63.45	83.87
	3RD.FLR	427.47	8.58	5		—	63.45	83.87
	4TH.FLR	427.47	8.58	5		—	63.45	83.87
	5TH.FLR	427.47	8.58	5		—	63.45	83.87
	6TH.FLR	427.47	8.58	5		—	63.45	83.87
	7TH.FLR	427.47	8.58	5		—	63.45	83.87
	8TH.FLR	422.53	8.58	5		—	58.28	83.87
	9TH.FLR	427.47	8.58	5		—	63.45	83.87
	10TH.FLR	427.47	8.58	5		—	63.45	83.87
	11TH.FLR	427.47	8.58	5		—	63.45	83.87
TOTAL OF C		4706.14	94.38	55	7.82	—	592.78	922.57

TOTAL F.S.I STATEMENT

BLDG TYPE	NET F.S.I IN SQ.M	NO. OF FLOORS	NO. OF BUILDING	PROPOSED BALCONY AREA	EXCESS BALCONY AREA	PROPOSED LIFT AREA	STAIRCASE AREA	PROPOSED PASSAGE +LOBBY SQ.M	PROPOSED BALCONY SQ.M	PROPOSED TERRACE SQ.M	NO. OF DWELLING TENEMENTS	NO. OF COMMERCIAL TENEMENTS
A&B	298.80	11	2	8525.65	73.20(A) +146.40(B)	439.20	44.30+(11X2) =474.80	1139.16	1139.46	144	88+56=A	
C	427.47	11 (BASEMENT, GROUND, 1ST TO 9TH)	1	4701.30	=26.60	4706.14	8.58 X 11X1 =94.38	63.87X11=702.57	592.78	279.69	55	55
D	449.08	11	1	4939.88	73.87	4867.09	8.86 X 11X1 =97.46	58.70 X 11 =645.70	846.45	415.06	82	54+28=A
E	503.94	11	1	5543.34	99.89	5443.65	12.44X11X1 =136.84	74.36 X 11 =817.96	928.18	703.25	92	54+38=A
TOTAL	1677.27		5	23181.93	344.36	21182.04	338.14	3385.62	3506.87	3291.69	420	314+38=A

PROPOSED TENEMENT

BLDG TYPE	NO	AREA OF EACH TENEMENT(SQ.M)	NO. OF TENEMENTS
A&B	2	BELOW 80	66
D	1	BELOW 80	22
		ABOVE 80	32
E	1	ABOVE 80	54
C	1	BELOW 80	55
TOTAL TENEMENTS =			249

PARKING STATEMENT

RESIDENTIAL PARKING

PARKING REQUIRED(FOR TENE. UPTO 80 SQ.M)
NO. OF TENEMENTS UPTO 80 SQ.M = 106 NOS.

CAR	SCOOTER	CYCLE	
4	4	4	(FOR 2 TENEMENTS)
54	216	216	(FOR 106 TENEMENTS)

PARKING REQUIRED(FOR TENE. ABOVE 80 SQ.M)
NO. OF TENEMENTS ABOVE 80 SQ.M = 88 NOS.

CAR	SCOOTER	CYCLE	
1	2	2	(FOR 1 TENEMENTS)
88	172	172	(FOR 88 TENEMENTS)

TOTAL PARKING REQUIRED

CAR	SCOOTER	CYCLE
140	388	388

TOTAL PARKING PROVIDED

CAR	SCOOTER	CYCLE	
117	192+45	150+89	BELOW PODIUM
97	174	154	ABOVE PODIUM
214	411	393	TOTAL

PARKING AREA REQUIRED PER UNIT VEHICLE BY BYLES

VEHICLES	1CAR	1SCOOTER	1CYCLE
AREA (SQM)	12.5	3	1.4

TOTAL PARKING AREA REQUIRED

VEHICLES	CAR	SCOOTER	CYCLE
NOS.	140	388	388
AREA (SQM)	1750	1164	543.20

TOTAL PARKING AREA PROVIDED

VEHICLES	CAR	SCOOTER	CYCLE
NOS.	214	411	393
AREA (SQM)	2675	1233	550.2

TOTAL PROPOSED BLGD A,B,C,D,E

TOTAL PROPOSED F.S.I = FSI + EXCESS BALC
= 17092.55(existing fsi) + 4709.49 (bldg 'c')
TOTAL = 21,802.04 SQM

AREA STATEMENT

AREA OF PART PLOT TO BE DEVELOPED (AS PER AGREEMENT) = 17433.10 SQ.M
DEDUCT ROAD AREA = 762.50 SQ.M
DEDUCT 10% OPEN SPACE = 2045.85 SQ.M
DEDUCT TRANSFORMER ROOM= 25.00 SQ.M
TOTAL AREA = 14599.75
ADDITION FOR ROAD AND TRANSFORMER=762.50+25.00
TOTAL AREA = 15387.25
ADDITION FOR TDR=1755.00
ADDITION FOR TDR= 464.52
NET PLOT AREA = 15387.25+1755.00 + 464.52 =17606.77 SQ.M

PERMISSIBLE F.S.I = 18366.77 SQ.M
A) NET EXISTING F.S.I PROPOSED = 16693.84 SQ.M
PERMISSIBLE BALCONY = (10% OF 16693.84) = 2504.08 SQ.M
PROPOSED BALCONY = 2902.79 SQ.M
B) EXCESS BALCONY = 398.71 SQ.M
EXISTING FSI (A+B+D+E+EXCESS BALC.)
= 3191.55 +3191.55+4867.09+5443.65+398.71=17092.55 SQ.M
PROPOSED FSI (C BUILD.)
= 17092.55(existing fsi) + 4709.49 (bldg 'c')
TOTAL CONSUMED FSI = 21,802.04 SQM

BALCONY CALCULATIONS

A & B BUILDING
(3.35 X 1.22) X4 = 16.34 SQ.M
(3.50 X 1.22) X4 = 17.08 SQ.M
(3.68 X 1.22) X4 = 17.96 SQ.M
TOTAL BALCONY PER FLOOR = 51.39 SQ.M
NO. OF FLOORS = 11 NOS.
NO. OF BUILDINGS = 2 NOS.
TOTAL BALCONY FOR A&B = 1129.16 SQ.M

D BUILDING
(3.04 X 1.22) X 3 = 11.13 SQ.M
(3.35 X 1.22) X4 = 16.36 SQ.M
(3.36 X 1.22) X 3 = 12.30 SQ.M
(3.50 X 1.22) X3 = 12.81 SQ.M
(3.66 X 1.22) X2 = 8.93 SQ.M
(3.81 X 1.22) X2 = 9.29 SQ.M
(5.03 X 1.22) X1 = 6.14 SQ.M
TOTAL BALCONY PER FLOOR = 76.80 SQ.M
NO. OF FLOORS = 11 NOS.
TOTAL BALCONY FOR D BUILDING=1190.6 SQ.M

C BUILDING

WING T	1.	4.66 X 1.20 =	5.54 SQ.M	
	2.	3.48 X 1.20 =	4.14 SQ.M	
WING C2	1.	3.48 X 1.20 =	4.14 SQ.M	
	2.	3.75 X 1.20 =	4.50 SQ.M	
WING C3	1.	3.38 X 1.20 =	4.03 SQ.M	
	2.	3.75 X 1.20 =	4.50 SQ.M	
	3.	3.30 X 1.20 =	3.96 SQ.M	
WING C4	1.	3.30 X 1.20 =	4.00 SQ.M	
	2.	3.75 X 1.20 =	4.50 SQ.M	
WING C5	1.	3.75 X 1.20 =	4.50 SQ.M	
	2.	3.83 X 1.20 =	4.14 SQ.M	

TOTAL BALCONY FOR C = 48.90 X 7FLRS= 342.30
* WING C4 ADD = 8.86 * 342.30 = 351.39 SQ.M

E - TYPE BUILDING
(3.04 X 1.22) X 5 = 18.54 SQ.M
(3.35 X 1.22) X 4 = 8.17 SQ.M
(3.36 X 1.22) X 3 = 20.50 SQ.M
(3.50 X 1.22) X3 = 12.81 SQ.M
(3.66 X 1.22) X2 = 8.93 SQ.M
(3.81 X 1.22) X2 = 9.29 SQ.M
(5.03 X 1.22) X1 = 6.14 SQ.M
TOTAL BALCONY PER FLOOR = 84.58 SQ.M
NO. OF FLOORS = 11 NOS.
NO. OF BUILDINGS = 1 NO.
TOTAL BALCONY FOR E = 925.18 SQ.M

CERTIFICATE OF AREA

CERTIFIED THAT THE PLOT UNDER REFERENCE WAS SURVEYED BY ME,ON AND THE DIMENSIONS OF SIDES ETC. OF PLOT STATED ON PLAN AREA MEASURED ON SITE AND THE AREA SO WORKED OUT TALLIES WITH THE AREA STATED IN DOCUMENT OF OWNERSHIP/T.P.SCHEME RECORDS/LAND RECORDS/ DEPTT./CITY SURVEY RECORDS.

SIGNATURE OF LICENSED ARCHITECT/ ENGINEER/STRUCTURAL ENGINEER

SEAL AND STAMP OF APPROVAL 1/3

REVISED FOR T.D.R

APPROVED SUBJECT TO CONDITION
APPROVED UNDER COMMENCEMENT
CERTIFICATE NO. C.C. 2017/17
DT. 21/06/2017

Building Inspector — Assistant Engineer P.M.C.

POONA MUNICIPAL BUILDING CONSTRUCTION DEPARTMENT APPROVED POONA

AREA STATEMENT

	SQ.M.
AREA OF PART PLOT TO BE DEVELOPED AFTER SUBDIVISION	17433.10
2 DEDUCTIONS FOR	
a. ROAD ACQUISITION AREA	762.50
b. PROPOSED ROAD (INTERNAL)	—
C. ANY RESERVATIONS	—
TOTAL (a + b + c)	762.50
3 NET GROSS AREA OF PLOT (1 - 2)	16670.60
4 DEDUCTIONS FOR	
a. OPEN SPACE (10%)	2045.85
5 AREA OF PLOT (3 - 4a)	14624.75
6 DEDUCTION FOR (transformer room)	25.00
7 NET AREA OF PLOT (5 + 6)	14599.75
8 ADDITION FOR ROAD FSI ADDITION FOR TRANSFORMER	762.50 25.00
	15387.25
9 TOTAL PERMI TDR 60% OF NET PLOT (14599.75) a) TDR PERMISSIBLE OF 40% = 5839.90 b) TDR PERMISSIBLE OF 20% = 2919.95	8759.85
10 ADDITION FOR TDR (DRC NO. 3774 DT. 19/3/08)	1755.00
11 ADDITION FOR TDR (DRC NO. 004130 DT. 12/6/13)	464.52
12 ADDITION FOR SLUM TDR (DRC NO. 004220 DT. .....)	760.00
13 ADDITION FOR SLUM TDR (DRC NO. 4352.00 DT. .....)	1906.95
14 ADDITION FOR REGULAR TDR (DRC NO. 5084 DT. 31.03.2017)	1529.00
15 TOTAL TDR AS PER TODAY	6417.47
16 TOTAL PERMISSIBLE F.S.I. WITH T.D.R till today	21804.72
17 EXISTING FLOOR AREA (BLDG A+B+D+E)	16693.84
18 EXISTING EXCESS BALCONY AREA	398.71
19 EXISTING TOTAL BUILT UP AREA	17092.55
20 PROPOSED FLOOR AREA BLDG C	4706.14
21 TOTAL BUP AREA OF BLDG A,B,C,D,E (19+20)	21798.69
22 EXCESS BALCONY AREA	—
23 TOTAL CONSUMED FSI	21798.69
24 BALANCE F.S.I	6.03
25 F.S.I CONSUMPTION	0.99

TENAMENT STATEMENT

a. NET AREA OF PLOT	—
b. LESS DEDUCTION FOR NON - RESIDENTIAL TAKEN IN F.S.I	—
c. AREA OF TENEMENTS (a - b)	—
d. NO. OF TENEMENTS PERMISSIBLE	366
e. NO. OF TENEMENTS PROPOSED	249

PARKING STATEMENT

	CAR	SCOOTER	CYCLE
EXISTING PARKING	214	411	393
PROPOSED PARKING OF (C WING)	58	116	58
	+	+	+
NET PLOT AREA			14599.75
PERMISSIBLE GROUND COVERAGE BUILDING (14599.75 X 20%)			2919.95
PROPOSE GROUND COVERAGE BUILDING			2906.94
EXCESS GROUND COVERAGE BUILDING			—
PERMI GROUND COVERAGE PODIUM PARKING(50%)			7409.065
PROPOSED GROUND COVERAGE PODIUM PARKING			7113.17

LEGEND

BLACK	PLOT BOUNDARY	RED DOTTED	DRAIN LINE
RED	PROPOSED WORK	BLACK DOTTED	WATER LINE
	EXISTING ROAD		EXISTING WORK

LEGEND
ELECTRIC POLE
DUSTBIN
SWC STORM WATER CHAMBER

PROJECT

REVISED RESIDENTIAL BUILDING ON S .NO. 13, H. NO. 1, 2 & 3, KONDHWA KHURD, PUNE.

OWNERS / P.A.H.

BRAMHACORP LTD
3 QUEENS GARDEN, RESIDENCY CLUB
CAMP PUNE-1

ARCHITECTS

SIGNATURE OF OWNER — SIGNATURE OF ARCHITECT

ARCHITECTS & INTERIOR DESIGNERS
ALOK KIRAD & ASSOCIATES
ADDRESS : 443 NANA PETH LAXMI ROAD, KIRAD VILLA OFF NO -1 GR.FL PUNE -2
PHONE : 020-26535252

DRG	SCALE	DATE	CHK'T	JOB NO
80	1:150	26/9/17	HARD.	

ECBC Compliance Report

For

RESIDENTIAL PROJECT

"BRAMHA EXUBERANCE"

At

S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra

Proposed By

BRAMHA CORP LTD.

CONTENTS

1.0 ABOUT ECBC 3

3.0 DEFINITIONS AND ABBREVIATIONS 6

4.0 METHODOLOGY 8

5.0 ABOUT THE SOFTWARE 8

6.0 CLIMATE ZONE 8

7.0 BASECASE DESCRIPTION 10

8.0 ENERGY PERFORMANCE ANALYSIS 11

8.1 Design Parameter 12
8.2 Base Case: ECBC 2007 12
8.3 Proposed Case 13
9.0 SUMMARY 15

1.0 ABOUT ECBC

The purpose of Energy Conservation Building Code (ECBC) is to provide minimum requirements for energy efficient design and construction of buildings and their systems. ECBC is first step towards promoting energy efficiency in the building sector. The code is applicable to buildings or building complexes that have a connected load of 100 kW or greater or a contract demand of 120 kVA or greater. This report shall however focus on Envelope measures for ECBC Compliance. The Building envelope refers to the exterior façade, and is comprised of opaque components (roof, wall, slab, basement, opaque doors etc.) and fenestration systems (window, skylights, ventilators etc.) Envelope design strongly affects the visual and thermal comfort of the occupants as well as energy consumption of the building. This considers the heat transfer in the building occurring through the envelope via Radiation, Convection and Conduction.

2.0 ABOUT PROJECT

M/s. Bramha Corp Ltd. are proposing residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra.

The Latitude and Longitude of project site is as follows
Latitude – 18°28'31.22"N Longitude - $73^0$53'42.44" E

The plot area is 17,433.10 m^2 and total construction area is 50,548.37 m^2. The project details are as follows:

No.	Description	Proposed
1.	Total plot area (Sq.mt.)	17,433.10 m^2
2.	Deductions (Sq.mt.)	2,833.35 m^2
3.	Net Plot Area	14,599.75 m^2
4.	Permissible Built-up Area as per FSI including Fungible Area (sq.mt.)	14,805.95 m^2
5.	Proposed FSI area (Sq.mt.)	21,798.69 m^2
6.	Proposed Non FSI area (Sq.mt.)	28,749.68 m^2
7.	Total Construction Built – up Area (Sq.mt.)	50,548.37 m^2
8.	Tenements	249
9.	Total Population	1,432 (1364 + 86 visitors)
10.	Connected load	1438 kW
11.	Demand load	1007 kW
12.	Transformer kVA	2 x 630

13.	DG set - kVA	1 x 82.5

BUILDING DETAILS

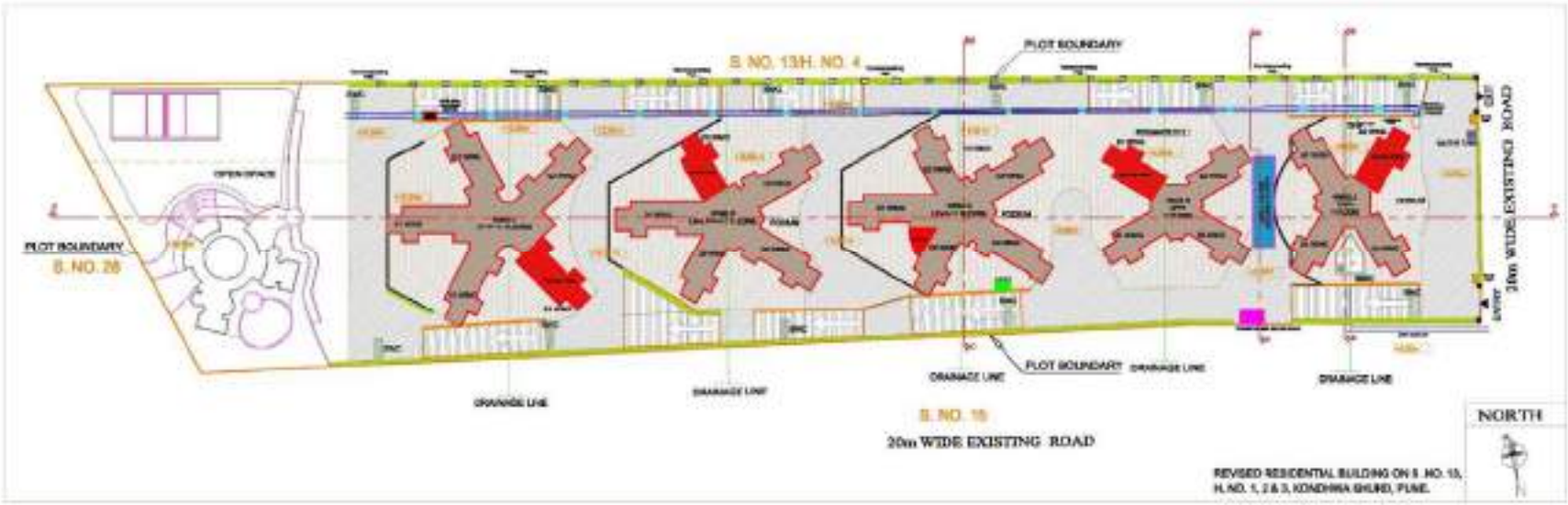
The project is being designed and built considering the various energy efficiency features and intends to meet and exceed the requirements of the Energy Conservation Building Code (ECBC) 2007 & 2017 version.

Building Details

Building	Configuration	Building Height m
A Building	LP + P +11 floors	34.90
B Building	LP + P +11 floors	34.90
C Building	LP + P +11 floors	34.90
D Building	LB + LP + P + 11 floors	34.90
E Building	LP + P +11 floors	34.90
Club House	G + 1	

The layout plan of proposed development is given in Figure 1

FIGURE 1: Layout Plan



3.0 DEFINITIONS AND ABBREVIATIONS

Building envelope: Building envelope is the exterior plus the semi-exterior portions of a building.
For the purposes of determining building envelope requirements, the classifications are defined as follows:

- Building envelope, exterior: the elements of a building that separate conditioned spaces from the exterior
- Building envelope, semi-exterior: the elements of a building that separate conditioned space from unconditioned space or that encloses semi-heated spaces through which thermal energy may be transferred to or from the exterior, or to or from unconditioned spaces, or to or from conditioned spaces.

Fenestration (Horizontal): Horizontal Fenestration is the area under a skylight, monitor, or saw-tooth configuration with an effective aperture greater than 0.001 (0.1%).

Fenestration (Vertical): Vertical Fenestration is the floor area adjacent to side apertures (vertical fenestration in walls) with an effective aperture greater than 0.06 (6%).

K-Value (Thermal Conductivity): The time rate of steady heat flow through a unit area of homogeneous material induced by a unit temperature gradient in a direction perpendicular to that unit area. Units of K are BTU-in / hr – ft2 – °F.

Projection factor, overhang: PF (overhang) is the ratio of the horizontal depth of the external shading projection divided by the sum of the height of the fenestration and the distance from the top of the fenestration to the bottom of the farthest point of the external shading projection, in consistent units.

Projection factor, side fin: PF (side fin) is the ratio of the horizontal depth of the external shading projection divided by the distance from the window jamb to the farthest point of the external shading projection, in consistent units.

Roof: Roof is the upper portion of the building envelope, including opaque areas and fenestration, that is horizontal or tilted at an angle of less than 60° from horizontal

R-Value (Thermal Resistance): R-Value is the reciprocal of the time rate of heat flow through a unit area induced by a unit temperature difference between two defined surfaces of material or construction under steady-state conditions. Units of R are m^2- ºC/W (h-ft2- ºF/Btu). For the prescriptive building envelope option, R- Value is for the insulation alone and does not include building materials or air films.

Shading Coefficient (SC): SC is the ratio of solar heat gain at normal incidence through glazing to that occurring through 3 mm (1/8 in) thick clear, double-strength glass. Shading coefficient, as used herein, does not include interior, exterior, or integral shading devices.

Solar Heat Gain Coefficient (SHGC): SHGC is the ratio of the solar heat gain entering the space through the fenestration area to the incident solar radiation, typically ranging from 0.9 to 0.1, where lower values indicate lower solar gain. Solar heat gain includes directly transmitted solar heat and absorbed solar radiation, which is then reradiated, conducted, or convected into the space.

U-Value (Thermal Transmittance): U- value is heat transmission in unit time through unit area of a material or construction and the boundary films, induced by unit temperature difference between the environments on each side. Unit of U are $W/m^2 – {}^oC$ ($Btu/h\text{-}ft^{2o}F$).

Visible Light Transmittance (VLT): VLT is also known as the Visible Transmittance, is an optical property of a light transmitting material (e.g. window glazing, translucent sheet, etc.) that indicates the amount of visible light transmitted of the total incident light.

Wall: Wall is that portion of the building envelope, including opaque area and fenestration that is vertical or tilted at an angle of 60° from horizontal or greater. This includes above and below-grade walls, between floor spandrels, peripheral edges of floors, and foundation walls.

Window Wall Ratio (WWR): WWR is the ratio of vertical fenestration area to gross exterior wall area. Gross exterior wall area is measured horizontally from the exterior surface; it is measured vertically from the top of the floor to the bottom of the roof.

4.0 METHODOLOGY

The objective of this report is to analyse the annual energy consumption patterns of the proposed case and compare it with the baseline as per the ECBC 2007 & 2017. For doing so, the whole-building performance method has been used and the simulations were performed according to the ECBC 2007 & 2017guideline for whole-building performance method.

In order to analyse performance of proposed design, analysis was performed considering Climate, Orientation of building, Site Context, Building Material, Daylight & Natural Ventilation, Fenestration and Thermal Comfort of the occupant. The Energy conservation measures were considered in proposed design considering various factors such as on building envelope, usage of artificial lighting, Electrical appliances used in the project and HVAC System proposed for project in order to reduce the annual energy usage. Annual energy usage was derived by performing hourly simulations by using approved energy simulation software.

5.0 ABOUT THE SOFTWARE

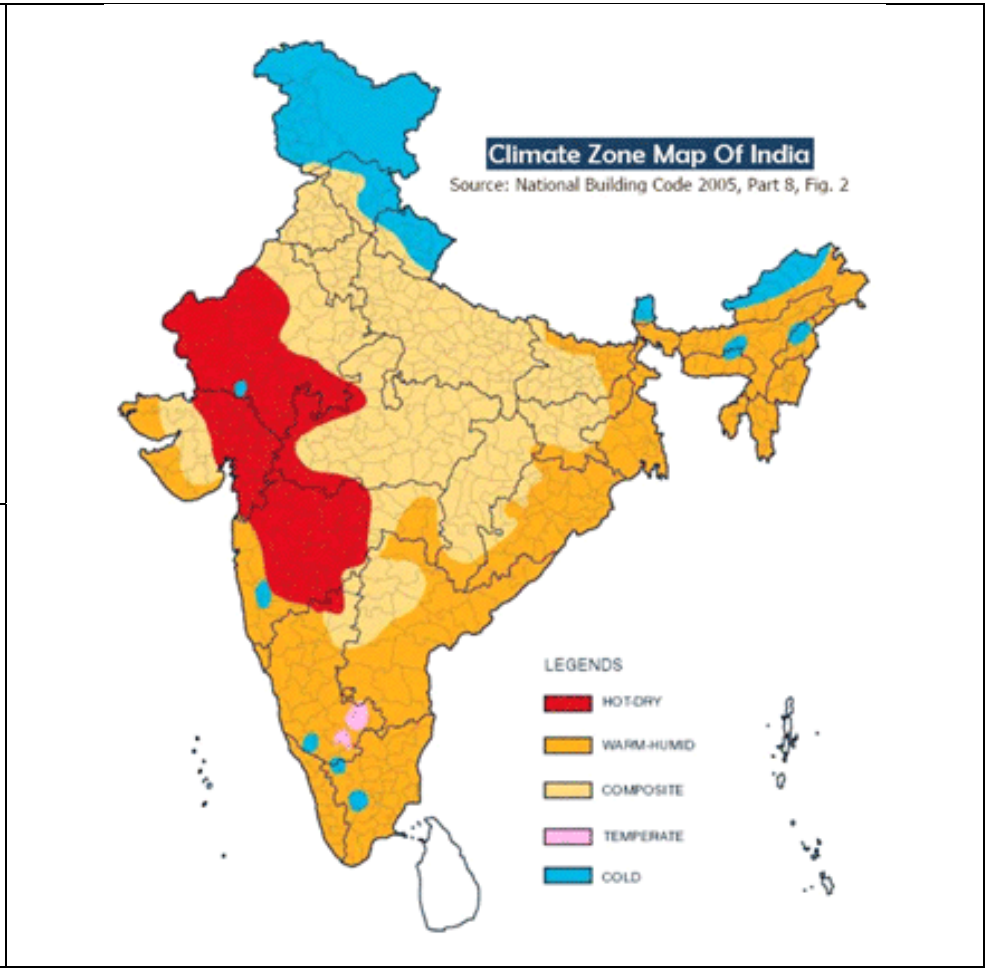
The simulation program used for modelling the project is eQuest V3.65. This software is based on DOE 2.2 engine and has the below capabilities:

- Analysis for 8,760 hours
- Hourly variations in occupancy, lighting loads, misc. loads, HVAC
- Ability to schedule hourly profiles for each day of week and holidays
- Thermal mass effects
- Part load performance curves for mechanical equipment
- Ability to model baseline building design characteristics for section ASHRAE 90.1 Appendix G.
- Ability to simulate parametric runs for multiple energy efficiency measures
- Ability to perform hourly load calculations to determine required equipment capacities and air and water flow rates.
- Perform simulation using a representative weather file specific to a location.

6.0 CLIMATE ZONE

The proposed project comes under Hot and Dry Zone as per ECBC 2007 & 2017 Climate zone map of India is given in next page

Figure 2: Climate Zone Map



7.0 BASECASE DESCRIPTION

For envelope components, ECBC sets requirements for roof, opaque walls; fenestration and skylights. The Baseline specifications to be considered for ECBC for envelope of the building shall be as follows:

Roof

Table 1: Showing Baseline Roof Assembly U-factor and R- value Requirement

Climate Zone	24 hour use building hospitals, Hotels, Call centres etc		Daytime use buildings other building types	
	Maximum U factor of the overall assembly (W/m^2 K)	Minimum R value of insulation alone (m^2 K/W)	Maximum U factor of the overall assembly (W/m^2 K)	Minimum R value of insulation alone (m^2 K/W)
Composite	0.261	3.5	0.409	2.1
Hot and Dry	0.261	3.5	0.409	2.1
Warm and humid	0.261	3.5	0.409	2.1
Moderate	0.261	2.1	0.409	2.1
Cold	0.261	3.5	0.409	2.1

(Source: Table 4.1, Pg. 7, Roof assembly –factor and Insulation R – value Requirements, Energy Conservation Building Code, 2007)

Opaque Walls

Table 2: Showing Baseline Wall Assembly u-factor and R-value Requirements

Climate Zone	hospitals, Hotels, Call centres etc (24 hrs)		Daytime use buildings other building types	
	Maximum U factor of the Wall assembly (W/m^2 K)	Minimum R value of insulation alone (m^2 K/W)	Maximum U factor of the wall assembly (W/m^2 K)	Minimum R value of insulation alone (m^2 K/W)
Composite	0.440	2.10	0.440	2.1
Hot and Dry	0.440	2.10	0.440	2.1
Warm and humid	0.440	2.10	0.440	2.1
Moderate	0.440	2.10	0.440	2.1
Cold	0.0369	2.20	0.352	2.35

(Source: Table 4.2, Pg. 8, Wall assembly –factor and Insulation R – value Requirements, Energy Conservation Building Code, 2007)

Vertical Fenestration

Table 3: Showing Baseline Vertical Fenestration U-Factor and SHGC Requirements

		WWR < 40%	40% < WWR <60 %
Climate	**Maximum U factor**	**Maximum SHGC**	**Maximum SHGC**
Composite	3.30	0.25	0.20
Hot and Dry	3.30	0.25	0.20
Warm and humid	3.30	0.25	0.20
Moderate	6.90	0.40	0.30
Cold	3.30	0.51	0.51

(Source: Table 4.3Pg. 8, Vertical Fenestration U-factor and SHGC Requirements Energy Conservation Building Code, 2007)

Description of Design Case

- The proposed design has the same building floor area, gross wall area and gross roof area as the base building. The occupancy for both the cases has been maintained at 24hr functional and their respective values are taken.
- The u-value for each envelope component in base case is has been derived from the values prescribed by ECBC as listed in Table 1& 2. The proposed design case u-values have been calculated from the assembly using values from ECBC**.**
- The SHGC value for each window component for base case has been derived from the values prescribed by ECBC as listed in Table 3. The proposed design case SHGC has been mentioned.

8.0 ENERGY PERFORMANCE ANALYSIS

For energy Performance analysis a virtual 3D model is generated as per proposed design. The proposed model is divided into several zones considering number of floors and activity of spaces, conditioning and unconditioned spaces, habitable spaces and non-habitable spaces as per the proposed design. Building height, Window to wall ratio proposed building materials and Fenestration details were assigned to the virtual 3D model as per design. Further each zone was assigned with different parameters such as Lighting Power Density, Lighting Schedules, Occupancy Pattern, Equipment load, Hot water Usage, HVAC System and schedules.

For energy performance analysis a baseline building as per the parameters described in ECBC 2007 was modelled. The building was simulated with actual orientation and again after rotating the entire Building by 90, 180 & 270 Degrees as described in ECBC 2007. The annual energy consumption was analyzed for the ECBC 2007.

Further, virtual 3D model is assigned with various energy conservation measures considered in order to reduce energy consumption. The annual energy consumption was analyzed by simulating building with actual orientation.

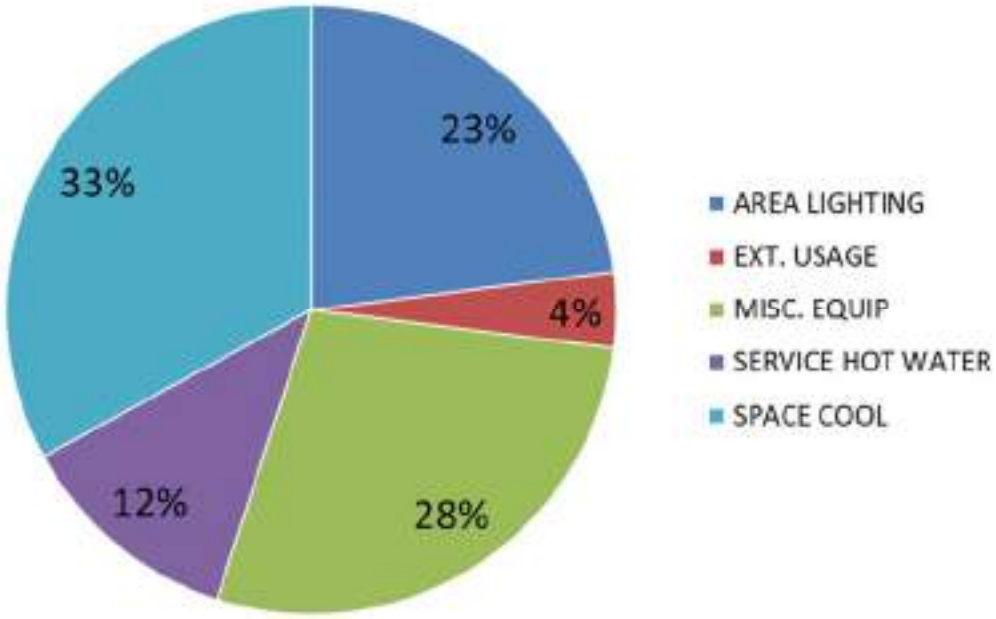
8.1 Design Parameter

Sr. No.	Input Parameter	Baseline Case (As per ECBC 2007 & 2017)			Proposed Case		
1	Exterior Wall Construction	U-factor: W/Sq.m.K	0.440		U-Value: W/sm.K	0.85	
2	Roof Construction	U Value: W/Sq.m.K	0.409		U-Value: W/sm.K	0.47	
3	Glazing	U Value:	3.30	W/sm.K	U Value:	4.60	W/sm.K
		SHGC:	0.25		SHGC:	0.42	
					VLT:	45%	
4	WWR	28%			30%		
5	Shading	No shades			Shading effect of solar panel on roof and shading devices on all facade is considered.		
6	EPD (W/sq.m.)	15			15		
7	Pumps & Motors	IE 1			IE 2		
8	LPD (W/sq.m.)	7.5			5.0		
9	Domestic Hot Water	20% on Solar			49 % on Solar		
10	HVAC System Type	Packaged Single Zone			Packaged Single Zone		
		(Split Unit) with COP 3.0.			(Split Unit) with COP 3.0		
11	Process Loads (kW)	As per Design			As per Design		
12	DG Set	CPCB Approved			CPCB Approved		
13	PF Correction	0.95			0.95		
14	Power Distribution Losses	< 1%			< 1%		

8.2 Base Case: ECBC 2007

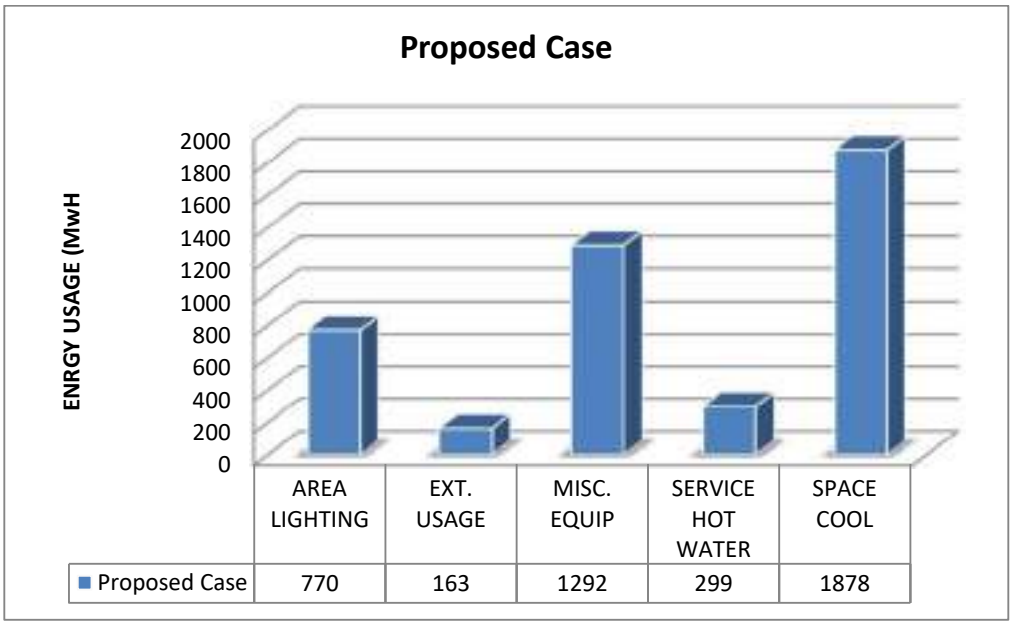
Based on the analysis the average annual energy usage consumption for ECBC 2007 mandated baseline is 4613 MWh. The EPI of Base case for ECBC 2007 mandated baseline is 91.25 kWh / Sq. m. / annum.

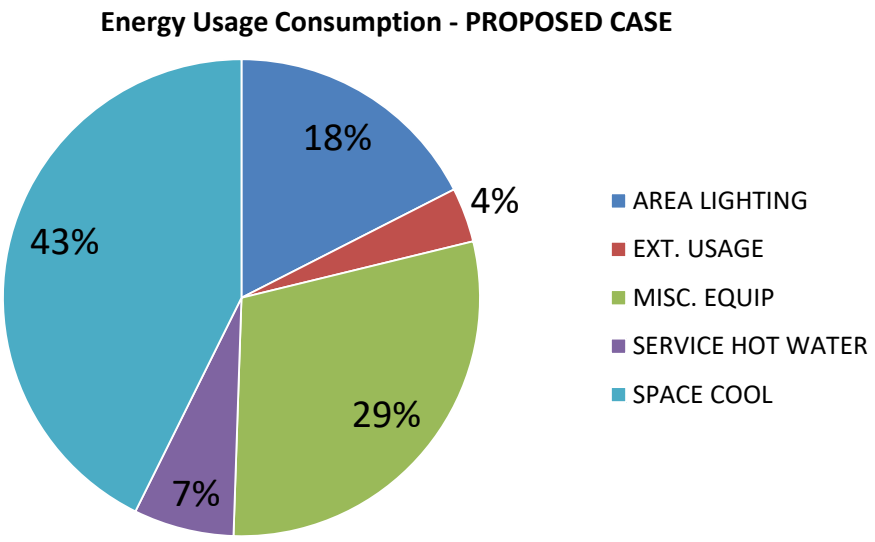
Energy Usage Consumption ECBC 2007 – BASECASE

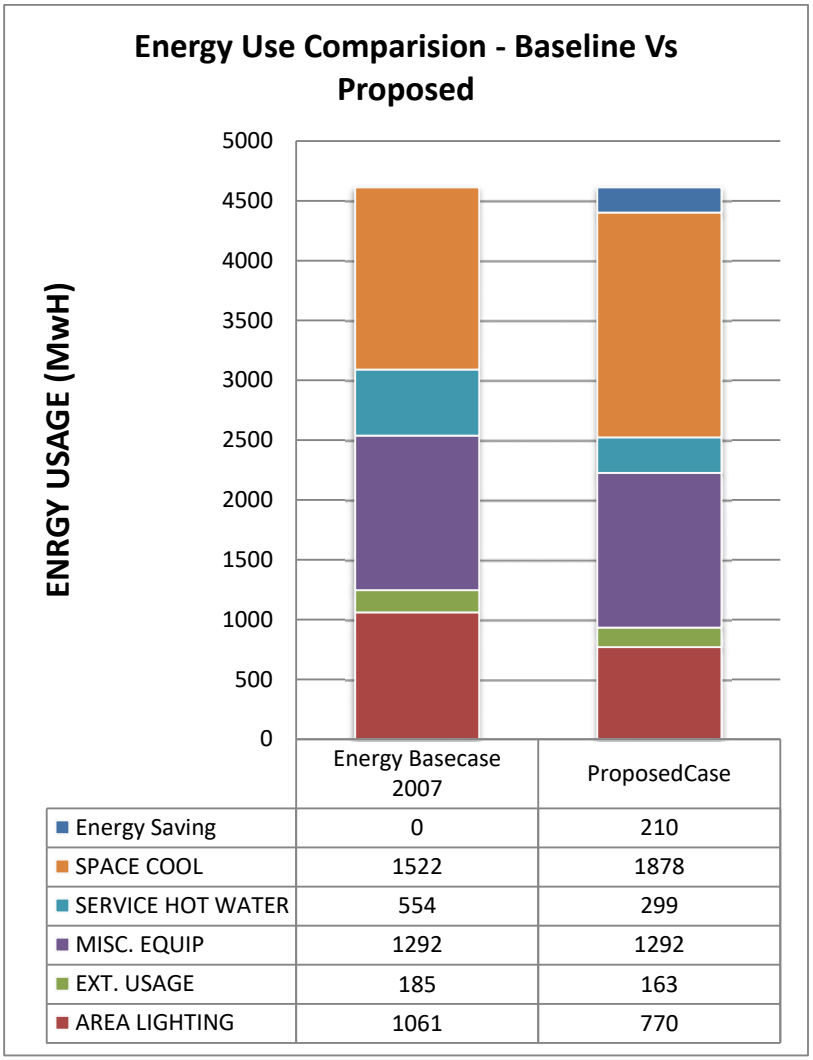


8.3 Proposed Case

Based on the analysis the average annual energy usage consumption for proposed case is 4403 MWh. The EPI of proposed case is 87.10 kWh / Sq. m. / annum.







	Energy Basecase 2007	ProposedCase
Energy Saving	0	210
SPACE COOL	1522	1878
SERVICE HOT WATER	554	299
MISC. EQUIP	1292	1292
EXT. USAGE	185	163
AREA LIGHTING	1061	770

With the proposed energy conservation measures the project is able to save 210 MWh annually (4.55 %)

9.0 SUMMARY

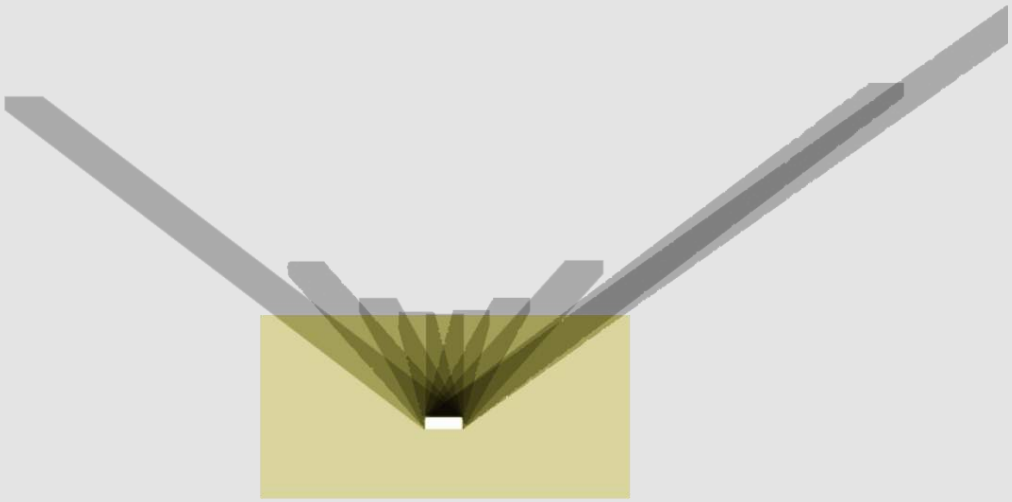
Objective of this report was to analyses annual energy consumption and to proposed Energy Conservation Measured (EMS) guided as per Energy Conservation Building Codes in order to reduce energy consumption and to achieve thermal comfort of occupant.

The EPI of Base case for ECBC 2007 mandated baseline is 91.25 kWh/Sq. m./annum. The EPI of proposed case is 87.10 kWh/ Sq. m. / annum. The EPI ratio against base case 2007 is 0.955. The energy saving over ECBC 2007 is 210 MWh annually (4.55 %)

2453

BRAHMA EXUBERANCE, PUNE

SHADOW ANALYSIS



538

Structure affects the surrounding environment based upon the sun's position (time of day), and the time of year. It can be either positive or negative depending upon the site specific circumstances.

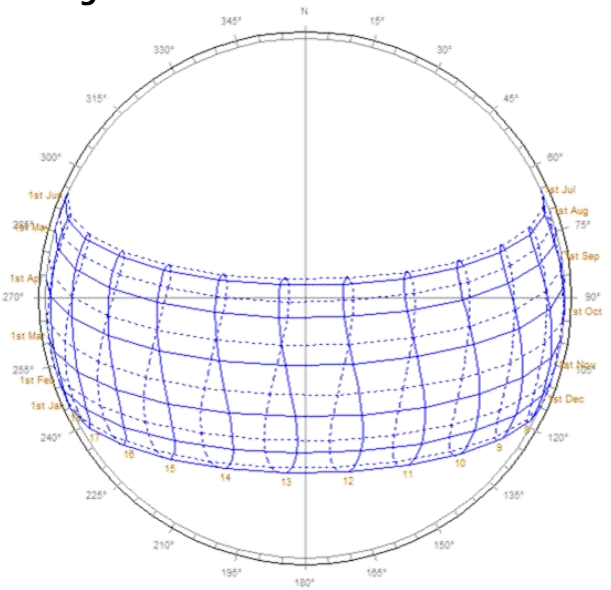
A potential benefit of shading for adjacent structures may be a cooling effect gained during warm weather.
Negative consequences of shading include the loss of natural light for passive or active solar energy applications or the loss of warming influences during cool weather.

Shading analysis is one of the most essential steps in phase of solar energy system design.

In photovoltaic it is important to analyze shading caused by surrounding objects and/or vegetation.

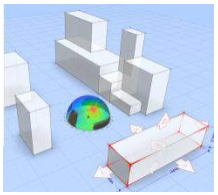
Sun path diagrams can tell you a lot about how the sun will impact your site and building throughout the year.

Sun path diagram

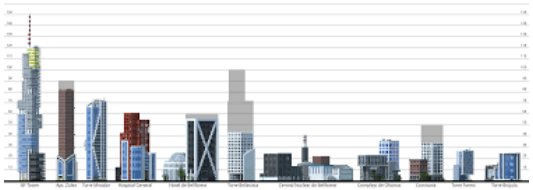


<u>Factors influencing the relative impact of shadow effects are:</u>

Location of the site and Surroundings



Height and bulk of the structure



Climatic condition

Adjacent land use

2455

Aim

The aim of the study is to assess the potential impact of the development with respect to sunlight and shadow analysis.

Objective

To study effect of proposed structure shadows on surrounding
To study and understand mutual shading effect caused by proposed building.
To assess the impact of physical obstructions affect the access to direct solar access.

Methodology

Autodesk Ecotect analysis 2010 is used for performing solar analysis of the project.

To determine impacts of the proposed project structures, the 3D virtual model of the proposed building and surrounding structures were created in the software. Actual weather file of **Pune** were used for the simulation.

Shadow mask

A shading mask is simply a mechanism for recording which parts of the sky are visible from a particular point in the model and which are not.

For any given set of obstructions, this information can be overlaid on a sun-path diagram to show when in the year the point is in shade or not.

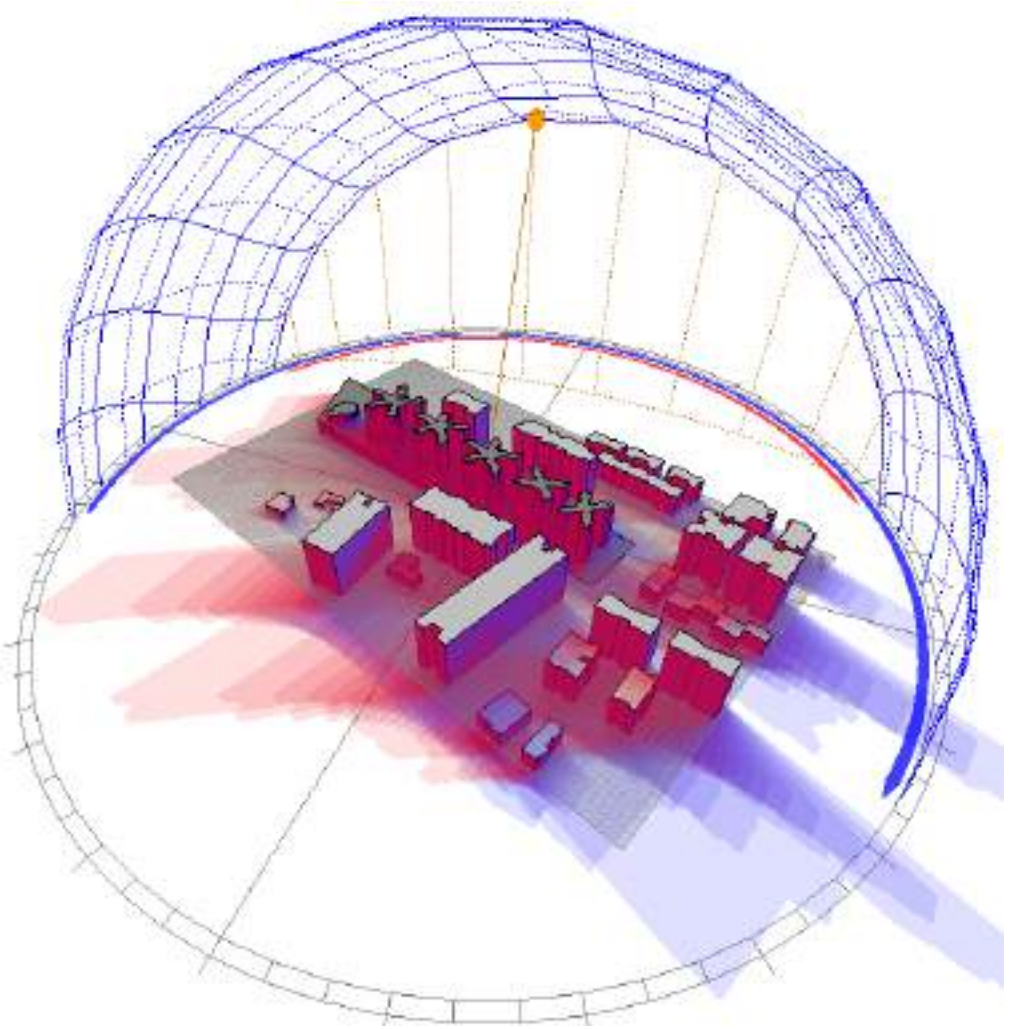


Fig 2.1. Site showing Proposed buildings and Surrounding buildings with sun path

540

2456

Location	Pune
Project Name	Brahma Exuberance

Fig 3.1. Site location on Google maps

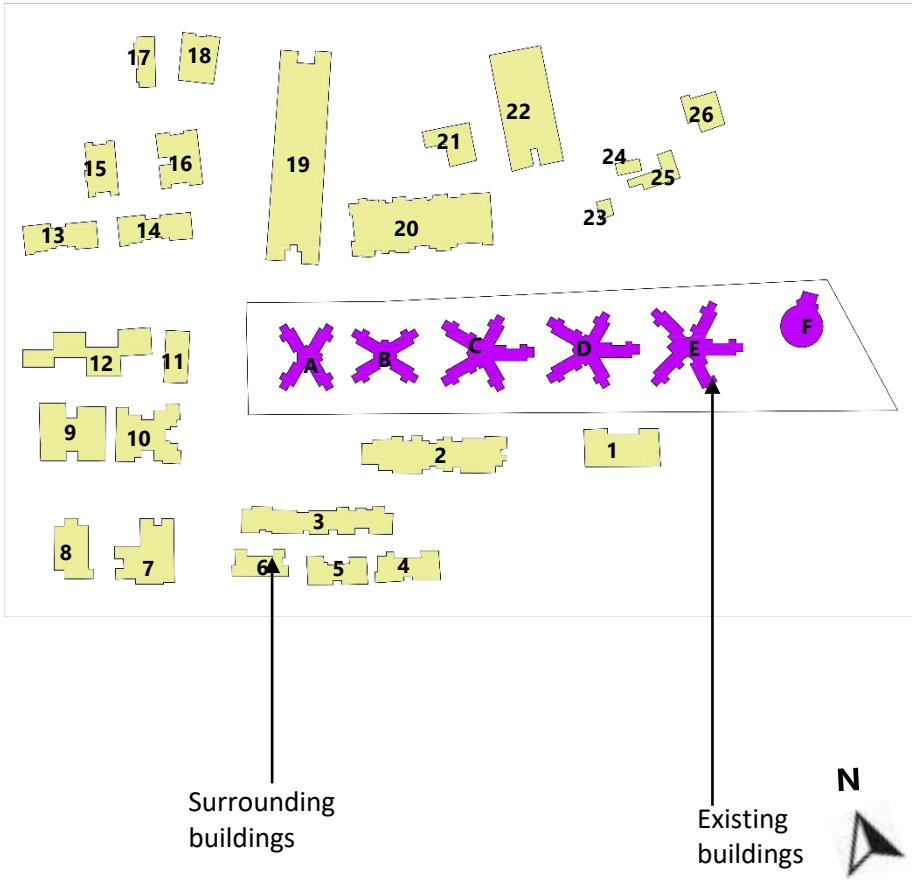


Fig 3.2. Site showing proposed buildings and surrounding buildings

Existing buildings Surrounding Buildings

2457

Surrounding Building

ID	Building Configuration	Height(m)
1	G+10	33
2	G+11	36
3	G+5	18
4	G+4	15
5	G+4	15
6	G+5	18
7	G+5	18
8	G+5	18
9	G+11	36
10	G+11	36
11	G+3	12
12	G+3	12
13	G+11	36
14	G+11	36
15	G+7	24
16	G+7	24

Table 4.1. Table showing building name, configuration and total height of surrounding building

542

2458

Surrounding Building

ID	Building Configuration	Height(m)
17	G+3	12
18	G+3	12
19	G+11	36
20	G+11	36
21	2P+1	9
22	G+11	36
23	G	3
24	G	3
25	G	3
26	G+1	6

Table 4.2. Table showing building name, configuration and total height of surrounding building

543

2459

Existing Building

ID	Building Configuration	Height(m)
A	LP + P +11 floors	34.90
B	LP + P +11 floors	34.90
C	LP + P +11 floors	34.90
D	LB + LP + P + 11 floors	34.90
E	LP + P +11 floors	34.90
Club House	G+ 1	6.00

Table 4.3. Table showing building name, configuration and total height of Existing building

2460

Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	From 8am-5pm

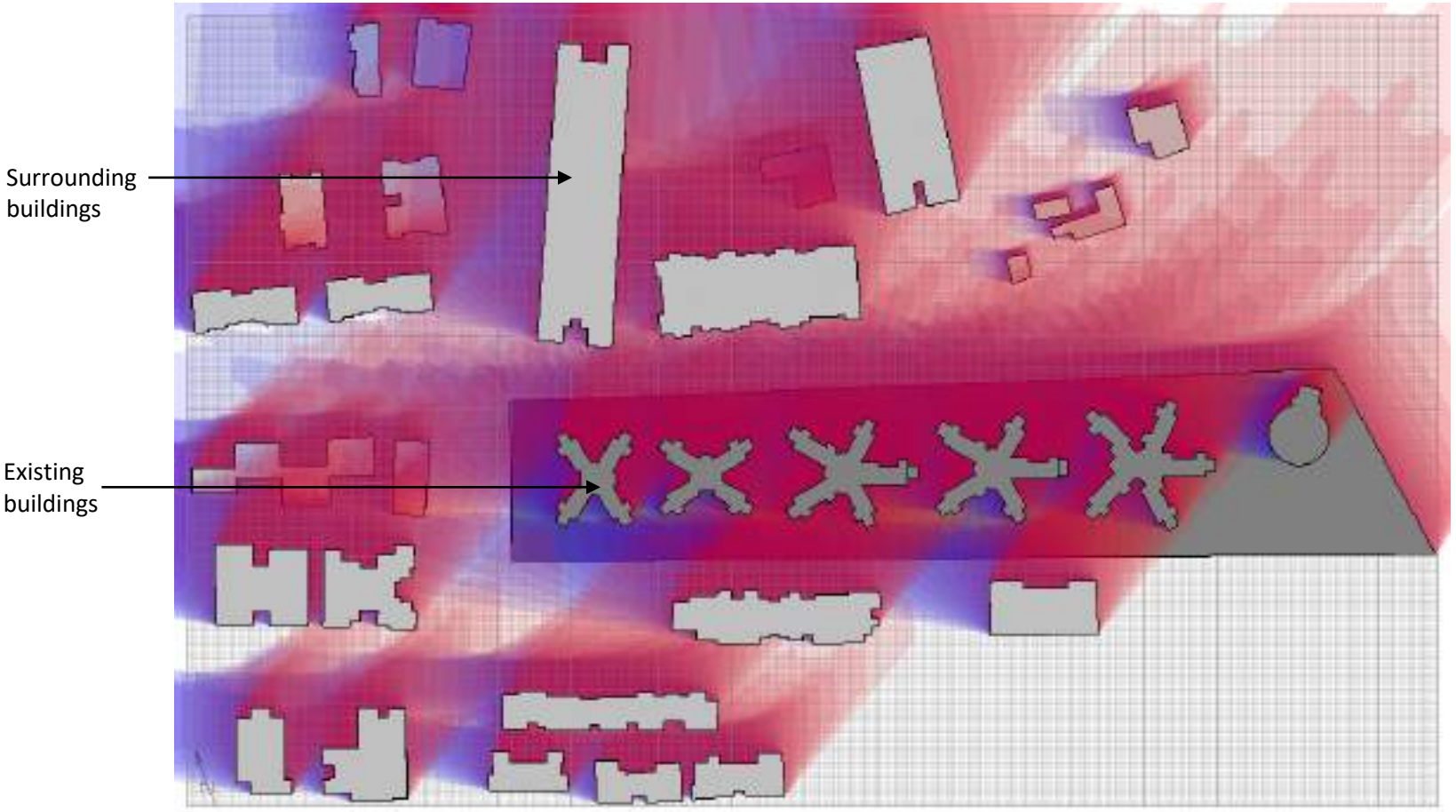
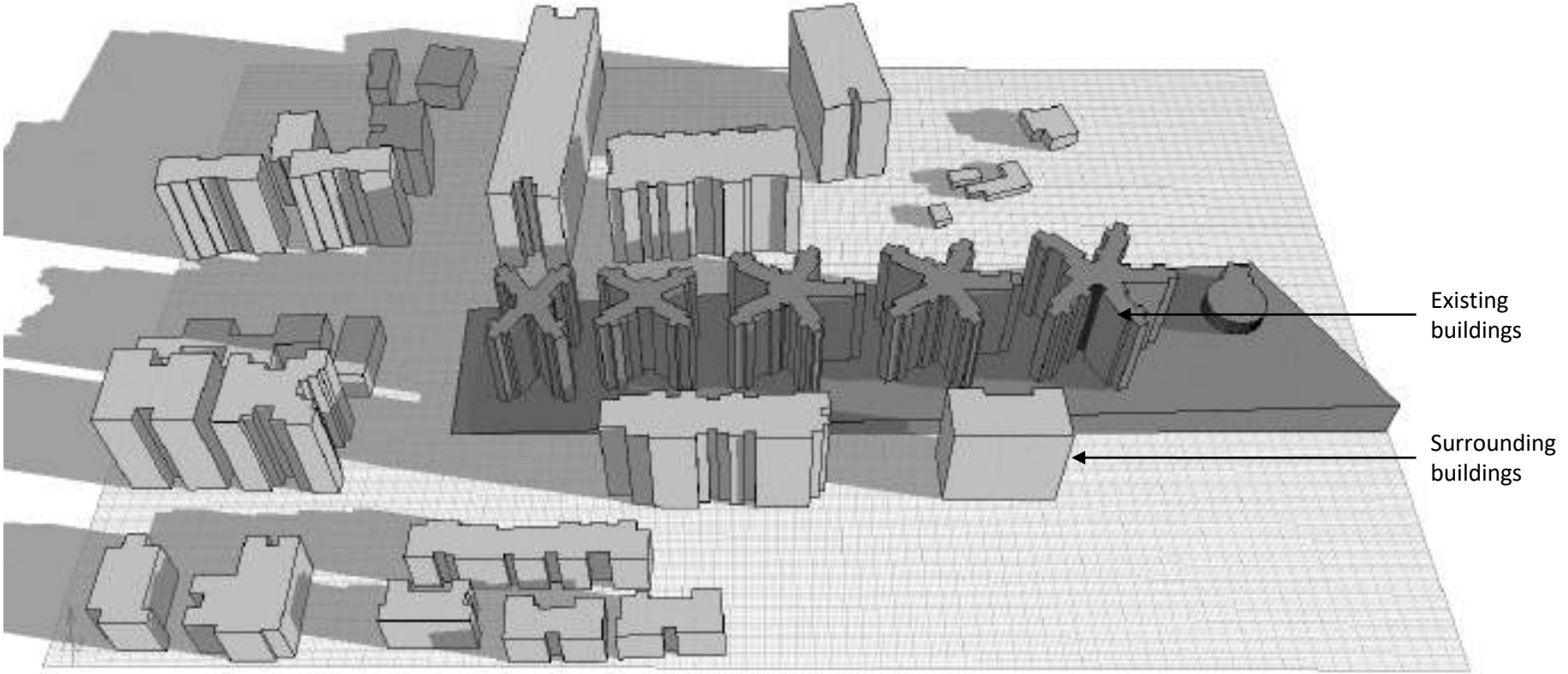


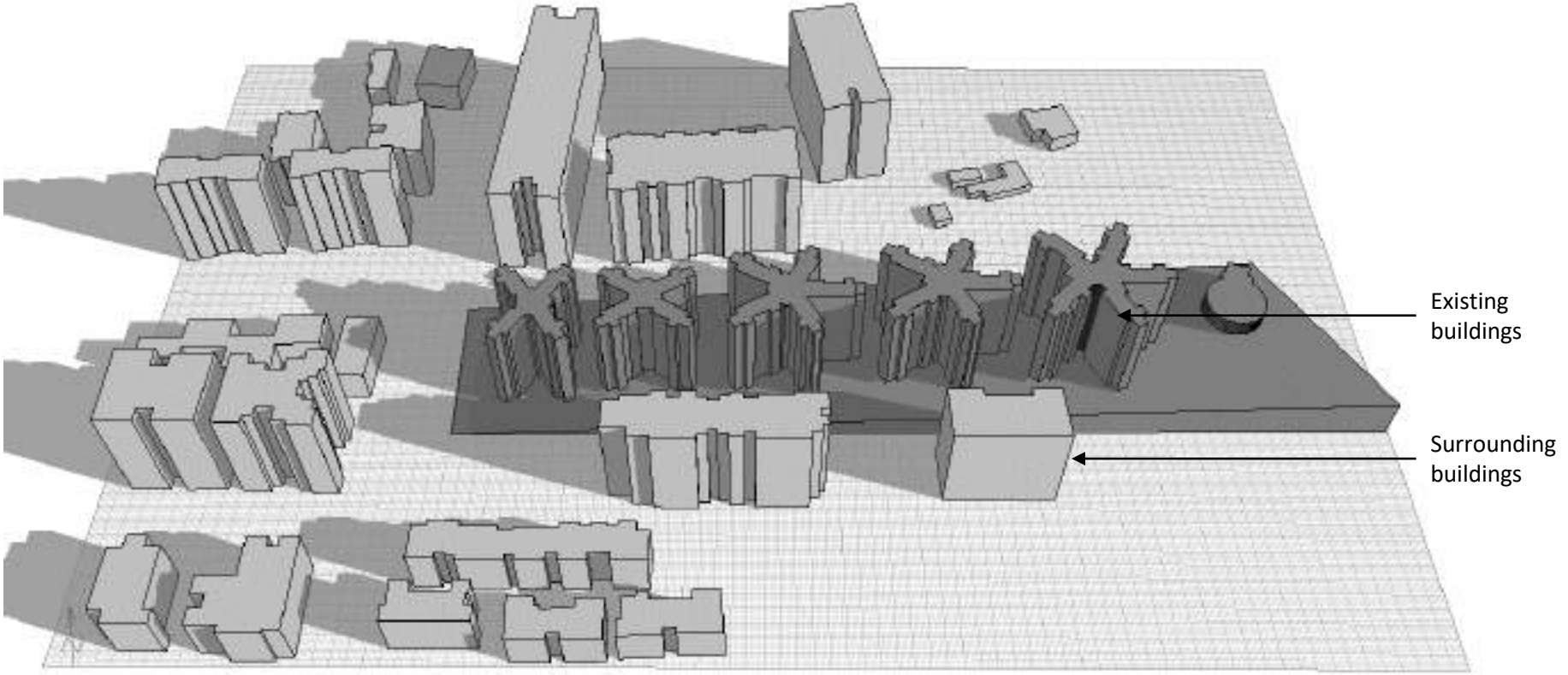
Fig 5.1. Shadow pattern has been analysed For 21st Dec from 8am-5pm

2461

Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	8am

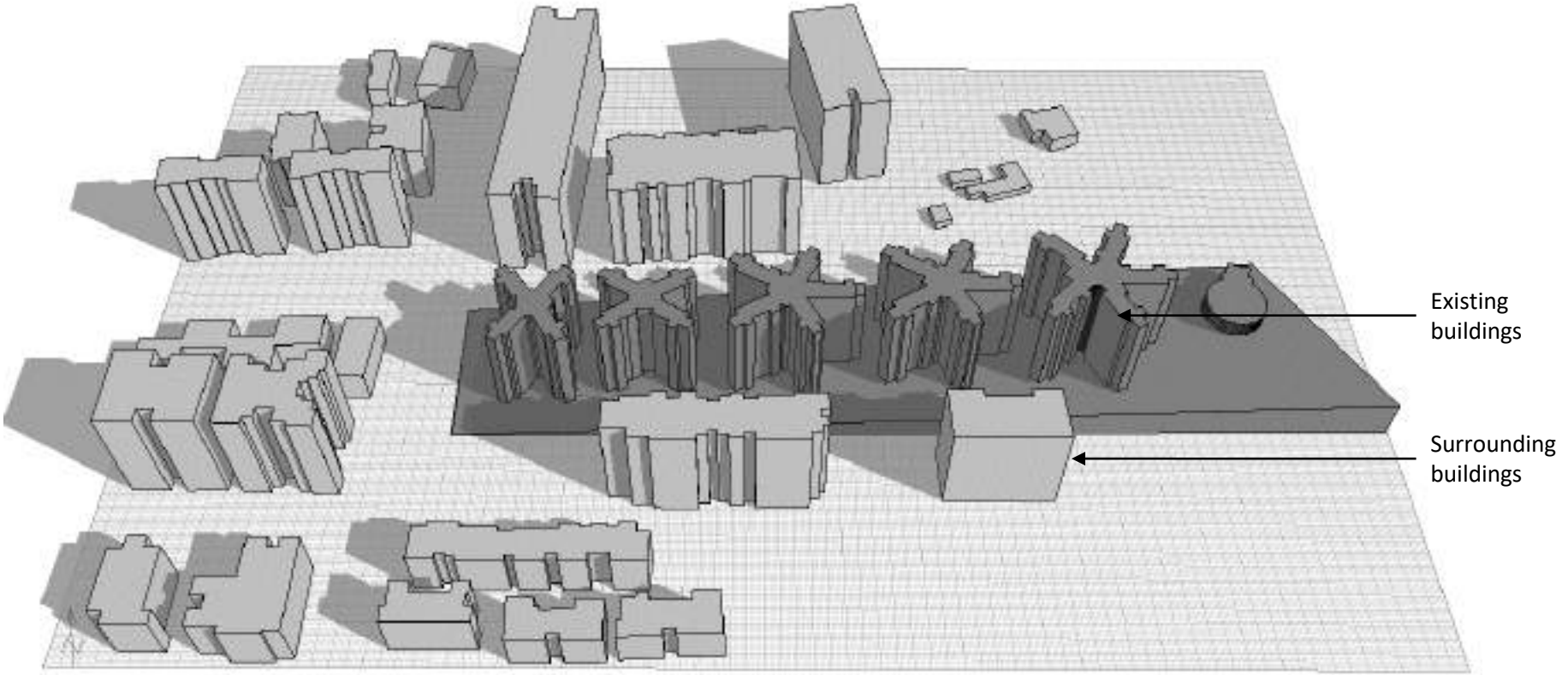


Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	9am

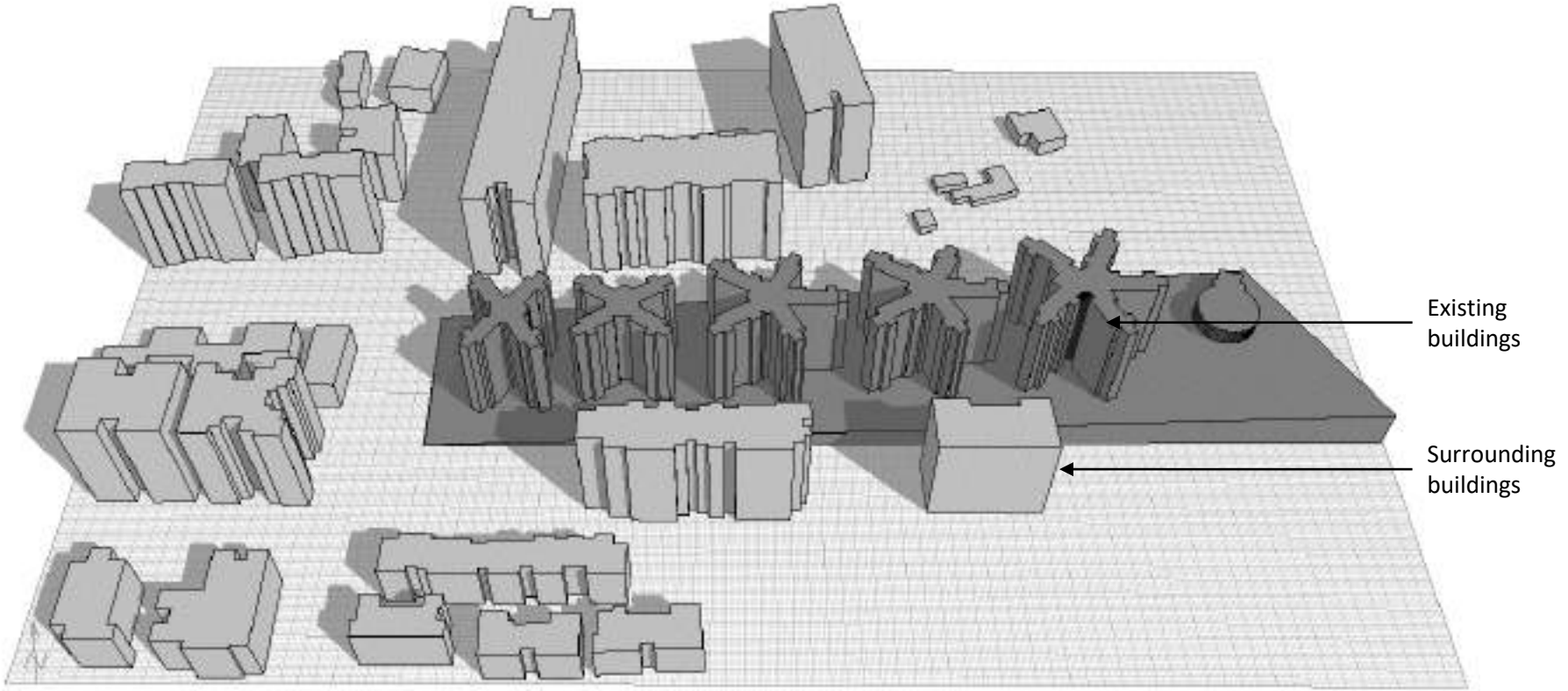


2463

Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	10am

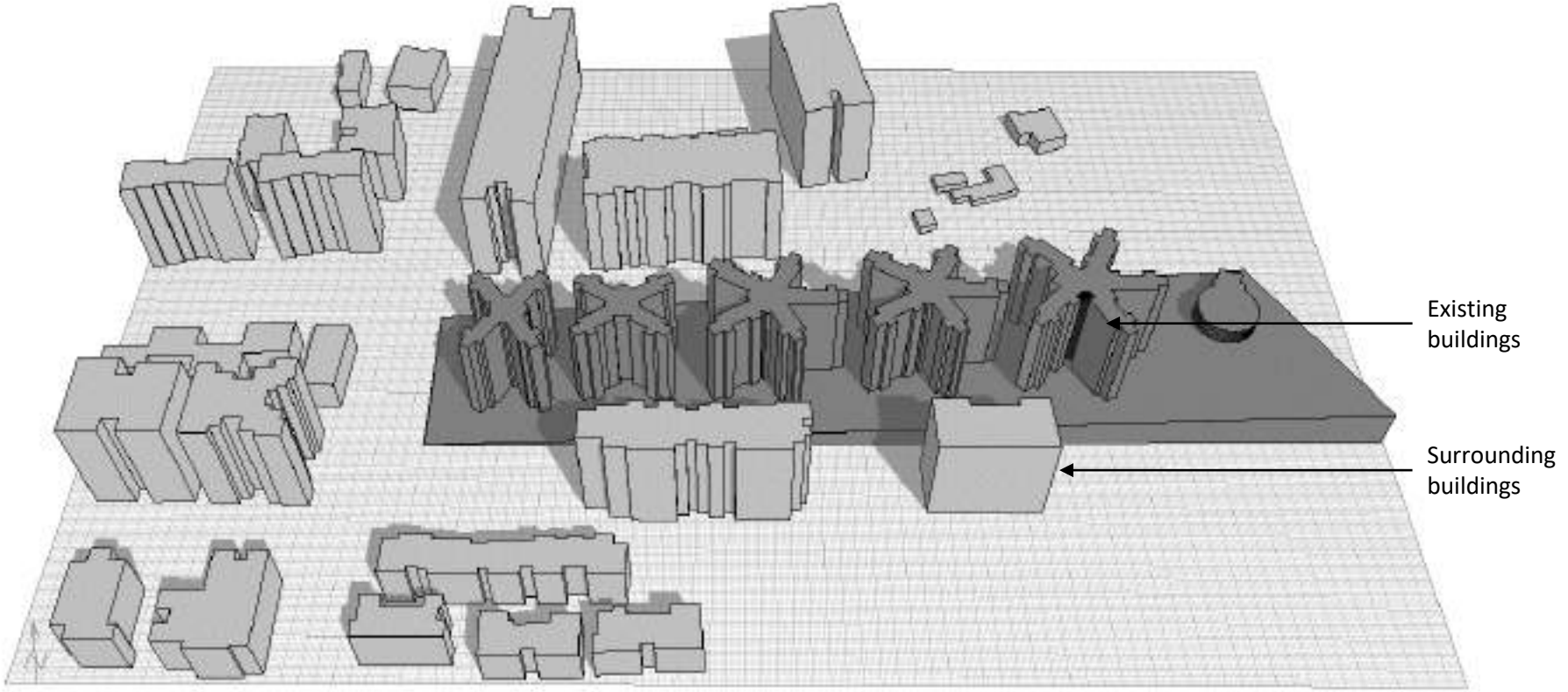


Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	11am



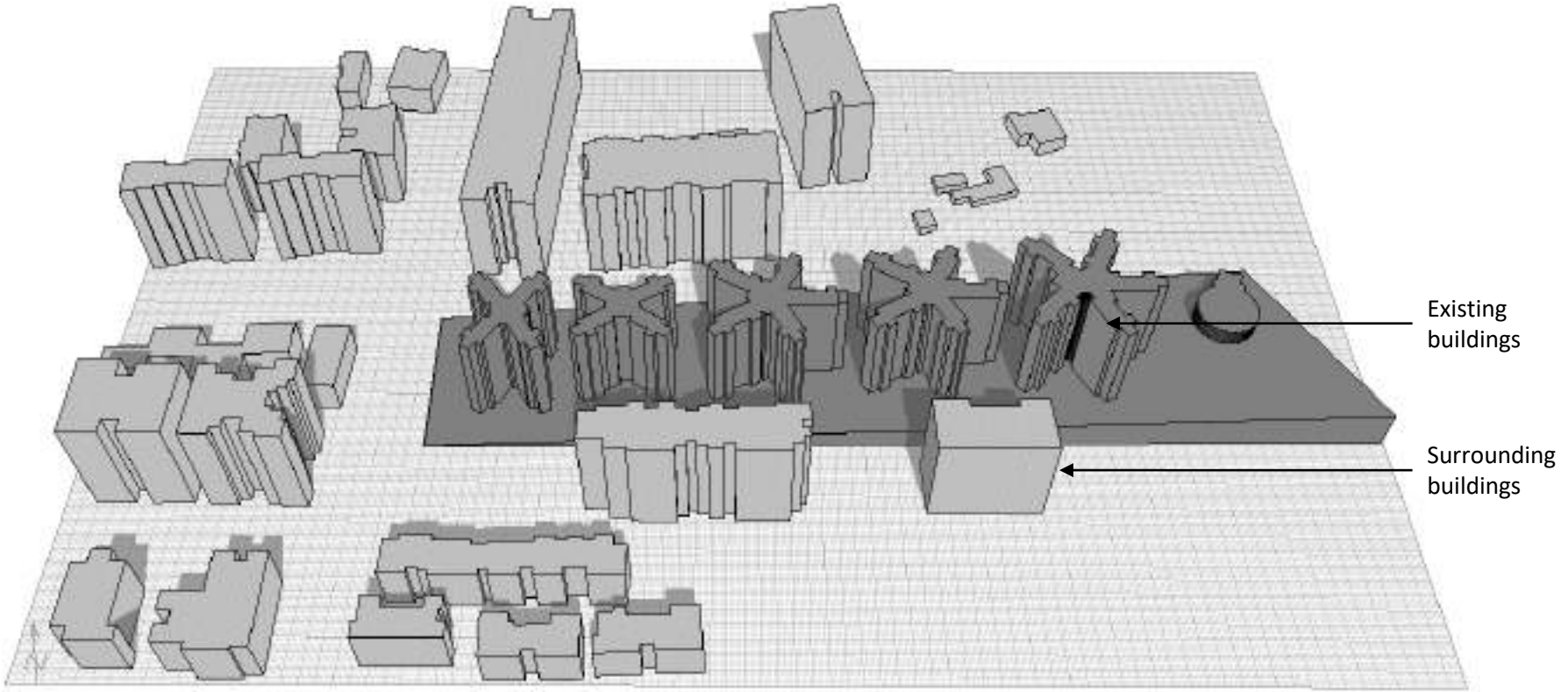
2465

Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	12pm



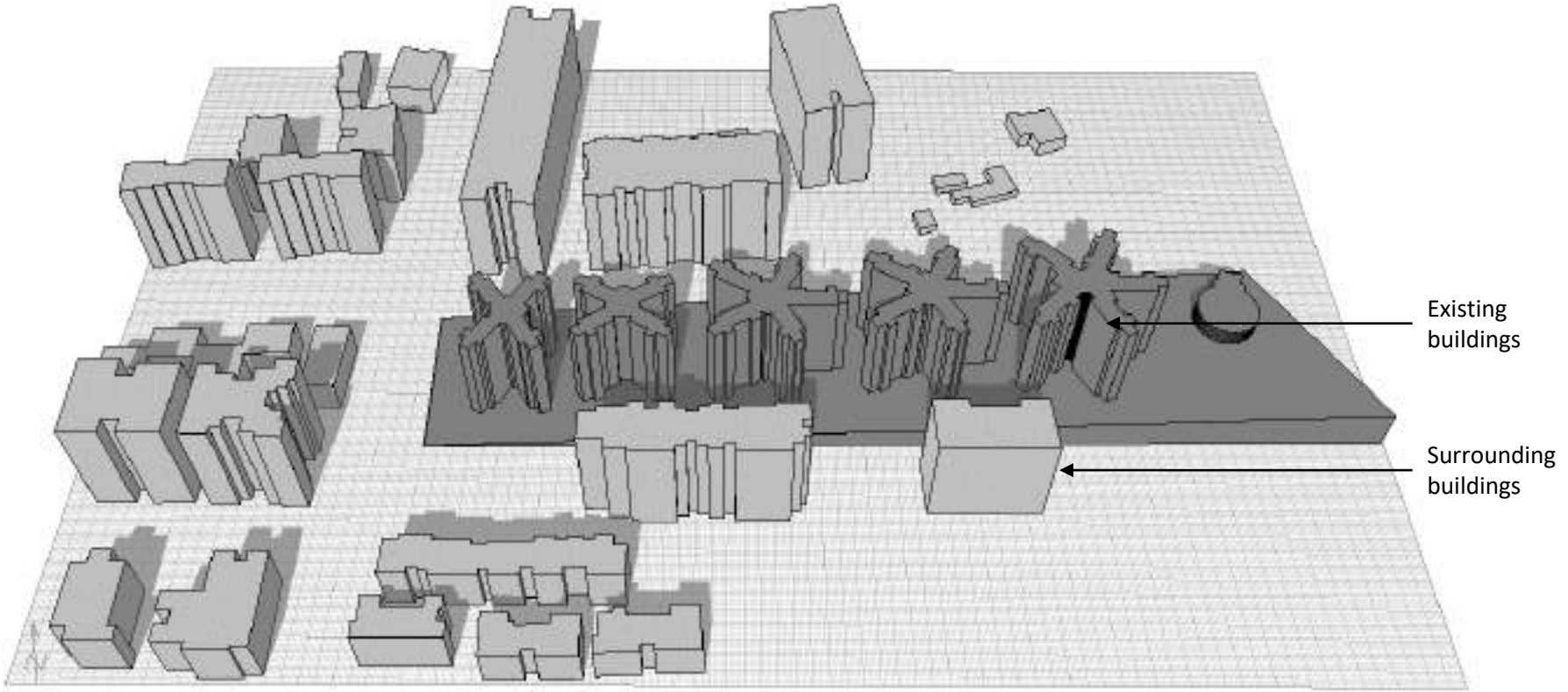
550

Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	1pm



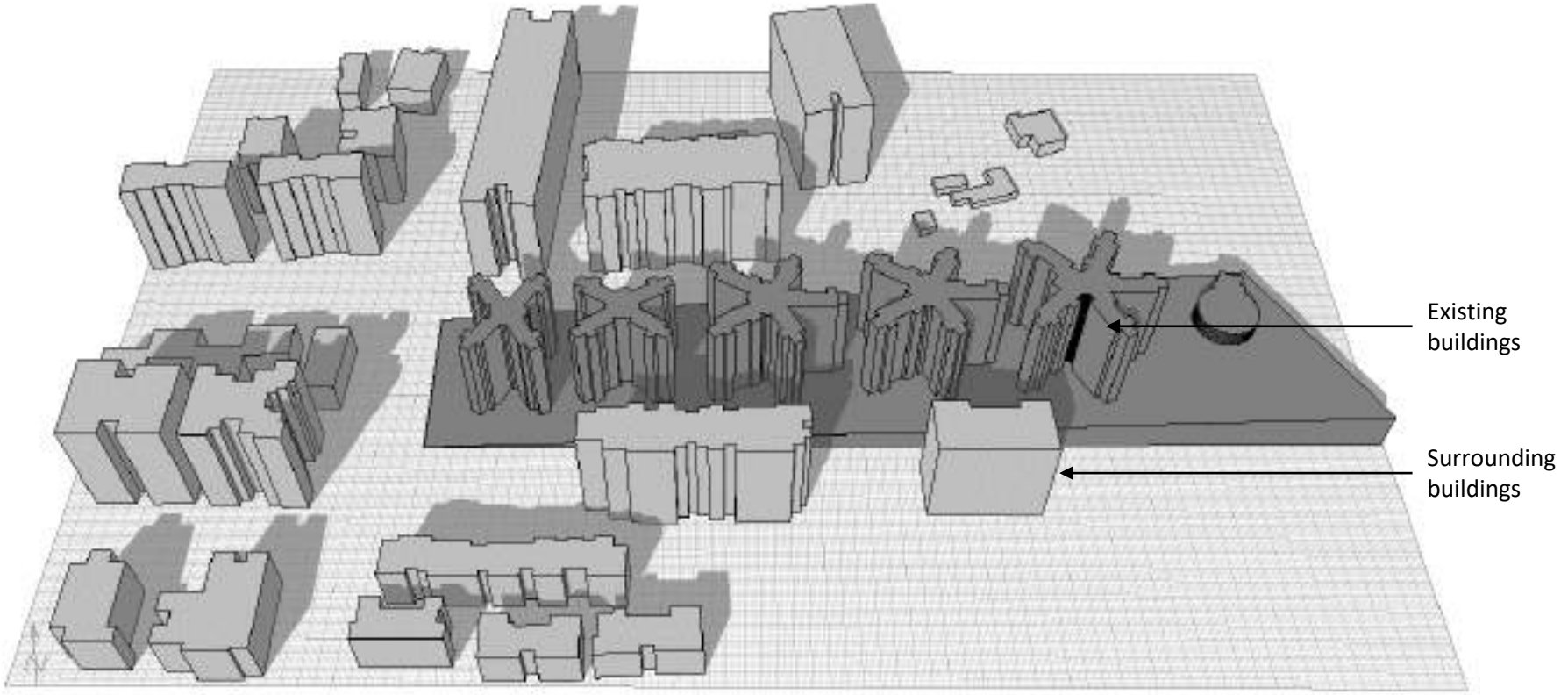
2467

Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	2pm



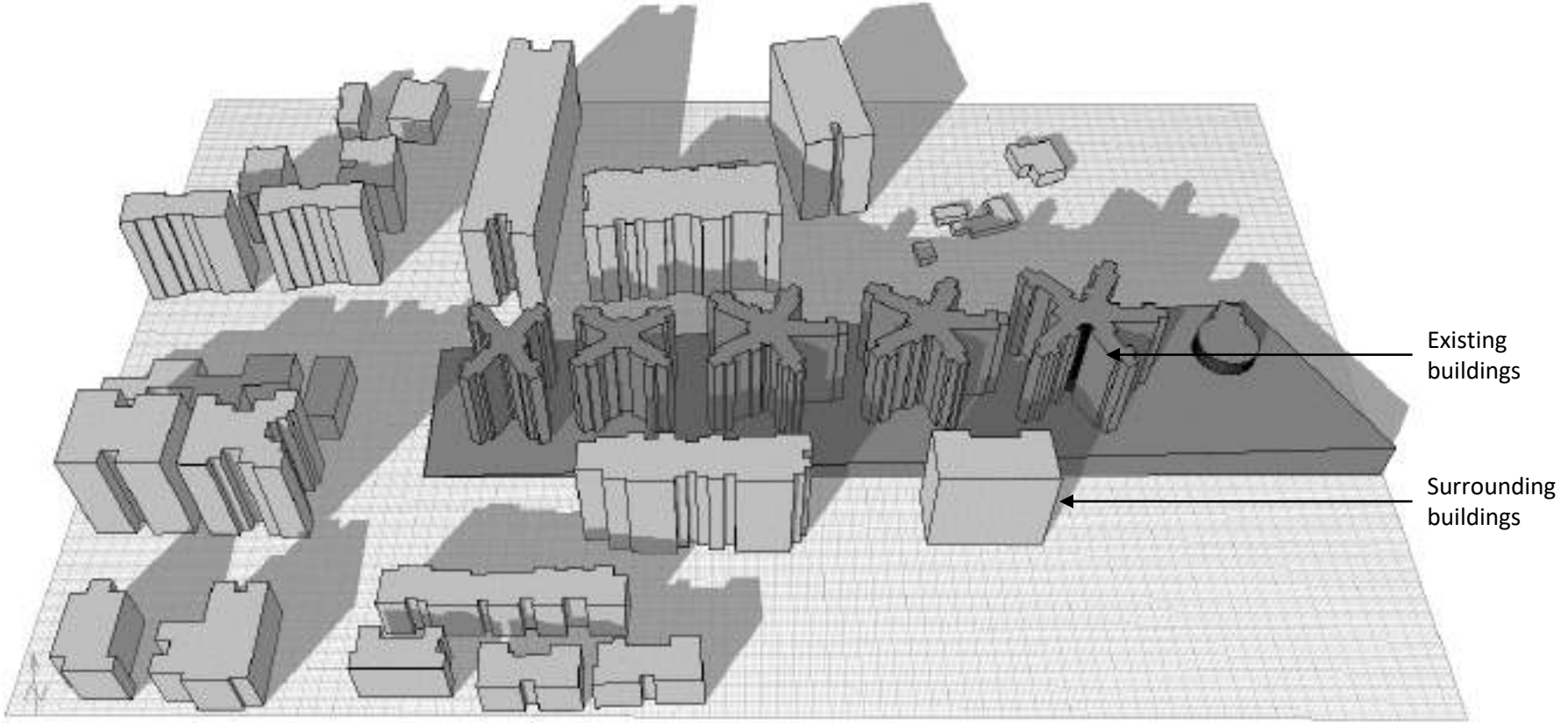
552

Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	3pm

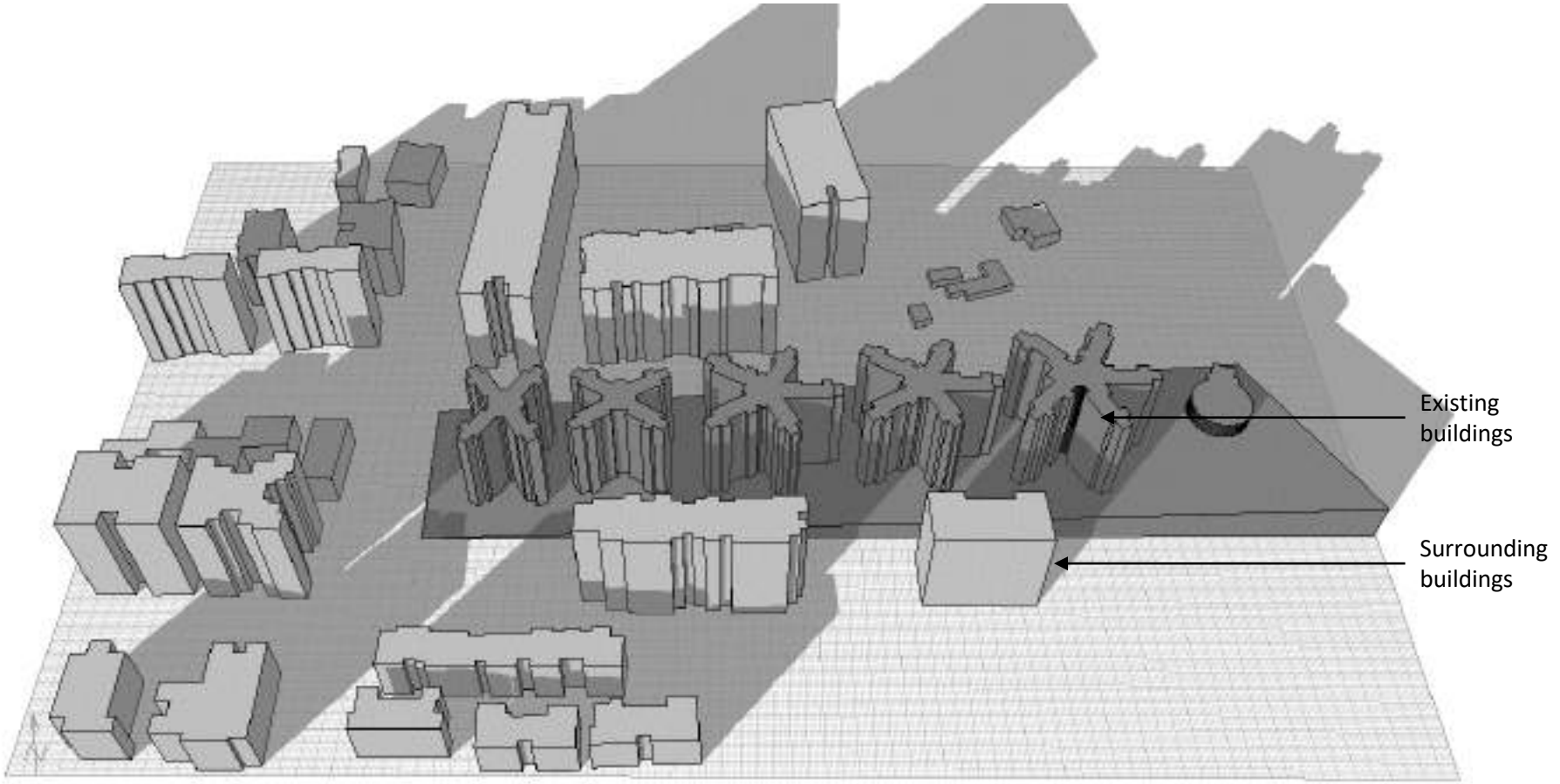


2469

Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	4pm



Latitude	18.52°N	**Elevation**	560m
Longitude	73.85°E	**Zone**	**5.5** (Hours ahead of GMT)
Date	21st Dec	**Time**	5pm



2471

Existing building shading impact on surrounding building

Shadow Impact						
No.	Building Configuration	Height(m)	Start time	End time	Impact hours	%
1	G+10	33	00.00	00.00	00.00	00
2	G+11	36	00.00	00.00	00.00	00
3	G+5	18	00.00	00.00	00.00	00
4	G+4	15	00.00	00.00	00.00	00
5	G+4	15	00.00	00.00	00.00	00
6	G+5	18	00.00	00.00	00.00	00
7	G+5	18	00.00	00.00	00.00	00
8	G+5	18	00.00	00.00	00.00	00
9	G+11	36	00.00	00.00	00.00	00
10	G+11	36	00.00	00.00	00.00	00
11	G+3	12	08.00	09.00	01.00	11
12	G+3	12	08.00	09.30	01.30	16
13	G+11	36	00.00	00.00	00.00	00
14	G+11	36	00.00	00.00	00.00	00
15	G+7	24	00.00	00.00	00.00	00
16	G+7	24	00.00	00.00	00.00	00

7.1 Table showing building name, configuration and total height, % shadow impact on buildings as per ID mark

Conclusion

Shadow analysis result shows that the impact is less than 40% on all the buildings as per BRE standards.

Proposed building shading impact on surrounding building

Shadow Impact						
No.	Building Configuration	Height(m)	Start time	End time	Impact hours	%
17	G+3	12	00.00	00.00	00.00	00
18	G+3	12	00.00	00.00	00.00	00
19	G+11	36	00.00	00.00	00.00	00
20	G+11	36	04.00	05.00	01.00	11
21	2P+1	9	00.00	00.00	00.00	00
22	G+11	36	00.00	00.00	00.00	00
23	G	3	03.00	05.00	02.00	22
24	G	3	03.30	05.00	01.30	16
25	G	3	04.00	05.00	01.00	11
26	G+1	6	04.00	05.00	01.00	11

7.2 Table showing building name, configuration and total height, % shadow impact on buildings as per ID mark

Conclusion

Shadow analysis result shows that the impact is less than 40% on all the buildings as per BRE standards.

2473

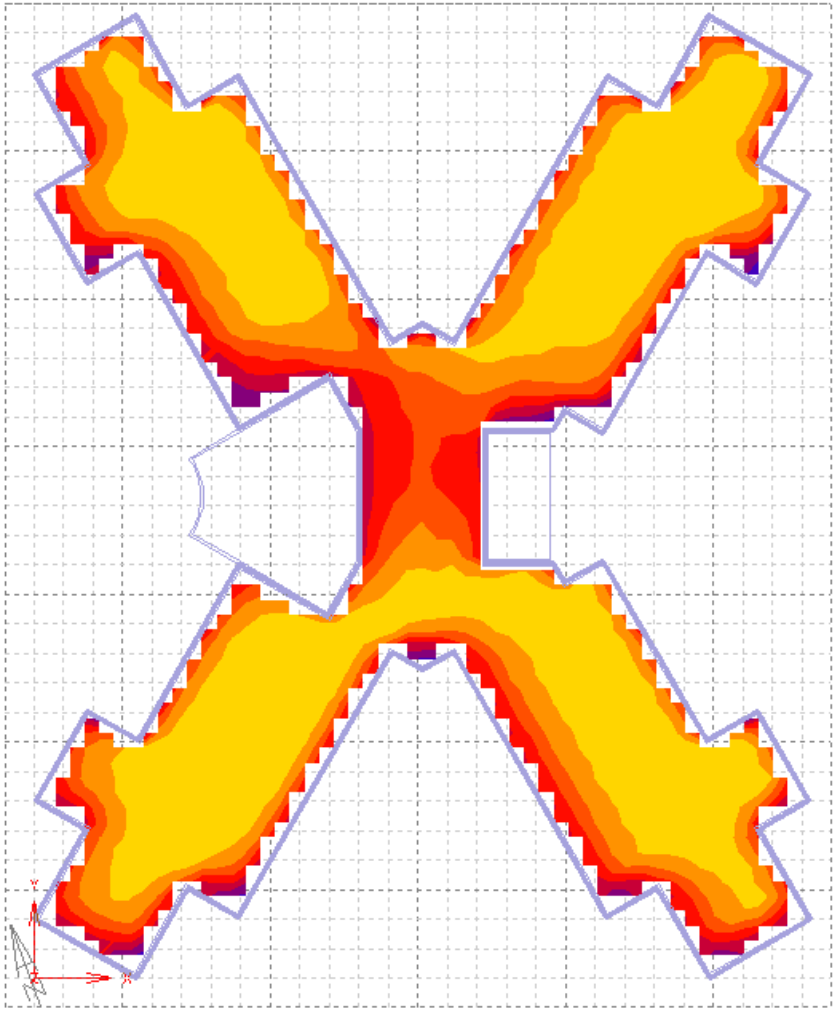
Mutual shading results of existing building

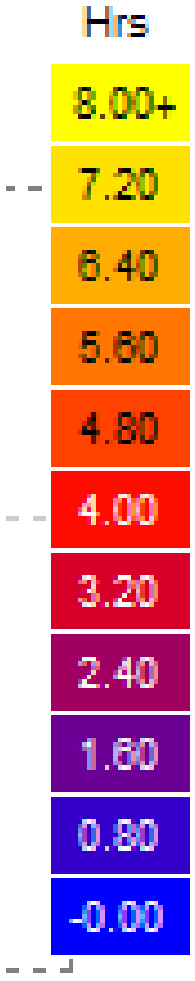
Shadow Impact						
No.	**Building Configuration**	**Height(m)**	**Start time**	**End time**	**Impact hours**	**%**
A	LP + P +11 floors	34.90	08.00	10.00	02.00	22
B	LP + P +11 floors	34.90	08.00	10.00	02.00	22
C	LP + P +11 floors	34.90	08.00	10.00	02.00	22
D	LB + LP + P + 11 floors	34.90	08.00	10.00	02.00	22
E	LP + P +11 floors	34.90	00.00	00.00	00.00	00
Club House	G+ 1	6.00	00.00	00.00	00.00	00

7.3 Table showing building name, configuration and total height, % shadow impact on buildings as per ID mark

Conclusion

Shadow analysis result shows that the impact is less than 40% on all the buildings as per BRE standards.





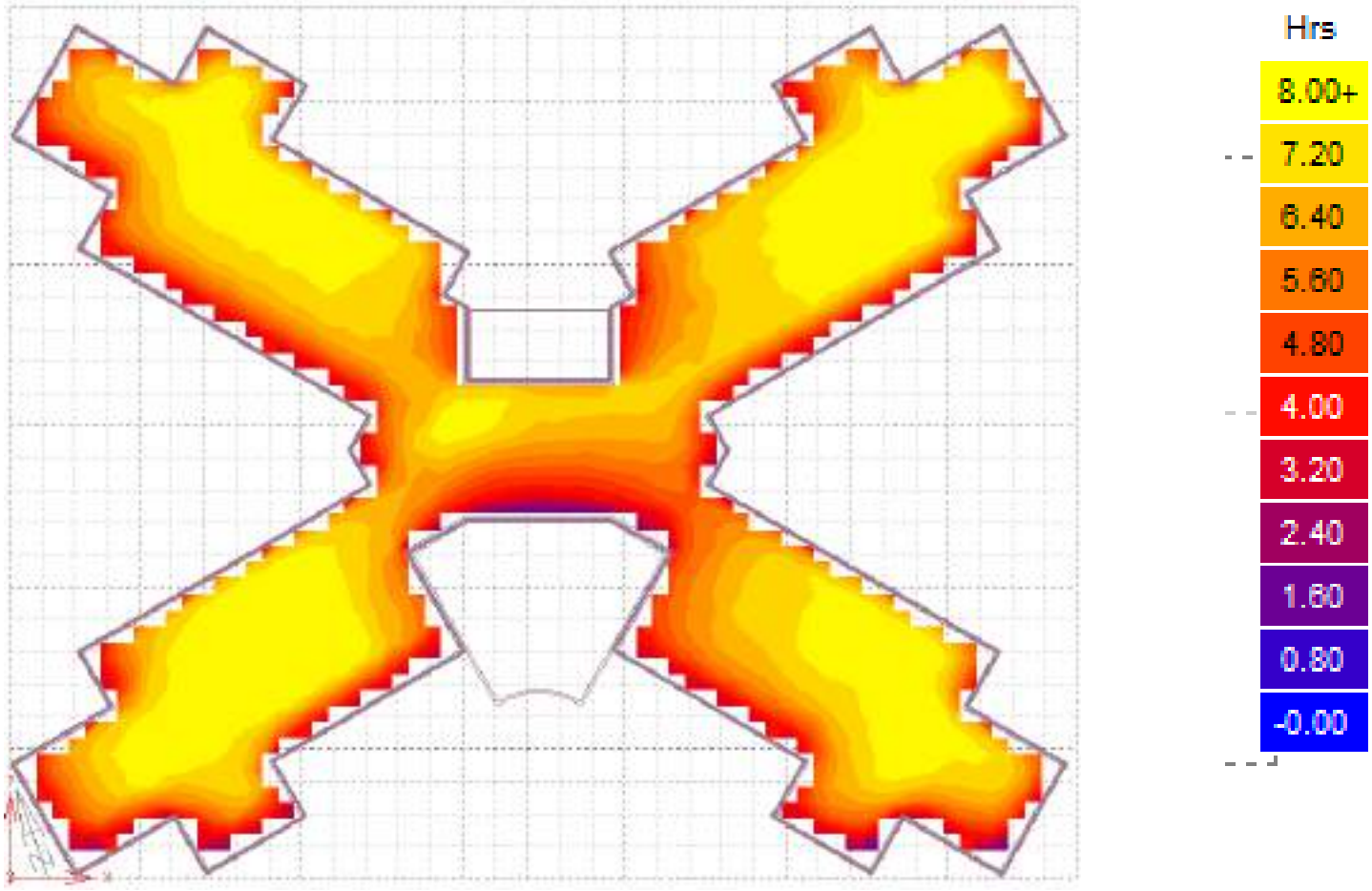
Existing building A

N

Conclusion

Shadow analysis result shows that 100% hot water demand is met and 3.40kWp Solar PV panels can be installed.

2475



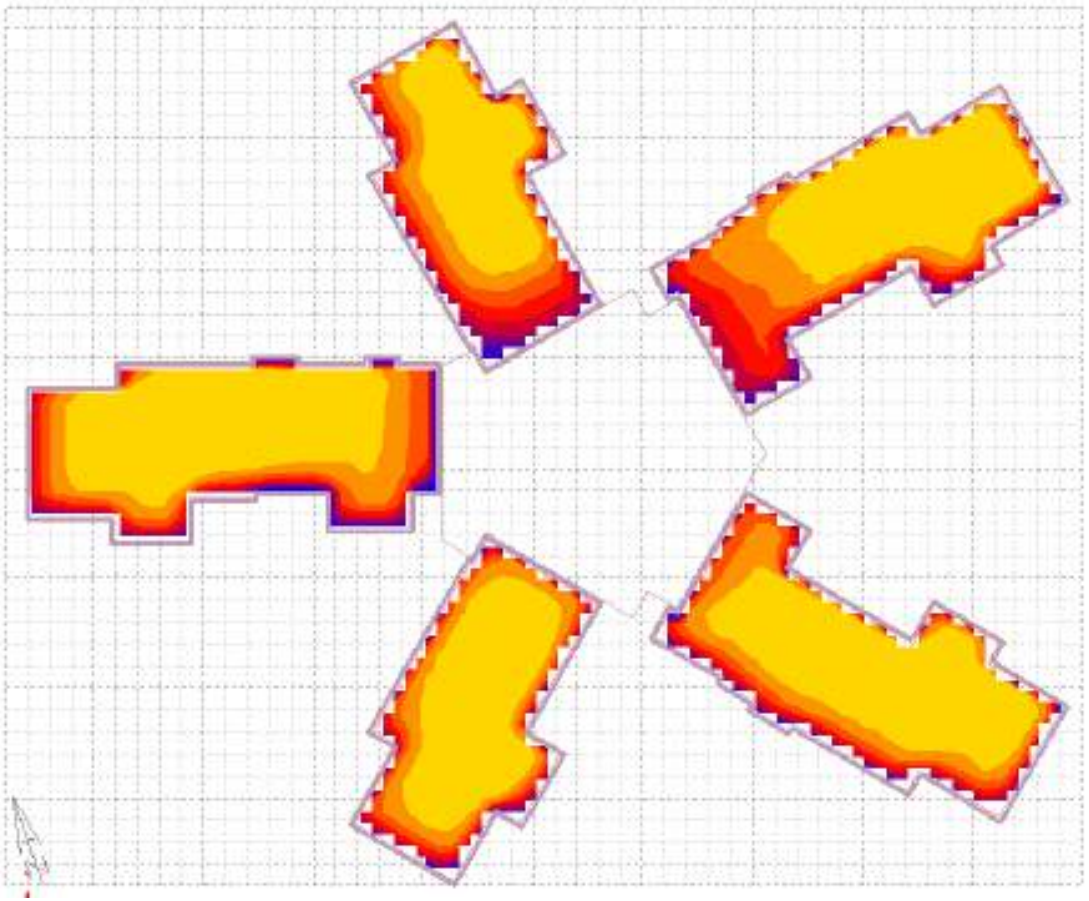
Existing building B

N

Conclusion

Shadow analysis result shows that 100% hot water demand is met and 1.43kWp Solar PV panels can be installed.

560



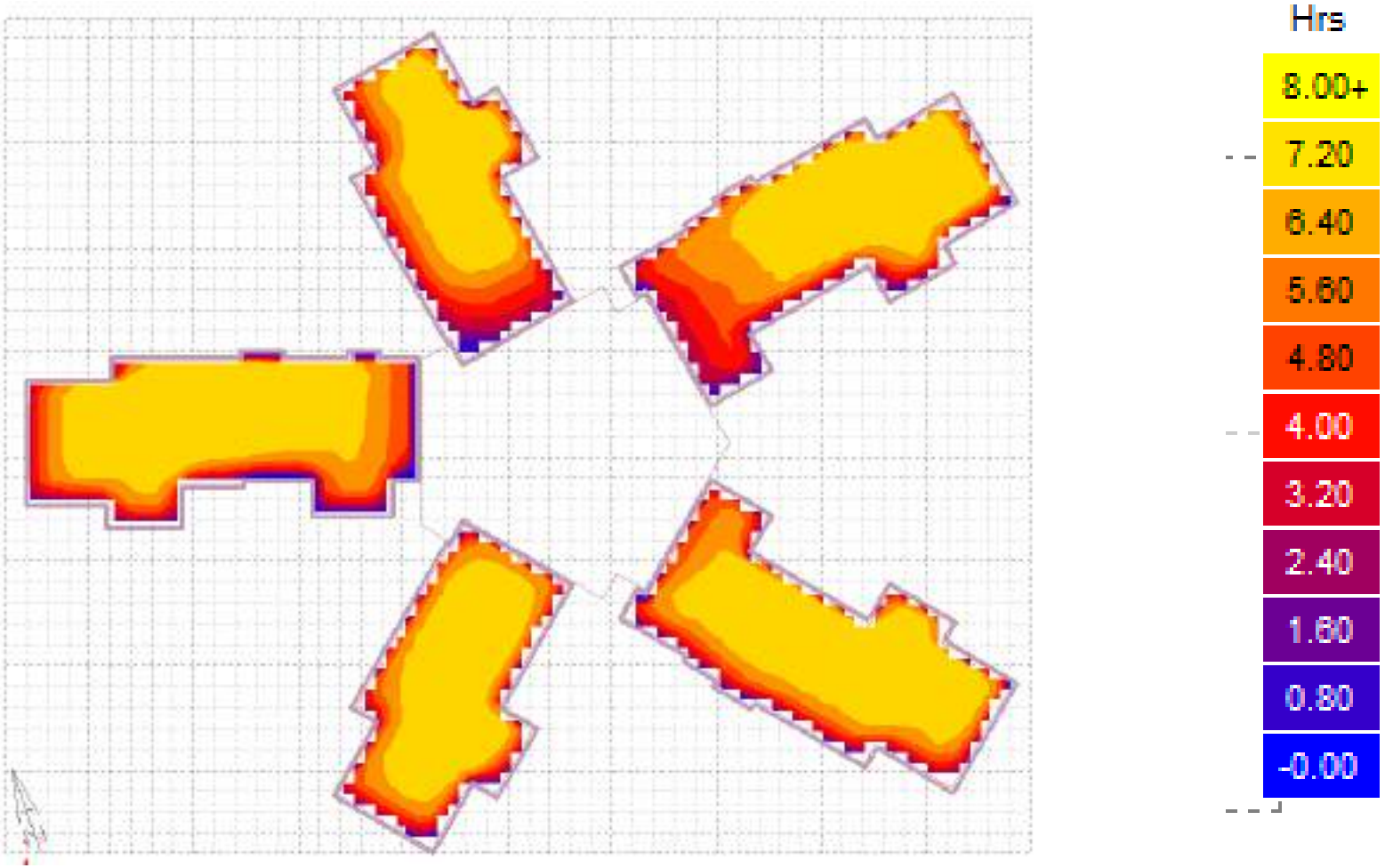
Existing building C

N

Conclusion

Shadow analysis result shows that 100% hot water demand is met and 7.35kWp Solar PV panels can be installed.

2477

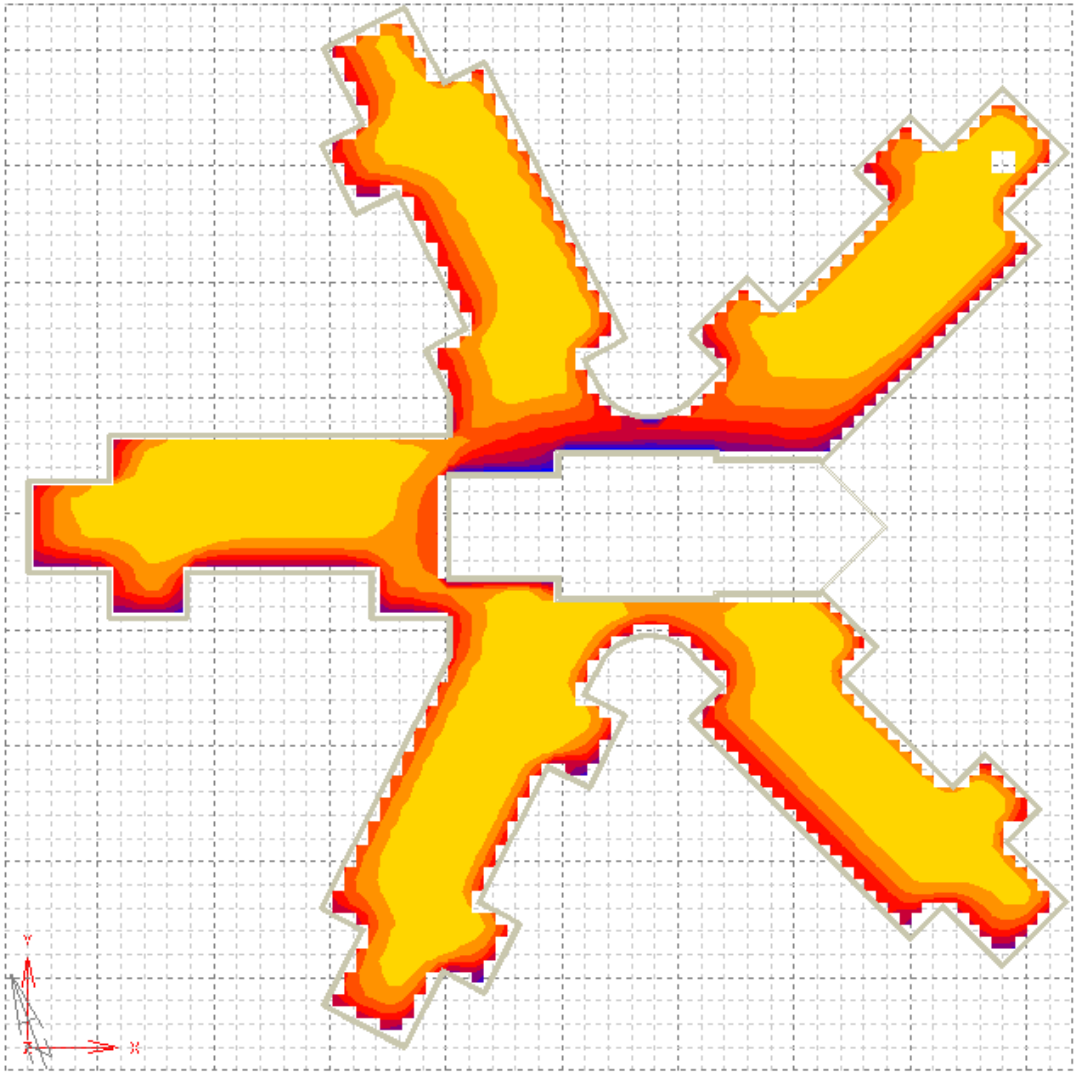


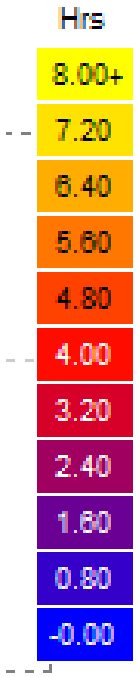
Existing building D

N

Conclusion

Shadow analysis result shows that 100% hot water demand is met and 7.35kWp Solar PV panels can be installed.





N

Existing building E

Conclusion

Shadow analysis result shows that 100% hot water demand is met and 8.41kWp Solar PV panels can be installed.

Traffic Analysis Report

for

Residential Project "Bramha Exuberance"

on

Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra

Proposed by

BramhaCorp Ltd.

CONSULTANTS
Mahabal Enviro Engineers Pvt. Ltd.
Plot F-7, Road 21, MIDC Wagle Estate, Thane-400604
Phone: mahabal.thane@gmail.com

Traffic Analysis Report

A well-planned road network already exists in the area, connecting to the nearest railway station and main roads, ensuring proper communication links. Traffic analysis report is a process to know the volume and nature of the traffic. The present report is the Residential Project "Bramha Exuberance" Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BramhaCorp Ltd. The Traffic Analysis Location of this project is shown in **Figure 1.**

Figure 1: Traffic Analysis Location of the project site

To analyze the traffic load nearby project site, the quick survey of 12 hours was carried out on NIBM Road, Kausar Baug Road, Kausar Baug Road 2. Classified traffic volume count survey (CTV) conducted on weekdays so as to get appropriate data. The traffic data thus collected is analysed for different traffic parameters /operational indices. Methodology for this traffic analysis included data collection, future year traffic projections, existing conditions analysis, future build analysis and recommendations which are described in brief as follows.

- A 12-hour classified traffic volume data collected on site attached road. The location of classified traffic analysis is shown in **Figure No.1**
- Peak hour trip ingress and egress data is also collected at adjacent road, to get an idea of peak hour movement characteristics

Classified traffic volume count and trip generation survey collected in May, 2023.

Traffic data is collected and tentative peak hour volume count is completed first to take fair idea of traffic. The Vehicles are classified in the following categories for traffic count:

- Two-Wheeler
- Three-Wheeler
- Car/Taxi
- Light Commercial Vehicle
- Govt. bus/Private bus
- Truck
- Multi Axle vehicle

The classification of vehicles has been done as per IRC: 106-1983. PCU factors are given in **Table 1**

Table 1: PCU Factors

Type of Vehicle	PCU Factor
Two-Wheeler	0.5
Three-Wheeler	1
Car / Taxi	1
LCV	1.5

Type of Vehicle	PCU Factor
Govt bus / Private bus	3
Truck	3
Multi-Axle	4.5

Source: Indian Road Congress 'Geometric Design Standards for Urban Roads in Plains'-IRC: 106-1983 Edition 1991, Reprinted in 2001. Page No. 6 & 7.

Passenger Car Unit

It is a metric used in Transportation engineering, to assess traffic flow rate. A Passenger Car Equivalent is essentially the impact that a mode of transport has on traffic variables (such as headway, speed, density) compared to a single car.

Table 2 shows the capacity of different types of roads in both directions.

Table 2: Capacity in PCU/hour for various traffic conditions

No. of traffic lanes and width	Traffic flow	Roads with no frontage access, no standing vehicles, very little cross traffic	Roads with frontage access but no standing vehicle and high-capacity intersections	Roads with free frontage access, parked vehicle and heavy cross traffic
2-lane	One way	2400	1500	1200
2-lane	Two way	1500	1200	750
3-lane	One way	3600	2500	2000
4-lane	One way	4800	3000	2400
4-lane	Two way	4000	2500	2000
6-lane	One way	3600	2500	2200
6-lane	Two way	6000	4200	3600

Source: Indian Road Congress 'Geometric Design Standards for Urban Roads in Plains'-IRC:106-1983 Edition 1991, Reprinted in 2001. Page No. 6 & 7.

These volumes make up the traffic volumes along these roads under survey. show**.** Traffic composition and hourly mode wise distribution was also prepared and analyzed along Roads of project site. Numbers of Vehicles are given in **Table 3, Table 4 and Table 5**

Table 3: Numbers of Vehicles on Kausar Baug Road

Time (h)	Two-Wheeler	Three-Wheeler	Four-Wheeler	Bus	Heavy Vehicles	Total
0800 to 0900	202	176	196	23	63	**637**
0900 to 1000	**216**	**193**	**219**	26	**68**	**696**
1000 to 1100	213	188	211	21	64	**676**
1100 to 1200	209	183	209	22	60	**661**
1200 to 1300	208	180	194	20	58	**640**
1300 to 1400	198	176	184	22	55	**613**
1400 to 1500	191	178	183	21	54	**606**
1500 to 1600	204	179	187	21	53	**623**
1600 to 1700	209	180	189	22	55	**633**
1700 to 1800	212	186	191	21	59	**648**
1800 to 1900	213	191	193	23	63	**660**
1900 to 2000	**221**	**198**	**211**	**26**	**65**	**695**
Total	**2496**	**2208**	**2367**	**268**	**717**	**7788**

Table 4: Numbers of Vehicles on NIBM Road

Time (h)	Two-Wheeler	Three-Wheeler	Four-Wheeler	Bus	Heavy Vehicles	Total
0800 to 0900	182	176	201	15	71	**645**
0900 to 1000	**196**	**192**	**209**	**17**	**75**	**689**
1000 to 1100	193	188	207	16	73	**677**
1100 to 1200	189	183	202	15	70	**659**
1200 to 1300	187	180	198	14	69	**648**
1300 to 1400	185	176	192	14	64	**631**
1400 to 1500	180	178	193	13	60	**624**
1500 to 1600	183	179	194	13	63	**632**
1600 to 1700	189	180	196	15	68	**648**
1700 to 1800	192	186	201	16	69	**664**
1800 to 1900	203	191	204	17	70	**685**
1900 to 2000	**211**	**198**	**209**	**19**	**79**	**716**
Total	**2290**	**2207**	**2406**	**184**	**831**	**7918**

Table 5: Numbers of Vehicles on Kausar Baug Road 2

Time (h)	Two-Wheeler	Three-Wheeler	Four-Wheeler	Bus	Heavy Vehicles	Total
0800 to 0900	194	168	201	23	48	**634**
0900 to 1000	**207**	**174**	**213**	**28**	**56**	**678**
1000 to 1100	201	171	210	24	53	**659**
1100 to 1200	196	167	208	23	49	**643**
1200 to 1300	195	165	196	22	48	**626**
1300 to 1400	187	163	187	22	44	**603**
1400 to 1500	171	161	185	24	49	**590**
1500 to 1600	184	167	189	24	51	**615**
1600 to 1700	187	170	191	26	52	**626**
1700 to 1800	191	172	197	26	54	**640**
1800 to 1900	195	176	203	28	57	**659**
1900 to 2000	**209**	**181**	**211**	**30**	**60**	**691**
Total	**2317**	**2035**	**2391**	**300**	**621**	**7664**

Figure 2: Vehicle Distribution on Kausar Baug Road

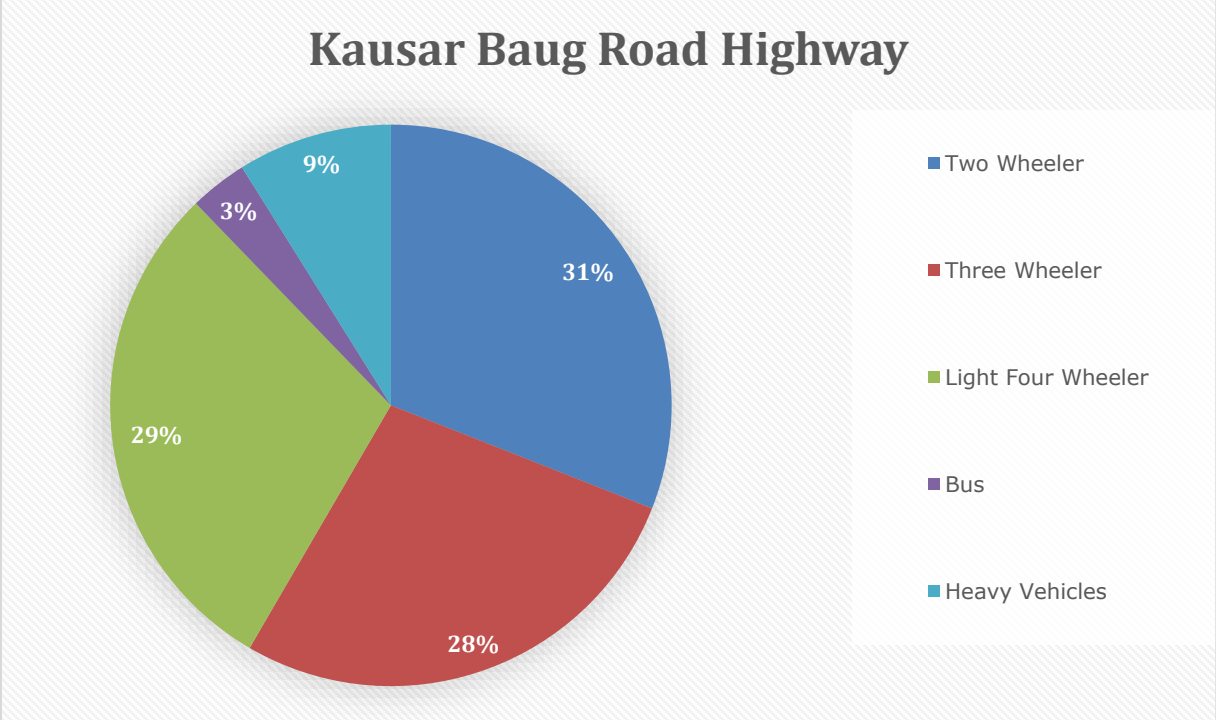


Figure 3: Vehicle Distribution on NIBM Rd.

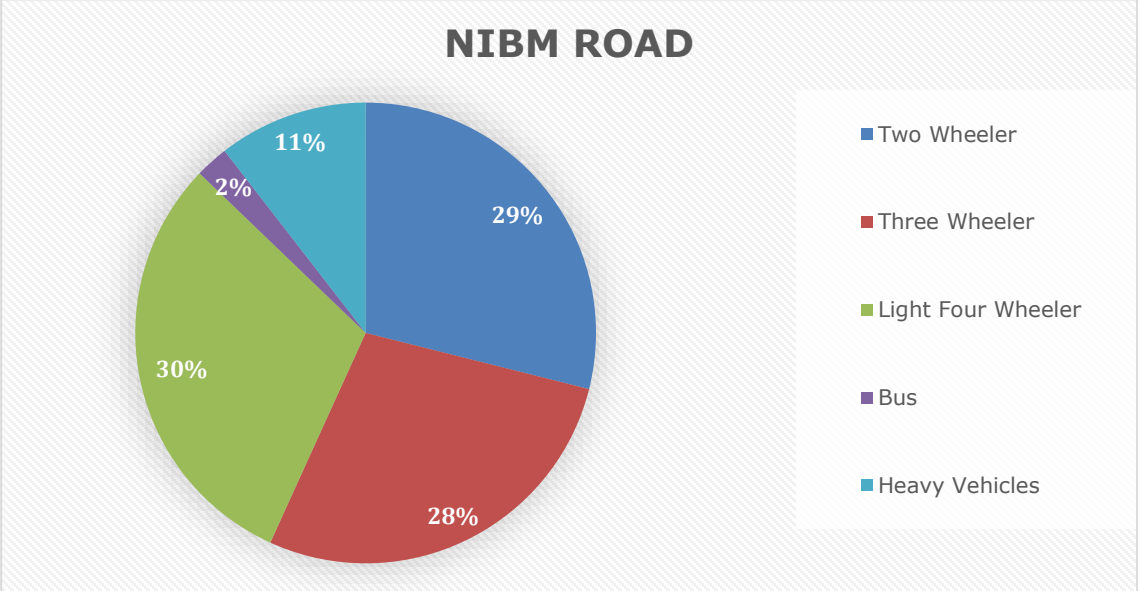


Figure 4: Vehicle Distribution on Kausar Baug Road 2

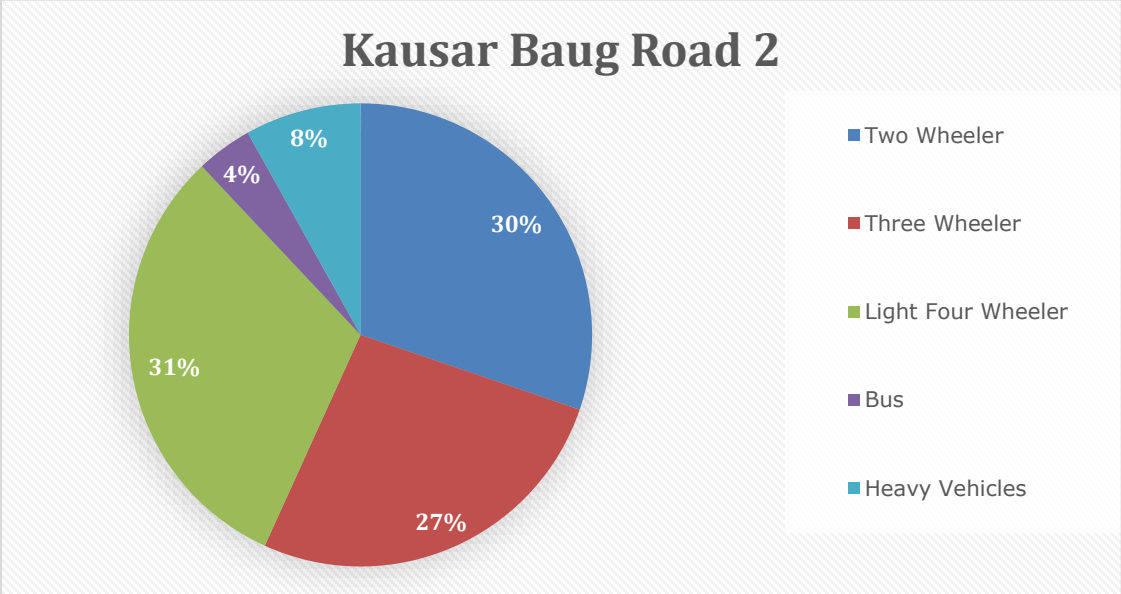


Figure 5: Traffic Pattern of Kausar Baug Road

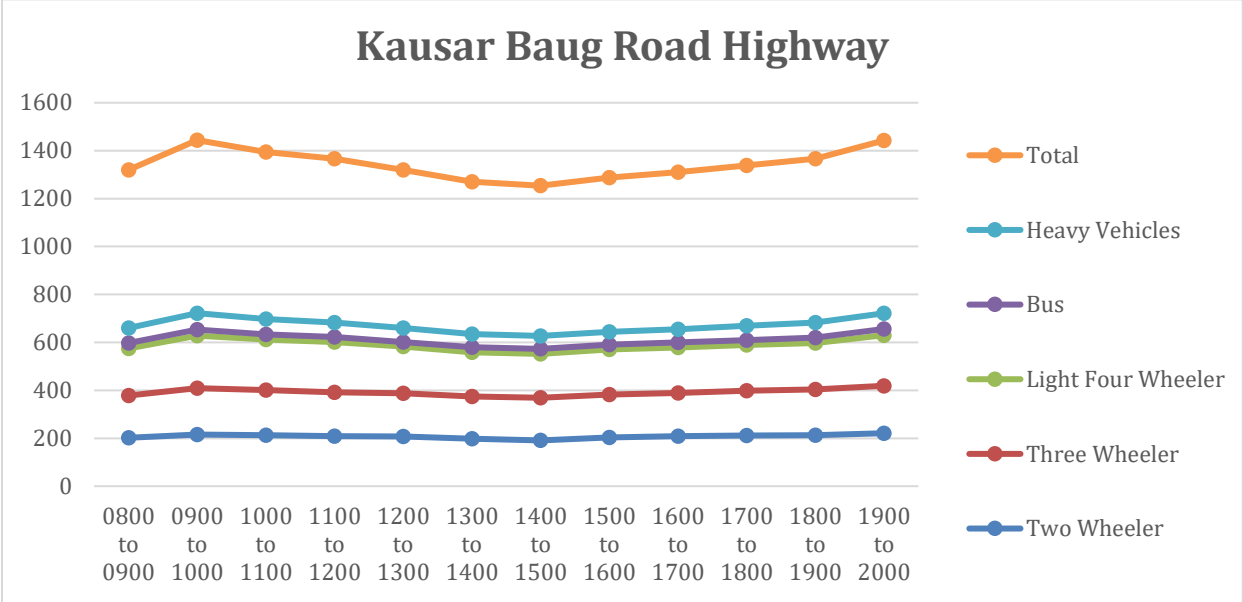


Figure 6: Traffic Pattern of NIBM Rd.

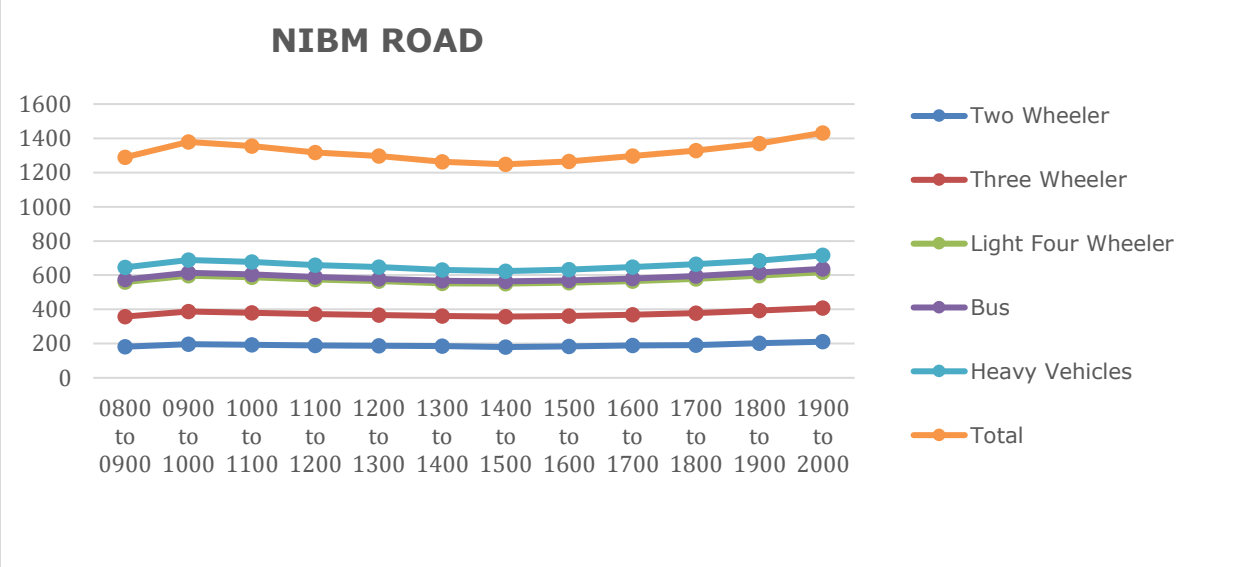


Figure 7: Traffic Pattern of Kausar Baug Road 2.

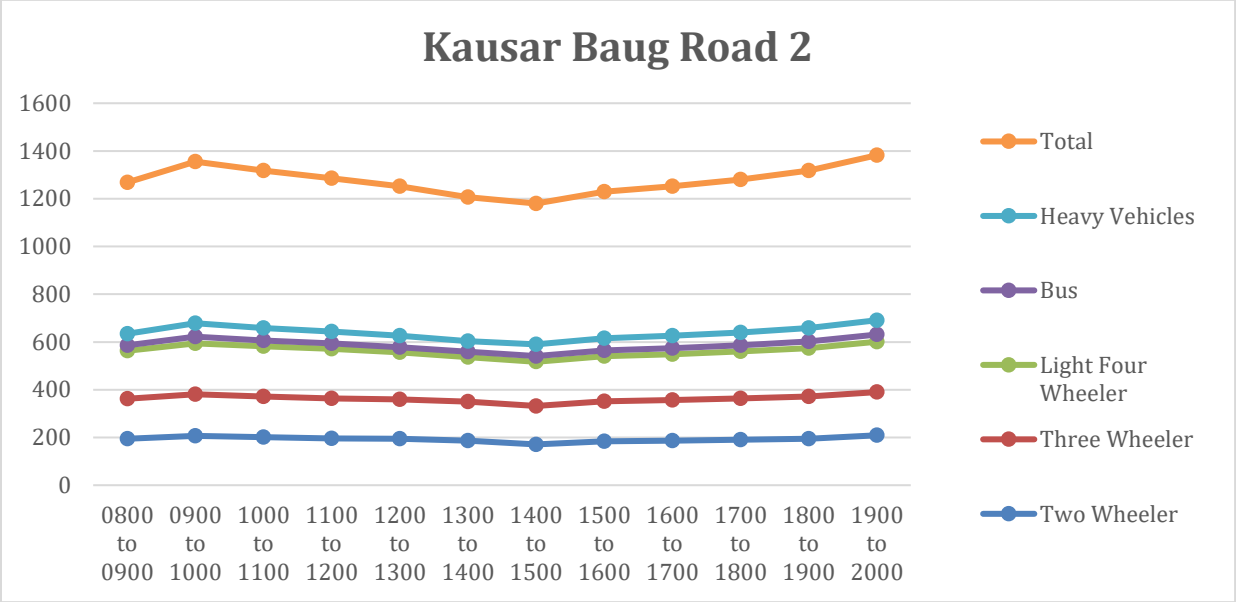


Table 6: Present traffic volume on Kausar Baug Road (PCU)

Mode	PCU/hr	%
Two-Wheeler	104	14
Three-Wheeler	184	25
Four-Wheeler	197	27
Bus	67	9
Heavy Vehicles	179	25
Total	**732**	

Table 7: Present traffic volume on NIBM Road (PCU)

Mode	PCU/hr	%
Two-Wheeler	95	13
Three-Wheeler	184	25
Four-Wheeler	201	27
Bus	46	6
Heavy Vehicles	208	28
Total	**734**	

Table 8: Present traffic volume on Kausar Baug Road 2 (PCU)

Mode	PCU/hr	%
Two-Wheeler	97	14
Three-Wheeler	170	24
Four-Wheeler	199	29
Bus	75	11
Heavy Vehicles	155	22
Total	**696**	

Figure 8: Morning & Evening Peak Traffic Pattern of Kausar Baug Road

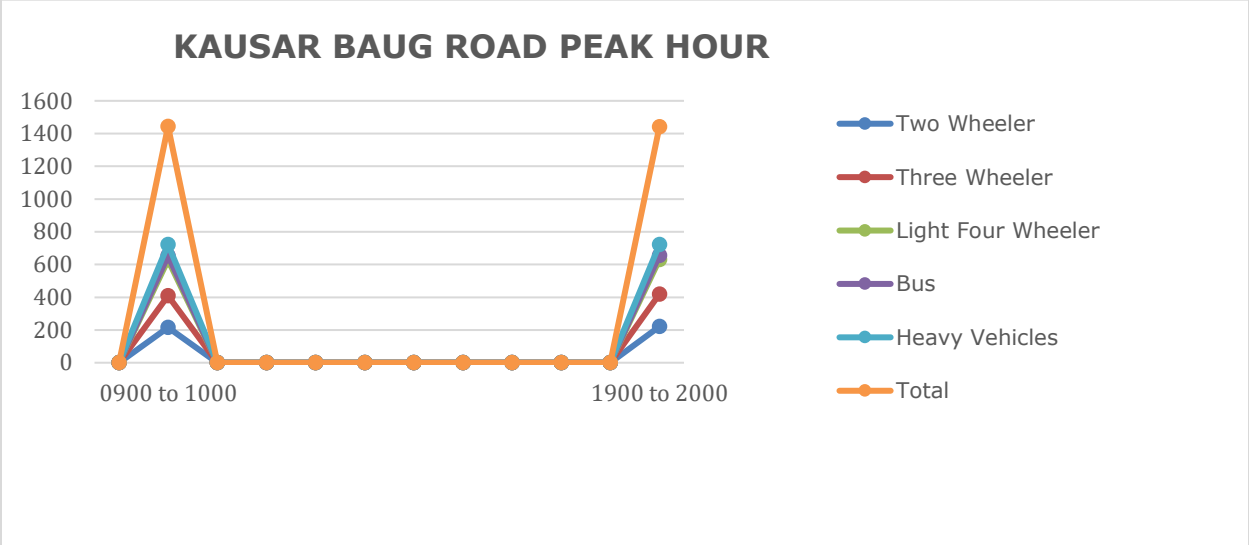


Figure 9: Morning & Evening Peak Traffic Pattern of NIBM Road

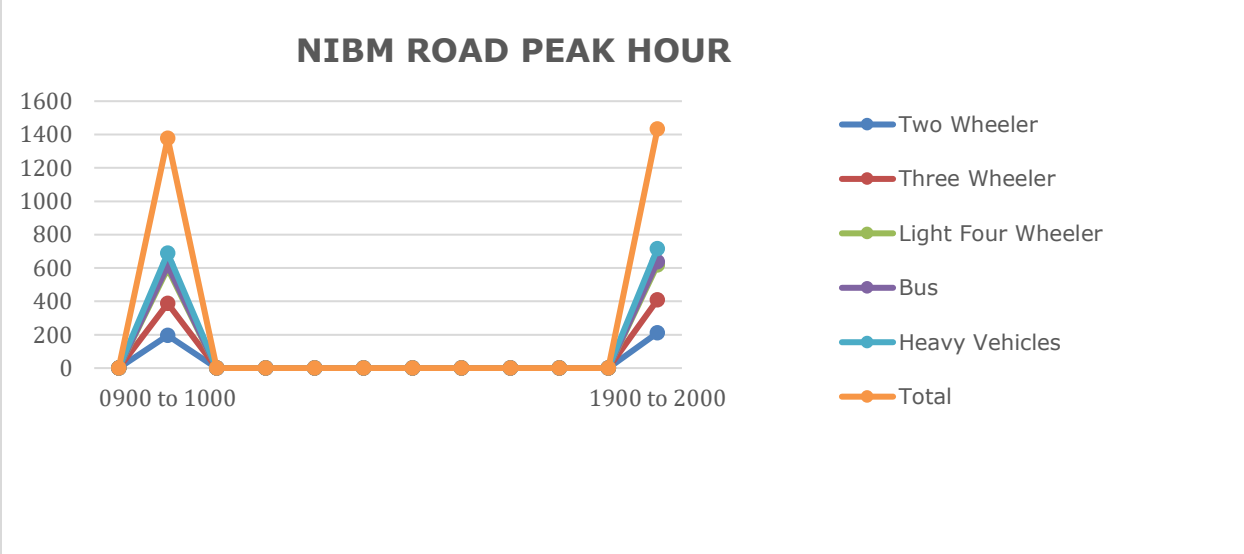


Figure 10: Morning & Evening Peak Traffic Pattern of Kausar Baug Road 2

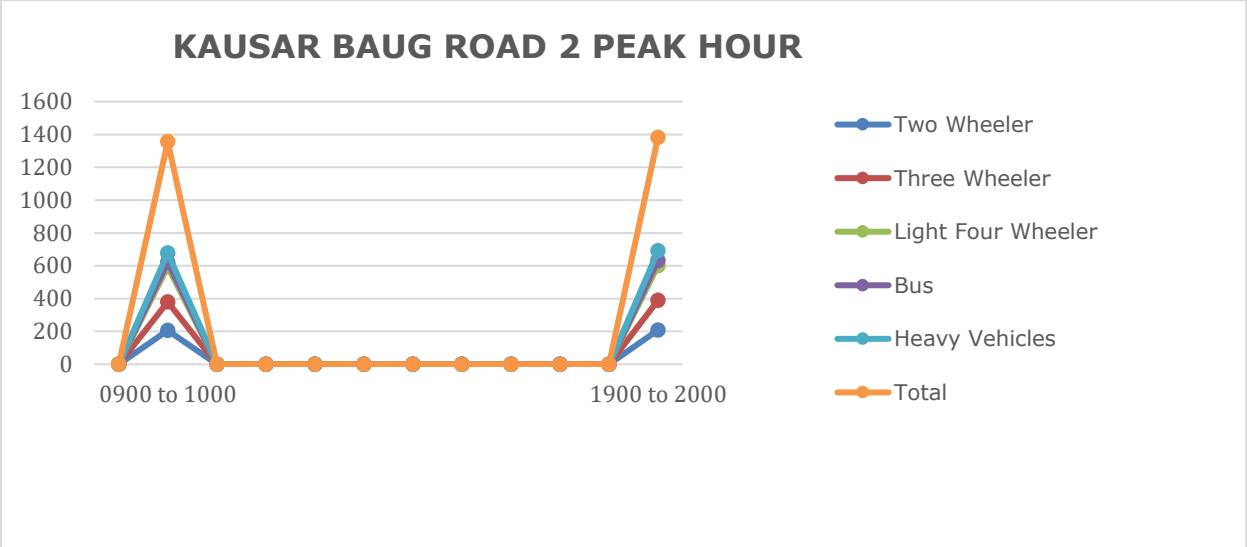


Table 9: Present traffic volume on Kausar Baug Road (PCU)

	Kausar Baug Road (Morning Peak Hr.)	
	PCU	**%**
Two-Wheeler	108	13
Three-Wheeler	193	24
Four-Wheeler	219	27
Bus	78	10
Heavy Vehicles	204	25
Total	802	

Table 10: Present traffic volume on Kausar Baug Road (PCU)

	Kausar Baug Road (Evening Peak Hr.)	
	PCU	**%**
Two-Wheeler	111	14
Three-Wheeler	198	25
Four-Wheeler	211	27
Bus	78	10

	Kausar Baug Road (Evening Peak Hr.)	
Heavy Vehicles	195	25
Total	**793**	

Table 11: Present traffic volume on NIBM Road (PCU)

	NIBM Road (Morning Peak Hr.)	
	PCU	**%**
Two-Wheeler	98	14
Three-Wheeler	192	27
Four-Wheeler	209	30
Bus	0	0
Heavy Vehicles	204	29
Total	**703**	

Table 12: Present traffic volume on NIBM Road (PCU)

	NIBM Road (Evening Peak Hr.)	
	PCU	**%**
Two-Wheeler	106	13
Three-Wheeler	198	25
Four-Wheeler	209	26
Bus	57	7
Heavy Vehicles	237	29
Total	**807**	

Table 13: Present traffic volume on Kausar Baug Road 2 (PCU)

	Kausar Baug Road 2 (Morning Peak Hr.)	
	PCU	**%**
Two-Wheeler	104	14

	Kausar Baug Road 2 (Morning Peak Hr.)	
Three-Wheeler	174	23
Four-Wheeler	213	29
Bus	84	11
Heavy Vehicles	168	23
Total	743	

Table 14: Present traffic volume on Kausar Baug Road 2 (PCU)

	Kausar Baug Road 2 (Evening Peak Hr.)	
	PCU	**%**
Two-Wheeler	105	14
Three-Wheeler	181	24
Four-Wheeler	211	28
Bus	90	12
Heavy Vehicles	180	23
Total	767	

Table 15: Present V/C ratio

Location	Carriage way	Traffic volume (PCU/hr.)	Traffic Capacity (PCU/hr.)	V/C ratio	Level of Service
Kausar Baug Road	2 way	732	1,500	0.49	A
NIBM Road	2 way	734	1500	0.49	A
Kausar Baug Road 2	2 way	696	1500	0.46	A

Table 16: Present V/C ratio at Morning peak hour

Location	Carriage way	Traffic volume (PCU/hr.)	Traffic Capacity (PCU/hr.)	V/C ratio	Level of Service
Kausar Baug Road	2 ways	802	1,500	0.53	A
NIBM Road	2 ways	703	1500	0.47	A
Kausar Baug Road 2	2 ways	743	1500	0.50	A

Table 17: Present V/C ratio at Evening peak hour

Location	Carriage way	Traffic volume (PCU/hr.)	Traffic Capacity (PCU/hr.)	V/C ratio	Level of Service
Kausar Baug Road	2 ways	793	1,500	0.53	A
NIBM Road	2 ways	807	1500	0.54	A
Kausar Baug Road 2	2 ways	767	1500	0.51	A

Level of Service

As per Indian Road Congress 'Geometric Design Standards for Urban Roads in Plains'-IRC: 106-1983, level of service definition generally describes these conditions in terms of factors such as speed and travel time, freedom to manpower, traffic interruption, comfort and convenience and safety. Six level of services are commonly designated from A to F with level of services. A representing the best operating condition (i.e., Free flow) and level of service F represent the worst (forced or breakdown). Following graphs indicates the different level of services:

Table 18: CMP Level of Service Criteria for Arterials Based on Volume-to-Capacity Ratios

Level of Service	Description	V/C
A	Free-flow conditions with unimpeded maneuverability. Stopped delay at signalized intersection is minimal.	0.00 to 0.60
B	Reasonably unimpeded operations with slightly restricted maneuverability. Stopped delays are not bothersome.	0.61 to 0.70
C	Stable operations with somewhat more restrictions in making mid-block lane changes than LOS B. Motorists will experience appreciable tension while driving	0.71 to 0.80
D	Approaching unstable operations where small increase in volume produces substantial increases in delay and decreases in speed.	0.81 to 0.90
E	Operations with significant intersection approach delays and low average speeds.	0.91 to 1.00
F	Operations with extremely low speeds caused by intersection congestion, high delay, and adverse signal progression.	Greater Than 1.00

Future Development

After completion of the project, **411** no. of scooter, **393 no**. of cycles & **214** no. of cars will be added on the existing road.

Table 19: Estimation of Capacity and LoS (after 5 years scenario-2028)

Location	Carriage way	Total PCU (Without Project)	Total PCU (With Project)	V/C (Without Project)	V/C (With Project)	LoS (Without Project)	LoS (With Project)
Kausar Baug Road	2 ways	848	900	0.57	0.60	A	B
NIBM Road	2 ways	850	902	0.57	0.60	A	B
Kausar Baug Road 2	2 ways	806	858	0.54	0.57	A	A

Table 20: Estimation of Capacity and LoS for Morning Peak Hour (After 5 years scenario-2028)

Location	Carriage way	Total PCU (Without Project)	Total PCU (With Project)	V/C (Without Project)	V/C (With Project)	LoS (Without Project)	LoS (With Project)
Kausar Baug Road	2 ways	930	982	0.62	0.65	A	A
NIBM Road	2 ways	898	950	0.60	0.63	B	B
Kausar Baug Road 2	2 ways	861	904	0.57	0.60	A	A

Table 21: Estimation of Capacity and LoS for Evening Peak Hour (After 5 years scenario-2028)

Location	Carriage way	Total PCU (Without Project)	Total PCU (With Project)	V/C (Without Project)	V/C (With Project)	LoS (Without Project)	LoS (With Project)
Kausar Baug Road	2 ways	919	971	0.61	0.65	B	B
NIBM Road	2 ways	935	987	0.62	0.66	B	B
Kausar Baug Road 2	2 ways	889	932	0.59	0.62	A	B

Table 22: Estimation of Capacity and LoS (after 10 years scenario-2033)

Location	Carriage way	Total PCU (Without Project)	Total PCU (With Project)	V/C (Without Project)	V/C (With Project)	LoS (Without Project)	LoS (With Project)
Kausar Baug Road	2 ways	983	1035	0.66	0.69	B	B
NIBM Road	2 ways	986	1038	0.66	0.69	B	B

Location	Carriage way	Total PCU (Without Project)	Total PCU (With Project)	V/C (Without Project)	V/C (With Project)	LoS (Without Project)	LoS (With Project)
Kausar Baug Road 2	2 ways	935	987	0.62	0.66	B	B

Table 23: Estimation of Capacity and LoS for Morning Peak Hour (After 10 years scenario-2033)

Location	Carriage way	Total PCU (Without Project)	Total PCU (With Project)	V/C (Without Project)	V/C (With Project)	LoS (Without Project)	LoS (With Project)
Kausar Baug Road	2 ways	1078	1130	0.72	0.75	C	C
NIBM Road	2 ways	1042	1094	0.69	0.73	C	C
Kausar Baug Road 2	2 ways	861	913	0.57	0.61	A	B

Table 24: Estimation of Capacity and LoS for Evening Peak Hour (After 10 years scenario-2033)

Location	Carriage way	Total PCU (Without Project)	Total PCU (With Project)	V/C (Without Project)	V/C (With Project)	LoS (Without Project)	LoS (With Project)
Kausar Baug Road	2 ways	1065	1117	0.71	0.74	C	C
NIBM Road	2 ways	1084	1136	0.72	0.76	C	C
Kausar Baug Road 2	2 ways	998	1050	0.67	0.70	B	C

Observations:

Observations on the traffic flow and its density are given below: -

Kausar Baug Road

The total vehicle count at this point is observed to be **8,056** during the survey of 12 hours. The Two-wheeler contributes maximum in the traffic volume. The Two-wheeler observed are **2,496** in number followed by Four wheelers and Three-wheeler vehicles with **2,367** and **2,208** in number respectively. The peak hour traffic flow in the morning was observed between **9-10 am** with **696** Vehicles on the road and in the evening, the peak hour was observed between **7-8 pm** with **695** Vehicles.

NIBM Road

The total vehicle count at this point is observed to be **7,918** during the survey of 12 hours. The Four-wheeler contribute maximum in the traffic volume. The Four-wheeler observed are **2,406** in numbers followed by two-wheeler and three-wheeler vehicles with **2,290** and **2,207** in number respectively. The peak hour traffic flow in the morning was observed between **9-10 am** with **689** Vehicles on the road and in the evening, the peak hour observed between **7-8 pm** with **716** Vehicles.

Kausar Baug Road 2

The total vehicle count at this point is observed to be **7,664** during the survey of 12 hours. The Four-wheeler contribute maximum in the traffic volume. The Four-wheeler observed are **2,391** in numbers followed by two-wheeler and three-wheeler vehicles with **2,317** and **2,035** in number respectively. The peak hour traffic flow in the morning was observed between **9-10 am** with **678** Vehicles on the road and in the evening, the peak hour observed between **7-8 pm** with **691** Vehicles.

Mitigation and action plan for parking within the project area

1. Security persons at entry and exit point to insure the smooth traffic movement.
2. We were provided sufficient parking inside the site premises during the construction phase for staff as well as visitor.
3. We have encouraged the staff of contractor and self to use public transport.
4. We have provided two different lanes for up and down direction flows of vehicles.
5. We were provided a separate parking area for vehicles unloading material within the site premises so as to avoid waiting of other vehicles.
6. A driveway of 6 m (adequate to accommodate 6 vehicles) is provided from the entry of the project.
7. PUC is compulsory for all the vehicles being parked in the building premises.
8. Separate parking for Cars, two-wheelers and bicycles are provided.
9. Informatory signage's: Adequate informatory signage's/Speed control devices are put up within premises near entry/exit gates to regulate and control the speed of outgoing/incoming traffic.
10. We have designed the entry and exit points in such a way that they will not disturb the existing traffic.

CARBON FOOTPRINT ANALYSIS REPORT

For

RESIDENTIAL PROJECT
"BRAMHA EXUBERANCE"

At

S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra

PROPOSED BY

BRAMHA CORP LTD.

INDEX

LIST OF TABLES 3
LIST OF FIGURES 4
1 INTRODUCTION 5
2 ABOUT PROJECT 5
3 METHODOLOGY 9
4 CONSTRUCTION PHASE EMISSIONS 9
4.1 Analysis for Embodied Energy of Construction Materials 10
4.2 Estimation of CO_2 Emission 11
4.2.1 CO_2 during Manufacturing of Construction Material 11
4.2.2 CO_2 emission during transportation of Construction material 11
4.2.3 Disposal of Construction debris 12
4.2.4 Transportation of Workers 13
4.2.5 Power Consumption 13
4.2.6 Solid Waste 13
.4.2.7 Sewage Treatment 13
5 OPERATION PHASE EMISSIONS 13
5.1 Power Consumption 13
5.2 Solid Waste Management 14
5.3 Waste Water Treatment 14
5.4 Vehicular Emissions 14
6. CARBON SEQUESTRATION THROUGH VEGETATION AND RENEWABLE ENERGY 15
6.1 Carbon sequestration through Vegetation 15
6.2 Renewable Energy 15
7. MITIGATION MEASURES 16
8. CONCLUSION 16
9. REDUCTION IN CARBON FOOTPRINT 18

LIST OF TABLES

Table 1: Construction Material List 9
Table 2: Embodied Energy of Construction Material 10
Table 3: CO_2 emission during transportation of Construction Material 12
Table 4: CO2 emission during transportation of Construction Debris 12
Table 5: Mode of Transport of workers 13
Table 6: Parking Provided 15

LIST OF FIGURES

Figure1: Google Image showing the Project site 7
Figure 2: Layout Plan 8
Figure 3: Embodied Energy of Construction Material 11

1 INTRODUCTION

A carbon footprint is historically defined as the total green gas emissions caused by an individual, event, organization, or product, expressed as carbon dioxide equivalent. The term carbon footprint has become the standard for measuring the environmental impact of activities in several sectors. Calculated as carbon dioxide equivalent using the relevant 100-year global warming potential (GWP100).

The composition of greenhouse gases is 76% carbon dioxide CO_2, 13% methane, 6% nitrogen oxide and 5% fluorocarbons. Therefore, CO_2 is a significant contributor for increasing the global temperature.

The building sector is responsible for about 40% of the total primary energy consumption. Approximately 50% of the total energy is consumed for maintaining thermal comfort (heating/ cooling) inside the built envelope during the operational phase of the building. The construction sector in India has been growing at the average annual rate of 10% over the last decade. The housing stock in India has increased at a remarkable rate, from 250 million units in the year 2001 to 330 million units in the year 2011. In India, energy demand for material manufacturing is nearly 20–25% of the total energy demand, while annual building material consumption is exceeding 2 billion tonnes. Simultaneously GHG emissions by construction sector are contributing up to 30% of the total GHG emissions of the country. Global warming due to the increased concentrations of greenhouse gases (GHG's) in the atmosphere is causing climate patterns to change.

Buildings account for roughly one third of all greenhouse gas emissions globally. Identifying the sources of these emissions and understanding their relations to the construction phase is essential in climate change mitigation. The construction industry accounts for up to 40% of carbon emissions, hence there is an immediate need to reduce energy use in new and existing buildings (UNEP, 2009). In general, buildings contribute approximately 30% to total global GHG emissions (UNEP, 2009).

2 ABOUT PROJECT

M/s. Bramha Corp Ltd. are proposing residential project "Bramha Exuberance" at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra.

The Latitude and Longitude of project site is as follows
Latitude – 18°28'31.22"N Longitude - $73^0$53'42.44" E

The plot area is 17,433.10 m^2 and total construction area is 50,548.37 m^2. The project details are as follows:

No.	Description	Proposed
1.	Total plot area (Sq.mt.)	17,433.10 m^2
2.	Deductions (Sq.mt.)	2,833.35 m^2
3.	Net Plot Area	14,599.75 m^2
4.	Permissible Built-up Area as per FSI including Fungible Area (sq.mt.)	14,805.95 m^2
5.	Proposed FSI area (Sq.mt.)	21,798.69 m^2
6.	Proposed Non FSI area (Sq.mt.)	28,749.68 m^2
7.	Total Construction Built – up Area (Sq.mt.)	50,548.37 m^2

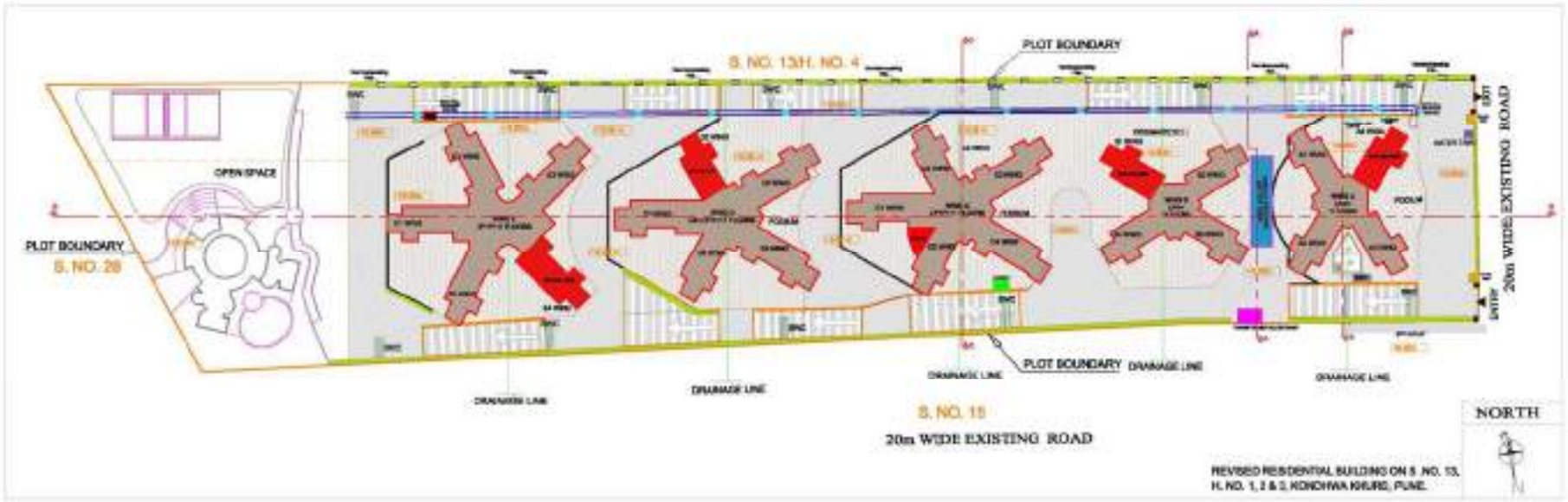
Building Details

Building	Configuration	Status Of Construction	Building Height m
A Building	LP + P +11 floors	Completed 2009	34.90
B Building	LP + P +11 floors	Completed 2009	34.90
C Building	LP + P +11 floors	Completed (2019)	34.90
D Building	LB + LP + P + 11 floors	Completed 2009	34.90
E Building	LP + P +11 floors	Completed 2009	34.90
Club House	G + 1	Completed 2009	

The Google Image showing the Project site is given below:

Figure1: Google Image showing the Project site

Figure 2: Layout Plan



3 METHODOLOGY

The objective of this report is to undertake carbon footprint analysis of proposed project and to propose measures in order to reduce carbon footprint of the proposed project. Following parameters were considered to perform Carbon Footprint Analysis.

1. Embodied Energy of Construction Materials
2. CO_2e Emission during Construction Phase
3. CO_2e Emission during Operation Phase
4. Carbon sequestration through renewable energy and Vegetation

The result is presented in three stages

- Construction Phase emission
- Operation Phase emission
- Carbon sequestration through renewable energy and Vegetation
- Carbon footprint reduction due to mitigation measures

4 CONSTRUCTION PHASE EMISSIONS

The building construction phase is responsible for significant resource consumption. Therefore, environmental impact of construction materials is most important. The bill of quantities of construction material required for the project is as follows.

Table 1: Construction Material List

Sr. No.	Construction Material List	Material MT
1.	Cement	8159
2.	Sand	35082
3.	Aggregate	19963
4.	Steel	2835
5.	Fly Ash Bricks	9336
6.	Clay Bricks	0
7.	Vitrified Ceramic Tiles	934
8.	Glass	73
9.	Wood	70
10.	Aluminium	47
11.	Gypsum Plaster	622
12.	Stone	328
13.	Fly Ash	1499

4.1 Analysis for Embodied Energy of Construction Materials

Embodied energy is the energy consumed by all of the processes associated with the materials used for the construction of building, from the mining and processing of natural resources to manufacturing, transport and product delivery. Embodied energy analysis of construction material was performed considering the Bill of Quantities of proposed Project.

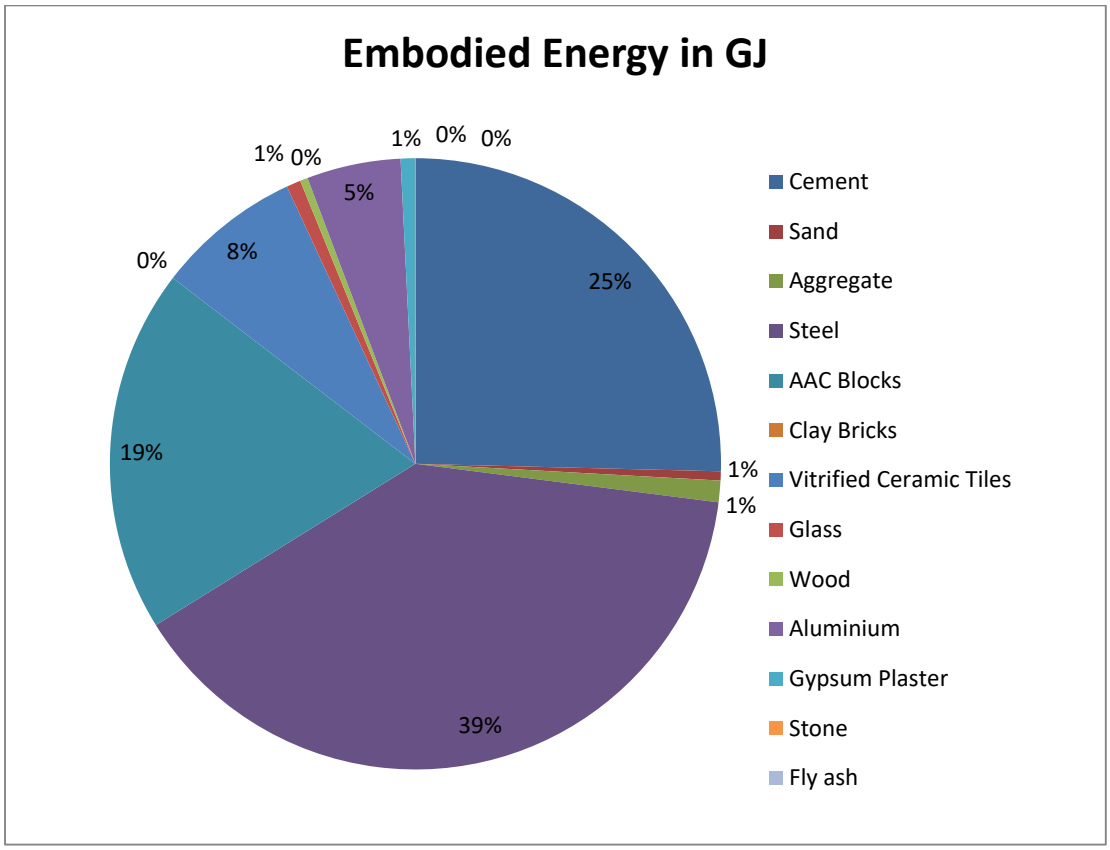
Embodied Energy=Quantity of the material* Embodied energy coefficient

The embodied energy of construction material for the project is **145558.1 GJ**

Table 2: Embodied Energy of Construction Material

Sr. No.	Construction Material List	Material	Embodied Energy
		MT	**GJ**
1.	Cement	8159	36958.0
2.	Sand	35082	701.6
3.	Aggregate	19963	1656.9
4.	Steel	2835	56978.9
5.	Fly Ash Bricks	9336	28008.9
6.	Clay Bricks	0	0.0
7.	Vitrified Ceramic Tiles	934	11203.6
8.	Glass	73	1092.3
9.	Wood	70	595.2
10.	Aluminium	47	7235.6
11.	Gypsum Plaster	622	1120.4
12.	Stone	328	6.6
13.	Fly Ash	1499	0.0
	Total	**78947**	**145558.1**

Figure 3: Embodied Energy of Construction Material



4.2 Estimation of CO_2 Emission

The main sources of CO_2 emission in construction industry are as follows:

- CO_2 emission during manufacturing of Construction Material
- CO_2 emission during transportation of Construction Material
- CO_2 emission due to Power Consumption
- CO_2 emission during transportation of Construction debris

4.2.1 CO_2 during Manufacturing of Construction Material

The CO_2 emission during manufacturing of material is calculated by
CO_2 Emission=Quantity of the material CO_2 emission factor*

The CO_2 emission during manufacturing of construction material is **14807.2 tCO_2e.**

4.2.2 CO_2 emission during transportation of Construction material

The CO_2 emission during transportation of Construction material is **318 tCO_2e**. The details of same are given in **Table 3.**

Table 3: CO_2 emission during transportation of Construction Material

Sr. No.	Construction Material List	Distance to the Plant km	Total VKT	Total Emission tCO_2e
1.	Cement	254	103613	76.2
2.	Sand	32	56131	41.3
3.	Aggregate	32	31941	23.5
4.	Steel	360	51026	37.5
5.	Fly Ash Bricks	215	100365	73.8
6.	Clay bricks	60	0	0.0
7.	Vitrified Ceramic Tiles	860	40146	29.5
8.	Glass	465	1693	1.2
9.	Wood	25	117	0.1
10.	Aluminium	306	952	0.7
11.	Gypsum Plaster	582	18112	13.3
12.	Stone	750	12302	9.0
13.	Fly Ash	215	16112	11.8
		Total	**432510**	**318**

4.2.3 Disposal of Construction debris

The construction waste generation from project is around 1468 m^3. The emission during transportation of construction debris, Excavated material and demolition waste to disposal site is given in Table 4.

Table 4: CO2 emission during transportation of Construction Debris

Sr. No.	Construction Debris	Waste Quantity in m^3	Total VKT	Total Emission tCO_2e
1	RMC	559	1343	0.99
2	Tiles	38	49	0.04
3	Bricks work	105	218	0.16
4	Light weight block work	227	437	0.32
5	Mortar for plastering	425	1019	0.75
6	Water proofing work (brick bat)	76	146	0.11
7	Gypsum work	38	67	0.05
	Total (A)	**1468**	**3277**	**2.41**

The CO_2 emission due to transportation of Construction Debris **2.41 tCO_2e**

4.2.4 Transportation of Workers

The average workers required during construction phase is 200 Nos. The workers will come to site via different transportation modes. The mode of transport of workers is given in Table 5

Table 5: Mode of Transport of workers

Sr. No.	Details	Quantity
1	No. of workers coming by Public Transport	75
2	No. of workers coming by 2W	50
3	No. of workers coming by 3W	75
4	No of workers/day	200

The CO_2 emission due to transportation of Construction workers is **56.45 tCO_2e**

4.2.5 Power Consumption

The energy required during construction phase is 150 kwh. The CO_2 emission during construction period (3 years) will be **134.7 tCO_2e.**

4.2.6 Solid Waste

Solid waste generation from workers staying at site during construction period is 24 kg/day. The CO2 emission during construction period due to solid waste generated from workers is **9.72 tCO2e**

.4.2.7 Sewage Treatment

The sewage generation during construction phase is 9.0 KLD. The CO2 emission during construction period due to sewage generated from workers is **3.51 tCO2e.**

5 OPERATION PHASE EMISSIONS

5.1 Power Consumption

The operational energy requirements of a building can be considered as the energy that is used to maintain the environment inside that building. Life cycle analysis of building shows that operational energy accounts for 85–95% of the total energy consumption and CO_2 emissions of a building which comes from occupancy through heating, cooling, ventilation, and hot water use. This will include energy from electricity, gas, and the burning of fuels such as oil or coal. The annual energy consumption can be reduced by providing measures like Renewable energy (Solar Hot Water, Solar PV Panels), energy efficient pumps and lighting to reduce the CO_2 emission

The estimated power consumption of the project is **2899.93 MWH/yr**. **The CO_2 emission due to power generation is about 2377.9 tCO_2e/yr**

5.2 Solid Waste Management

The solid waste generation from the proposed development is 699 kg/day. The solid waste will be segregated at source. The dry waste (280 kg/day) will be handed over to Authorised agency. The biodegradable waste (419 kg/day) will be treated at site through Organic Waste convertor.

The inadequate disposal of solid waste creates a strong negative environmental impact on soil, groundwater, surrounding flora and fauna, and public health. Once deposited in a landfill or open dump, the carbon in waste containing organic materials, such as food, paper, wood, and garden trimmings, is consumed by microorganisms, causing decomposition. Under the anaerobic conditions prevalent in such sites, the microbial communities contain methane-producing bacteria. Because the microorganisms gradually decompose organic matter over time, methane (CH_4), carbon dioxide (CO_2), and N_2O are generated and form landfill gas.

The waste segregation at source, onsite mechanical composting and recycling of dry waste will help to reduce the Green House gas emissions from the project.

The CO2 emission from the solid waste is 56.6 tCO_2e/yr

5.3 Waste Water Treatment

The wastewater treatment plants (WWTP) are considered as source of GHG emissions because of the generation of CO_2, CH_4 and N_2O both directly and indirectly. The gaseous by-products are the direct emissions and the emission due to energy usage and secondary activities are the indirect emissions.

The GHG emissions include 1) direct emission of GHG from wastewater treatment comprising emission of CO_2 due to degradation of organic matters, emission of N_2O during the process of nitrification and denitrification and emissions of CH_4 and N_2O from anaerobic digestion during sludge treatment and 2) indirect emissions of GHG from sludge treatment, usage of electrical power and chemicals during the operation and maintenance of the treatment plant and disposal of sludge. Apart from these, the production and transportation of construction materials also cause indirect emissions of GHG

The sewage generation from proposed project is **173 KLD.**

Total equivalent CO_2 Tonnes per year from STP will be 22.50 tCO_2e/yr

5.4 Vehicular Emissions

Greenhouse gas emissions from vehicular movement vary with vehicle type, fuel type, driving speed, driving style, vehicle loading and distance travelled.

The Vehicle Kilometre Travelled (VKT) approach is considered for estimation of CO_2emission. Vehicle Kilometre Travelled (VKT) is basically the total distance travelled by the vehicles on roads. The internal distance travelled by the vehicles upto entry and exit points of the project are considered as VKT. After the VKT inventory has been obtained, next aspect is to quantify the emission factors. The emission factor (kg CO_2/km) is then multiplied by VKT (km) to obtain the quantity of emissions.

The details of Trip generation are sourced from the Traffic study.

Table 6: Parking Provided

Sr. No.	Vehicles	Parking Provided (No. of Vehicles)
1	Cars	214
2	Scooters	411

The total CO_2 emission from Vehicular Movement is 9.2 tCO_2e/yr

6. CARBON SEQUESTRATION THROUGH VEGETATION AND RENEWABLE ENERGY

Carbon sequestration is nothing but capturing atmospheric carbon dioxide or anthropogenic CO_2 from large scale stationary sources before it is released to the atmosphere. Once captured, the CO_2 gas is put into long term storage. CO_2 sequestration in plants has the potential to significantly reduce the level of carbon that occurs in the atmosphere. Terrestrial or biologic sequestration means using plants to capture CO_2 from the atmosphere and then storing it as carbon in the stems and roots of the plants as well as in the soil.

6.1 Carbon sequestration through Vegetation

The CO_2 sequestration through Vegetation and Landscape is as follows:

The lawn area provided: 2045.85 m^2

The trees to be planted in project: 392 Nos.

The CO_2 sequestration through Lawn area: 0.8 tCO2e/yr

The CO_2 sequestration through Trees: 8.62 tCO2e/yr

The total CO_2 sequestration through vegetation is **9.4 tCO2e/yr**

6.2 Renewable Energy

The Solar PV panel unit are proposed to reduce the power consumption. The renewable energy generated through Solar PV panels will be around 135 Mwh/yr.

Sr. No.	Particulars	Total Power Saving (Mwh/yr)
1	Solar PV Panel unit	135
2	Solar Hot Water	0
	Total	**135**

The reduction in carbon footprint due to renewable energy sources will be **110.7 tCO_2e/yr.**

The total reduction in carbon footprint due to vegetation and renewable energy sources will be 120.1 tCO_2e/yr.

7. MITIGATION MEASURES

- Use of high energy efficient pumps for firefighting, UG tanks and STP, Energy efficient lighting using LED lamps
- Use of renewable energy (Solar PV and Solar Hot Water) in project reduce the energy consumption
- Provision of green cover, Plantation along plot boundary, roads and RG area
- Low embodied carbon Building materials such as fly ash bricks, steel, AAC blocs used in project, EPD certified materials used, avoided use of virgin materials & possible extraction in the construction,
- Materials sourced with minimum distance from site
- Reuse of materials and % content of recycled material is maximized upto permissible limit
- Low maintenance, good quality materials used to reduce operational cost and replacement
- Use of AAC blocks instead of Red Bricks
- Treatment of Biodegradable Waste and Sewage at site to reduce the greenhouse gas emissions
- Use of RMC with 10-20% of fly ash

8. CONCLUSION

Carbon footprint is commonly defined as the total amount of greenhouse gases produced directly or indirectly as a result of an activity. The term carbon footprint has

become the standard for measuring the environmental impact of activities in several sectors

The carbon footprint analysis shows that, the total emission of the project during construction phase will be **15332.0 tCO_2e**. The emission is mainly from Manufacturing of Construction material, Transportation and power consumption during construction phase.

Sr. No.	Component	Total Emission tCO_2e	%
1	Manufacturing of Construction Material	14807.2	96.58
2	Transportation of Construction Material	318	2.07
3	Transportation of workers	56.45	0.37
4	Workers- Solid Waste	9.72	0.06
5	Workers- Sewage treatment	3.51	0.02
6	Disposal of Construction Debris	2.41	0.016
7	Power Consumption	134.7	0.88
	Total	**15332.0**	**100.00**

Operation Phase:

Sr. No.	Component	Total Emission tCO_2e	%
1	Power Consumption	2377.9	96.42
2	Solid Waste Management	56.6	2.29
3	Waste Water Treatment	22.5	0.91
4	Vehicular Emissions	9.2	0.37
	Total (A)	**2466.2**	**100.00**
	Carbon Footprint Reduction due to		
1	Carbon sequestration through Vegetation	9.4	
2	Renewal Energy	110.7	
	Energy saving (B)	**120.1**	
	Total (A-B)	**2346.1**	

The total emission during operation phase of project will be **2466.2 tCO_2e/yr.** The emission is mainly from Power Consumption, followed by Solid waste Management and Waste water Treatment.

The total reduction in carbon footprint due to vegetation and renewable energy sources will be **120.1 tCO_2e/yr.** The total carbon footprint during operation phase is **2346.1 tCO_2e/yr.**

9. REDUCTION IN CARBON FOOTPRINT

The reduction in carbon footprint due to implementation of mitigation measures during construction phase and operation phase is as follows:

CF during Construction Phase

	CF Base Case tCO2e	CF Proposed Case tCO2e	Reduction in CF
Manufacturing of Construction Material	16760.4	14807.2	1953.2
Transportation of Construction Material	318	318	-
Transportation of Construction Workers	56.45	56.45	-
Workers Solid Waste	9.72	9.72	-
Workers Sewage Treatment	3.51	3.51	-
Disposal of Construction Debris	2.41	2.41	-
Power Consumption	134.7	134.7	-
	17285.19	15332.0	1953.2
Reduction in %			11.30

Reduction in CF during Construction Phase

	CF Base Case tCO2e	CF Propose Case tCO2e	Reduction tCO2e
Recycled Steel	5,102.59	3,883.64	1,218.95
Cement	8,677.10	7,342.66	1,334.44
Total			**2553.39**

CF during Operation Phase

	CF Proposed Case tCO2e/yr	CF Base Case tCO2e/yr	Reduction in CF
Energy Saving including renewable energy			-513.30
Carbon Sequestration through Vegetation			-9.4
Renewable Energy			-110.7
Power Consumption	2377.9	2891.2	
Solid Waste Management	56.6	56.6	
Waste Water Treatment	22.5	22.5	
Vehicular Emissions	9.2	9.2	
Total	**2466.2**	**2979.48**	**633.40**
% Reduction			**21.26**

ECOLOGICAL FOOTPRINT

For

RESIDENTIAL PROJECT
"BRAMHA EXUBERANCE"

At

S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli,
District Pune, Maharashtra

PROPOSED BY

BRAMHA CORP LTD.

INDEX

LIST OF TABLES 3
LIST OF FIGURES 4
1 INTRODUCTION 5
2 ABOUT PROJECT 5
2.1 Location 7
3 ECOLOGICAL FOOTPRINT 9
4 METHODOLOGY 10
5 ESTIMATION OF ECOLOGICAL FOOTPRINT DURING CONSTRUCTION PHASE 10
5.1 EF OF CONSTRUCTION MATERIAL 10
5.1.1 Analysis for Embodied Energy of Construction Materials 11
5.2 EF OF TRANSPORTATION 12
5.3 EF OF DOMESTIC SOLID WASTE 15
5.4 EF OF WATER CONSUMPTION 15
5.5 EF DUE TO ENERGY CONSUMPTION DURING CONSTRUCTION PHASE 16
5.6 EF OF BUILT UP LAND 16
6 ESTIMATION OF ECOLOGICAL FOOTPRINT DURING OPERATION PHASE 17
6.1 EF OF POWER CONSUMPTION 17
6.2 EF OF WATER CONSUMPTION 17
6.3 EF OF DOMESTIC SOLID WASTE GENERATION 18
6.4 EF DUE TO TRANSPORTATION DURING OPERATION PHASE 18
8 EF REDUCTION THROUGH VEGETATION AND RENEWABLE ENERGY 19
8.1 EF REDUCTION THROUGH VEGETATION 19
8.2 EF REDUCTION THROUGH RENEWABLE ENERGY 19
9 CONCLUSION 20

LIST OF TABLES

Table 1: No of buildings & configuration 6
Table 2: Construction Material List 11
Table 3: Embodied Energy of Construction Material 11
Table 4: Total VKT for transport of Construction Material 13
Table 5: Total VKT for disposal of construction debris 14
Table 6: Mode of Transport of workers 14
Table 7: EF due to Transportation 14
Table 8: Solid waste generation during construction phase 15
Table 9: EF of domestic solid waste generation during construction phase 15
Table 10: Water consumption during construction phase 15
Table 11: EF of power consumption during operation phase 17
Table 12: EF of water consumption during operation phase 17
Table 13: EF of solid waste generation during operation phase 18
Table 14: Parking provided 18
Table 15: Energy saving trough Renewable Energy 19

LIST OF FIGURES

Figure 1: Google Image showing the Project site..... 7
Figure 2: Layout Plan..... 8
Figure 3: Embodied Energy of Construction Material..... 12

1 INTRODUCTION

The building sector is responsible for about 40% of the total primary energy consumption and 36% of CO_2 emissions globally. Approximately 50% of the total energy is consumed for maintaining thermal comfort (heating/ cooling) inside the built envelope during the operational phase of the building. The construction sector in India has been growing at the average annual rate of 10% over the last decade. The housing stock in India has increased at a remarkable rate, from 250 million units in the year 2001 to 330 million units in the year 2011. In India, energy demand for material manufacturing is nearly 20–25% of the total energy demand, while annual building material consumption is exceeding 2 billion tonnes. Simultaneously GHG emissions by construction sector are contributing up to 30% of the total GHG emissions of the country.

For environmental protection regulation, waste assimilation is another challenging task after the GHG emissions. The annual waste generated in India is about 62 million tonnes, while 25% of the total waste is contributed by construction and demolition (C&D) waste. C&D waste requires approximately 1240 hectare land per year. If the same growth rate in waste generation is maintained, it will reach 165 million tonnes by 2031, requiring as much as 66 thousand hectares of useful land for waste disposal in the next 20 years (considering 10 m high waste pile).

Within the industrial sector, construction activity, including its associated industry, is the largest consumer of such natural resources as timber, minerals, water, and energy. In the European Union, the construction of buildings consumes 40% of the total consumption of materials, 40% of the total consumption of primary energy and generates 40% of the total waste, taking particular responsibility for the ongoing deterioration of the environment the expansion of urban land. Therefore, in the pursuit of improving the environmental performance of buildings, it is necessary to assess this through indicators, so that the weight of the environmental impacts can be qualified and quantified throughout their life cycle, from the extraction of raw materials to demolition. The tools that analyze these impacts generally follow the methodology of Life Cycle Analysis (LCA)

2 ABOUT PROJECT

M/s. Bramha Corp Ltd. are proposing residential project “Bramha Exuberance” at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra.

The Latitude and Longitude of project site is as follows

Latitude – 18°28'31.22"N
Longitude - $73^0$53'42.44" E

The plot area is 17,433.10 m^2 and total construction area is 50,548.37 m^2. The project details are as follows:

No.	Description	Proposed
1.	Total plot area (Sq.mt.)	17,433.10 m^2
2.	Deductions (Sq.mt.)	2,833.35 m^2
3.	Net Plot Area	14,599.75 m^2
4.	Permissible Built-up Area as per FSI including Fungible Area (sq.mt.)	14,805.95 m^2
5.	Proposed FSI area (Sq.mt.)	21,798.69 m^2
6.	Proposed Non FSI area (Sq.mt.)	28,749.68 m^2
7.	Total Construction Built – up Area (Sq.mt.)	50,548.37 m^2

Table 1: No of buildings & configuration

Building	Configuration	Status Of Construction	Building Height m
A Building	LP + P +11 floors	Completed 2009	34.90
B Building	LP + P +11 floors	Completed 2009	34.90
C Building	LP + P +11 floors	Completed (2019)	34.90
D Building	LB + LP + P + 11 floors	Completed 2009	34.90
E Building	LP + P +11 floors	Completed 2009	34.90
Club House	G + 1	Completed 2009	

2.1 Location

The proposed residential project “Bramha Exuberance” is located at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra.

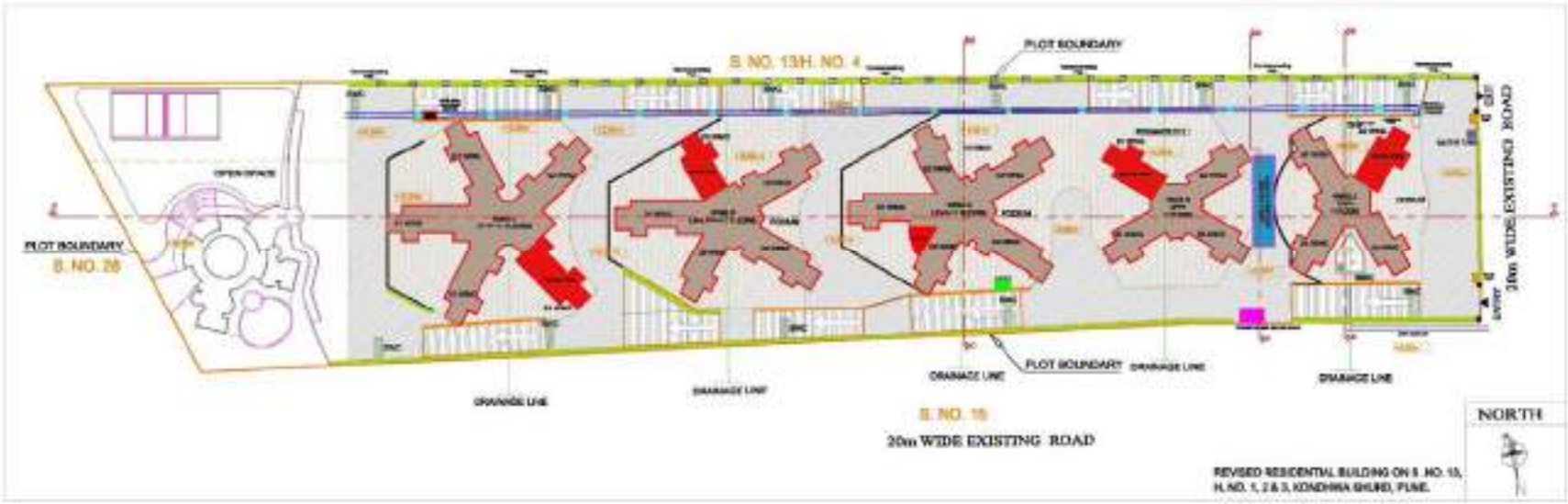
The Latitude and Longitude of project site is as follows
Latitude – 18°28'31.22"N Longitude - 73^{0}53’42.44” E

The Google Image of the project is given below:

Figure 1: Google Image showing the Project site

The layout plan of proposed development is given in Figure 2

Figure 2: Layout Plan



3 ECOLOGICAL FOOTPRINT

EF is the amount of land that would be required to provide the resources (grain, feed, firewood, fish, and urban land) and absorb the emissions (CO_2) of humanity

The Ecological Footprint has emerged as one of the world's leading measures of human demand on nature. In the last three decades, various tools (such as Ecological Footprint (EF), life cycle energy and carbon assessment) have been developed to estimate the sustainability of a system.

It is now considered one of the most relevant indicators for the assessment of impacts on the environment, and can also be used in conjunction with other indicators, such as the carbon footprint and water footprint

The Ecological Footprint of an activity is expressed in terms of global hectare (gha), which is defined as ''One global hectare is equivalent to one hectare of bio-productive land with world average productivity''. The expression for evaluating EF (in gha) is as follows:

$$\text{Ecological Footprint} = \sum (C_i/Y_i).e_i$$

where C_i is annual consumption of item i (kg/year), Y_i is annual productivity of item i (kg/ha), e_i is equivalence factor

Life Cycle Assessment (LCA): A quantitative approach that assesses a products impact on the environment throughout its life. LCA attempts to quantify what comes in and what goes out of a product from "cradle to grave," including the energy and material associated with materials extraction, product manufacture and assembly, distribution, use and disposal and the environmental emissions that result

Equivalence factor: A productivity-based scaling factor that converts a specific land type (such as cropland or forest) into a universal unit of biologically productive area, a global hectare.

The equivalence factor (e_i) of different land types (cropland, pastureland, forestland, marine land, etc.) is given by:

$$e_i = \frac{\text{Net Primary Productivity of specific land type (kg/ha)}}{\text{Average Net Primary Productivity of all land types (kg/ha)}\times\text{(gha/ha)}}$$

4 METHODOLOGY

The EF indicator has been integrated with the LCA approach for assessment of the impact of a project under consideration on the biosphere that determines the EF total of a building based on natural resource consumption, GHG emissions and waste assimilation. LCA of building project is defined as to investigate and measure the ecological consequences during their life, from the extraction of raw materials, material production, construction phase, use and maintains phase, materials and C&D waste transportation, and demolition phase.

The life cycle of a building is associated with resource consumption (material, fuel, electricity, water, etc.), transportation, manpower, physical land use for building construction and C&D waste disposal (landfill or recycling and reuse, etc.)

All the above parameters are converted into the equivalent productive land needed to produce or absorb their impacts in the form of CO_2 absorption land, forestland, cropland and built-up land.

EFtotal contains all phases of the building's life: implementation and construction phase, operation and maintenance phase and demolition phase.

It is used to effectively examine the impact of the building project on the environment and calculated with Eq.

$EF_{total} = EF_{cons} + EF_{oper}$

$EF_{cons} = EF_{wm} + EF_{we} + EF_{ww} + EF_{wt} + EF_{wws} + EF_{wb}$

$EF_{oper} = EF_{we} + EF_{wws} + EF_{wt} + EF_{we}$

Where EF_{wm}, EF_{we}, EF_{ww}, EF_{wt}, EF_{we}, and EF_{wb}represent the life cycle ecological footprint of material consumption, energy consumption, water consumption, transportation, waste disposal and built-up land consumption of the building respectively.

5 ESTIMATION OF ECOLOGICAL FOOTPRINT DURING CONSTRUCTION PHASE

5.1 EF OF CONSTRUCTION MATERIAL

The building construction phase is responsible for significant resource consumption. Therefore, environmental impact of construction materials is most important. The bill of quantities of construction material required for the project is as follows.

Table 2: Construction Material List

Sr. No.	Construction Material List	Material MT
1.	Cement	8159
2.	Sand	35082
3.	Aggregate	19963
4.	Steel	2835
5.	AAC Blocks	9336
6.	Clay Bricks	0
7.	Vitrified Ceramic Tiles	934
8.	Glass	73
9.	Wood	70
10.	Aluminium	47
11.	Gypsum Plaster	622
12.	Stone	328
13.	Fly Ash	1499

Note: Only Major materials are considered for calculation

5.1.1 Analysis for Embodied Energy of Construction Materials

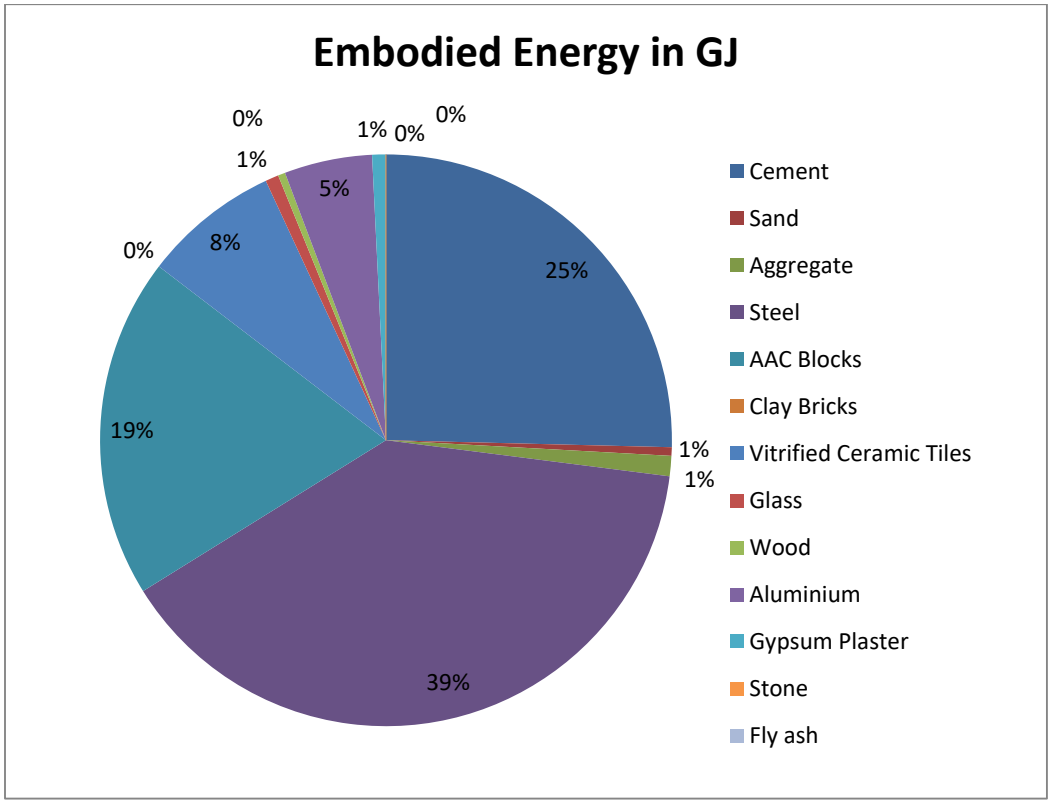
Embodied energy is the energy consumed by all of the processes associated with the materials used for the construction of building, from the mining and processing of natural resources to manufacturing, transport and product delivery. Embodied energy analysis of construction material was performed considering the Bill of Quantities of proposed Project.

Table 3: Embodied Energy of Construction Material

Sr. No.	Construction Material List	Material	Embodied Energy
		MT	**GJ**
1.	Cement	8159	36958.0
2.	Sand	35082	701.6
3.	Aggregate	19963	1656.9
4.	Steel	2835	56978.9
5.	AAC Blocks	9336	28008.9
6.	Clay Bricks	0	0.0
7.	Vitrified Ceramic Tiles	934	11203.6
8.	Glass	73	1092.3
9.	Wood	70	595.2
10.	Aluminium	47	7235.6
11.	Gypsum Plaster	622	1120.4
12.	Stone	328	6.6
13.	Fly Ash	1499	0.0
	Total	**78947**	**145558.1**

The embodied energy of construction material for the project is **145558.1 GJ**

Figure 3: Embodied Energy of Construction Material



The footprint of construction materials is determined using the following expression

$$EF_{wm} = \frac{\sum_i Cm_i \cdot Ese_{mi}}{EP} \cdot e_f$$

where $EF_{wm}$is the Weighted EF of construction materials (gha/year), $Cm_i$is the Material consumption (kg); Ese_{mi} is the Specific embodied energy of material i (MJ/kg) and EP is the Energy productivity (MJ/ha/year).

The footprint of the construction materials is allocated to CO_2 absorption land, since the wooden construction materials used in the work represent only a tiny percentage of the total.

The Ecological footprint of construction material is **4950.5 gha**

5.2 EF OF TRANSPORTATION

The EF of transportation consists of three stages

(a) building material transportation from factory to construction site,

(b) manpower transportation from their houses to project site and

(c) C&D waste disposal from the site to landfill area.

To estimate the EF_{wt} of the project, some assumptions are made; for example, material and waste are transported via heavy-duty trucks (HDTs) and labour travels through public transport systems and both vehicles run on diesel fuel.

Few assumptions are made to determine the EFt, which are given as follows:

- The average distance travelled by labours to reach the construction site is in the range of 10–15 km.
- All materials and C&D wastes are transported through HDT, and C&D waste is disposed in landfill 10 km from the construction site.
- 60% workers travel by public transport systems.

The life cycle EF of transportation is calculated with given below:

$$EF_{wt}=\{(\sum C_{mi}.\ D_{mi}\ /T_c + \sum C_{wj}.\ D_{wj}\ /T_c).\ E_{truck} + \sum M_k.\ D_{mk}\ /T_b.\ E_{bus}\}.\ \lambda_{diesel}.eco_2\ land$$

where C_{mi} and D_{mi} are weight of transportable of i^{th} material and average distance of transportation of i^{th}material, respectively; C_{wj} and $D_{wj}$are waste and average distance of transportation of j^{th} material, respectively; M_k and D_{mk} are number of labour and average distance travelled by the labour;$T_c$andT_b represent the capacity of truck and bus, respectively; and λ_{diesel} is emission factor of diesel fuel.

Table 4: Total VKT for transport of Construction Material

Sr. No.	Construction Material List	Distance to the Plant km	Total VKT
1.	Cement	254	103613
2.	Sand	32	56131
3.	Aggregate	32	31941
4.	Steel	360	51026
5.	AAC Blocks	215	100365
6.	Clay bricks	60	0
7.	Vitrified Ceramic Tiles	860	40146
8.	Glass	465	1693
9.	Wood	25	117
10.	Aluminium	306	952
11.	Gypsum Plaster	582	18112
12.	Stone	750	12302
13.	Fly Ash	215	16112
		Total	**432510**

Note: Mode of transport considered is Trucks

The construction debris generation from project is around 1468 m^3. The total VKT for disposal of construction debris is given in **Table 5**

Table 5: Total VKT for disposal of construction debris

Sr. No.	Construction Debris	Waste Quantity in m^3	Total VKT	Total Emission tCO_2e
1	RMC	559	1343	0.99
2	Tiles	38	49	0.04
3	Bricks work	105	218	0.16
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5	Mortar for plastering	425	1019	0.75
6	Water proofing work (brick bat)	76	146	0.11
7	Gypsum work	38	67	0.05
	Total (A)	**1468**	**3277**	**2.41**

Note: Mode of transport considered is Trucks

The average workers required during construction phase is 200 Nos. The mode of transport of workers is given in **Table 6**

Table 6: Mode of Transport of workers

Sr. No.	Details	Quantity
1	No. of workers coming by Public Transport	75
2	No. of workers coming by 2W	50
3	No. of workers coming by 3W	75
4	No of workers/day	200

The ecological footprint due to transportation of construction material, disposal of construction debris and transport of construction workers is given in **Table 7**

Table 7: EF due to Transportation

Sr. No.	Details	gha
1	EF due to building material transportation	106.32
2	EF due to disposal of construction debris	0.81
3	EF due to Workers Transportation	15.72
4	**Total**	**122.85**

The ecological footprint due to Transportation is **122.85 gha**

5.3 EF OF DOMESTIC SOLID WASTE

The details of domestic waste generation from labour at site is as follows:

Table 8: Solid waste generation during construction phase

Sr. No.	Details	Quantity	Unit
1	No of workers	200	Nos
2	Solid waste generation	0.2	kg/capita/day
3	Construction Period Considered	3	years
4	Total Solid Waste generation during Construction period	43800	kg
5	Organic Waste generation	26280	kg
6	Inorganic Waste generation	17520	kg

The following expression is used for the determination of the total footprint of the waste,

$$EF_{wws} = \sum_{i} CR_{x_i} \cdot G_i$$

Where,EF_{wws} is the Weighted EF of the waste (gha/year), CR_{xi} is the Weighted Conversion Rate (gha/year/t), G_i is the Waste Generation (t).

Table 9: EF of domestic solid waste generation during construction phase

Sr. No.	Waste	Generation in tonnes	EF in gha
1	Organic Waste	43.8	14.38
2	Inorganic Waste	29.2	17.35
	Total	**73.0**	**31.74**

The ecological footprint due to domestic solid waste is **31.74 gha**

5.4 EF OF WATER CONSUMPTION

The water demand for domestic use and construction purpose in construction phase is 198938.2 m^3

Table 10: Water consumption during construction phase

Sr. No.	Particulars	Quantity	Unit
1	No of workers	200	Nos
2	No of workers staying at worker colony	0	Nos
3	Local Workers	200	Nos
4	Total Water consumption	9.0	KLD
5	Construction Period	3	years

Sr. No.	Particulars	Quantity	Unit
6	Total water consumption for workers during construction period	9855.00	m^3
7	Total water required for construction and curing purpose	42579.00	m^3
8	Total Water Consumption	52434.00	m^3

The ecological footprint of water consumption is calculated by

$$EF_{ww} = \frac{W}{FP} \cdot e_f$$

Where EF_{ww} is the weighted ecological footprint of water consumption (gha/year), W is the Water consumption (m^3) and FP is the Forest productivity (m^3/ha/year).

The Ecological footprint of water consumption is **903.24 gha**

5.5 EF DUE TO ENERGY CONSUMPTION DURING CONSTRUCTION PHASE

The daily energy consumption during construction phase is 150 kwh. The ecological footprint of Power Consumption is calculated by

$$EF_{we} = \sum_i \frac{P_i}{EP_i} \cdot e_f$$

where EF_{we} is the weighted ecological footprint of electricity consumption (gha/year), P_i is the Primary energy consumption (GJ), EP_i is the Energy productivity (GJ/ha/year).

The Ecological footprint of power consumption is **45.00 gha**

5.6 EF OF BUILT UP LAND

This footprint is obtained by considering the project area (17433.1 m^2) under consideration. The ecological footprint of Built up land is calculated by

$EF_{wb} = S \cdot e_b$

Where, EF_{wb} is the Weighted EF of built land (gha/year), S is the Surface area consumed (ha/year), e_b is the Equivalence factor of built land.

The Ecological footprint of Built up land is **4.4 gha**

6 ESTIMATION OF ECOLOGICAL FOOTPRINT DURING OPERATION PHASE

The share of operational phase impact of a building is much more than rest of the other phases of building. Therefore small savings in building operation can reduce much more amount of environmental impact. To calculate the ecological footprint of project during operation phase, the operational year considered is 45 years.

6.1 EF OF POWER CONSUMPTION

The operational energy requirements of a building can be considered as the energy that is used to maintain the environment inside that building. Life cycle analysis of building shows that operational energy accounts for 85–95% of the total energy consumption and CO_2 emissions of a building which comes from occupancy through heating, cooling, ventilation, and hot water use. This will include energy from electricity, gas, and the burning of fuels such as oil or coal. The annual energy consumption can be reduced by providing measures like Renewable energy (Solar Hot Water, Solar PV Panels), energy efficient pumps and lighting to reduce the CO_2 emission

The estimated power consumption during operation phase of project is **2899.93 MWh/yr.**

Table 11: EF of power consumption during operation phase

Sr. No.	Particulars	Value	Unit
1	Electricity consumption	7.95	MWh/day
2	Operation Period	365	days
3	Total Power Consumption	2899.93	MWh/year
4	EF of Power consumption	795.01	gha/year
5	EF of Power consumption for LCA 45 years	35775.55	gha

The EF of power consumption during operation phase is **795.01 gha/year**

The Ecological footprint of power consumption for LCA 45 years is **35775.55 gha**

6.2 EF OF WATER CONSUMPTION

The total water requirement during operation phase of project is 185 KLD.

Table 12: EF of water consumption during operation phase

Sr. No.	Particulars	Value	Unit
1	Total Water consumption	185	KLD
2	Fresh water Consumption	123	KLD
3	Operation years of Buildings	365	days
4	Total Water consumption during 365 days	67525	m^3

5	EF of Water Consumption/year	57.62	gha
6	EF of Water Consumption for LCA 45 years	2592.96	gha

The Ecological footprint of water consumption is **57.62 gha**

The Ecological footprint of water consumption for LCA 45 years is **2592.96 gha**

6.3 EF OF DOMESTIC SOLID WASTE GENERATION

The solid waste generation from the proposed development is 1223 kg/day. The organic component is 733.8kg/day. The inorganic component is 489.2 kg/day. The solid waste will be segregated at source. The dry waste will be handed over to Authorised agency. The biodegradable waste will be treated at site through Organic Waste convertor. The total solid waste generation during operation period of buildings is 446.4tonnes

Table 13: EF of solid waste generation during operation phase

Sr. No.	Waste	Generation in tonnes	EF in gha
1	Organic Waste	153.08	50.27
2	Inorganic Waste	102.05	60.67
3	**Total**	**255.14**	**110.94**

The Ecological footprint of domestic solid waste generation is **110.94 gha**

The Ecological footprint of domestic solid waste generation for LCA 45 years is **4992.43 gha**

6.4 EF DUE TO TRANSPORTATION DURING OPERATION PHASE

Greenhouse gas emissions from vehicular movement vary with vehicle type, fuel type, driving speed, driving style, vehicle loading and distance travelled.

The Vehicle Kilometre Travelled (VKT) approach is considered for estimation of CO_2 emission. Vehicle Kilometre Travelled (VKT) is basically the total distance travelled by the vehicles on roads. The internal distance travelled by the vehicles upto entry and exit points of the project are considered as VKT. After the VKT inventory has been obtained, next aspect is to quantify the emission factors. The emission factor (kg CO_2/km) is then multiplied by VKT (km) to obtain the quantity of emissions. The details of Trip generation is sourced from the Traffic study

Table 14: Parking provided

Sr. No.	Vehicles	Parking Provided (No. of Vehicles)
1	Cars	214
2	Scooters	411

The Ecological footprint due to transportation is **3.1 gha**

The Ecological footprint due to transportation for LCA 45 years is **137.94 gha**

8 EF REDUCTION THROUGH VEGETATION AND RENEWABLE ENERGY

Carbon sequestration is nothing but capturing atmospheric carbon dioxide or anthropogenic CO_2 from large scale stationary sources before it is released to the atmosphere. Once captured, the CO_2 gas is put into long term storage. CO_2 sequestration in plants has the potential to significantly reduce the level of carbon that occurs in the atmosphere. Terrestrial or biologic sequestration means using plants to capture CO_2 from the atmosphere and then storing it as carbon in the stems and roots of the plants as well as in the soil.

8.1 EF REDUCTION THROUGH VEGETATION

The EF reduction due to Vegetation and Landscape is as follows

The lawn area provided: 2045.85 m^2. The trees to be planted in project: 392 Nos.
The total EF reduction through vegetation is **12.03 gha**

8.2 EF REDUCTION THROUGH RENEWABLE ENERGY

The Solar PV panel unit (150 kw) are proposed to reduce the power consumption. The renewable energy generated through Solar system will be around 273.75 Mwh/yr

Table 15: Energy saving trough Renewable Energy

Sr. No.	Particulars	Total Power Saving (Mwh/yr)
1	Solar Hot Water	0
2	Solar PV Panel unit	135
3	Total	135

The reduction in ecological footprint due to renewable energy sources during operation phase of project will be **36.98 gha**

The total reduction in ecological footprint due to vegetation and renewable energy sources will be **49.02 gha**

9 CONCLUSION

The ecological footprint has been carried out to evaluate the environmental pressure generated by the construction of project (for total area of **50548.37 m²**) using LCA approach. The Ecological Footprint of an activity is expressed in terms of global hectare (gha), which is defined as ‘‘One global hector is equivalent to one hectare of bio-productive land with world average productivity’’. The EF was carried out for construction, Operation and demolition phase of project.

EF during construction Phase

Sr. No.	Component	EF in gha	%
1	Manufacturing of Construction Material	4950.5	81.89
2	Transportation of Construction Material	106.3	1.76
3	Transportation of Construction Workers	15.72	0.26
4	Workers Solid Waste	19.05	0.32
5	Water Consumption	903.24	14.94
6	Disposal of Construction Debris, Excavated Material	0.81	0.01
7	Power Consumption	45.0	0.74
8	Built up Land	4.4	0.07
	Total CF	**6045.0**	**99.93**

EF during Operation Phase

Sr. No.	Component	EF in gha	EF in gha LCA 45 years	%
1	Power Consumption	795.0	83.70	35775.55
2	Solid Waste Management	94.2	9.92	4238.35
3	Water Consumption	57.6	6.07	2592.96
4	Vehicular Emissions	3.1	0.32	137.94
	Total EF	**949.9**	**100.00**	**42744.80**
	Reduction in EF due to			
1	Tree Plantation and Landscape	12.0	541.52	
2	Use of Solar PV Panel unit	37.0	1664.22	
	Total (B)	**49.0**	**2205.74**	
	Total (A-B)	**900.9**	**40539.06**	

EF during Life Cycle of Project

The Ecological Footprint during operation phase of project is calculated using LCA approach (Project life (Operation) Considered is 45 years)

Sr. No.	Particulars	EF in gha/year	%
1	Construction Phase	6045.01	87.00
2	Operation Phase	40539.06	13.00
	Total	**46596.77**	**100.00**

EF per m^2 area

Sr. No.	Particulars	value	Unit
1	Total Construction area	50548.37	m^2
2	Already Constructed area	50548.37	gha
3	Ecological footprint of project	46596.77	gha
5	Ecological footprint per m^2 area	0.92	gha

The Ecological footprint considering the embodied energy of construction material is 4950.5 gha. (i.e 0.09 gha/m^2)

The ecological footprint of project is 46596.77 gha. The EF_{total} of the project clearly indicates that the CO_2 absorption land is the most significant land in all consumed land types of the building. The effects of energy consumption during the building life are highly significant and have the largest share in the $LCEF_{total}$. The transportation, water, manpower and waste assimilation carry very low decisive EF.

Gate Mass Balance Analysis

For

Proposed Residential Project
"Bramha Exuberance"
By BramhaCorp Ltd.
at

Sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd,
Taluka-Haveli, District Pune, State-Maharashtra

8(a) Category- B2

ENVIRONMENTAL CONSULTANT

Mahabal Enviro Engineers Pvt. Ltd.
Plot F-7, Road 21, MIDC Wagle Estate, Thane-400604
Phone: +91-22-25823139/1663/0658 thane@mahabal.com

Contents

Chapter 1 Solid Waste 3
1.1 Introduction 3
1.2 Mass balance analysis of solid waste for Bramha Exuberance project 3
Chapter 2 Liquid Waste 5
2.1 Introduction 5
2.2 Mass balance analysis for Bramha Exuberance project. 5
2.2.1 Liquid waste generation in operation phase 5
2.2.2 Liquid waste generation 6

Chapter 1
Solid Waste

1.1 Introduction

India is developing very fast for past few decades but some major issues are holding our capabilities at back foot, Solid waste issue is most significant among those problems. Only reason behind this problem is poor management of solid waste.

Construction sector is a substantial contributor in generating solid waste. Waste produced during the construction project mainly ends up in landfilling creating huge load on limited landfill areas. Therefore, keeping eye on waste produced due to construction may create a difference to landfill sites.

Mass balance analysis of solid waste can play a key role in management of solid waste. Mass Balance analysis can be proved beneficial due to following aspects.

- Better estimation of waste generation at project side, so better practices can be invented to produce less waste.
- Better management and reduced waste at project side will ease the load on landfill site.
- Better management and less produced waste will ease burden on local waste managing bodies.

1.2 Mass balance analysis of solid waste for Bramha Exuberance project

Solid waste generation at project site during operation is estimated in this study.

2.1.1 Solid waste generation in operation phase

Estimation of solid waste generation during operation and its management plan is given in **Chapter 2 and Chapter 7** of EIA report of this project.

Total no. of population on site is 1432 nos.

Solid waste generated from entire project is 699 kg/day. Out of which 419 kg/day is biodegradable component and 280 kg/day is non-biodegradable.

2.2.1.1 Management of waste produced

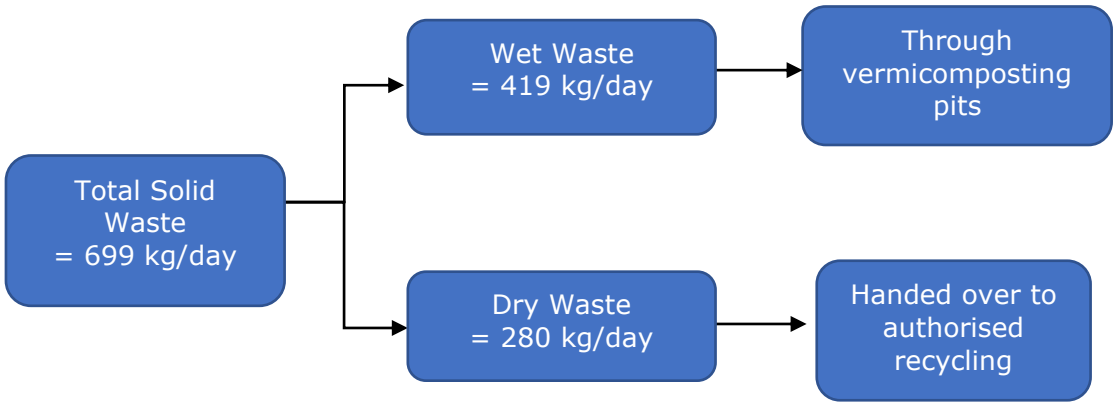
Different coloured waste collection bins for wet and dry waste have placed at different sites. Waste regarding information has provided to workers in form of awareness session to make them understand the significance of waste collection and disposal.

Disposal of collected waste:

Wet waste: Biodegradable waste is treated using vermicomposting pits and used as manure for landscaping.

Dry waste: Collected dry waste is handed over to authorised recycling.

Figure 1.1: Mass balance of solid waste in operation phase



Chapter 2
Liquid Waste

2.1 Introduction

21st century is an era of development, globally. India is one among the developing nations. Development is at its peak in every sector mainly in technology and construction. Construction sector development at its best because of continuous growth in population.

Unfortunately, is development always associated with some drawbacks, for an example waste generation. More is the construction; more will be the waste generation. Hence, proper attention is must towards waste management besides the development. Among the wastes, liquid waste must be on priority as water is basic need for survival for living beings.

Construction sector plays an important role in liquid waste management as it is directly involved in liquid waste generation, in both phases- construction and operation, irrespective of commercial or residential project. Prediction of waste generation can be helpful to manage waste efficiently at any construction project.

Mass balance analysis of liquid waste for any construction project is an important procedure for estimation of wastewater generated. Mass balance analysis helps in:

- Better estimation of wastewater generation and inventing better practices for waste management.
- Adopting efficient method to reduce the wastewater generation that will reduce the load on private or common STP.
- Reduce the chances of surface or ground water contamination using good management practices.

To attain the above purposes, mass balance analysis for wastewater is done for 'Bramha Exuberance' project.

2.2 Mass balance analysis for Bramha Exuberance project.

Liquid waste generation at project site during operation is estimated in this study.

2.2.1 Liquid waste generation in operation phase

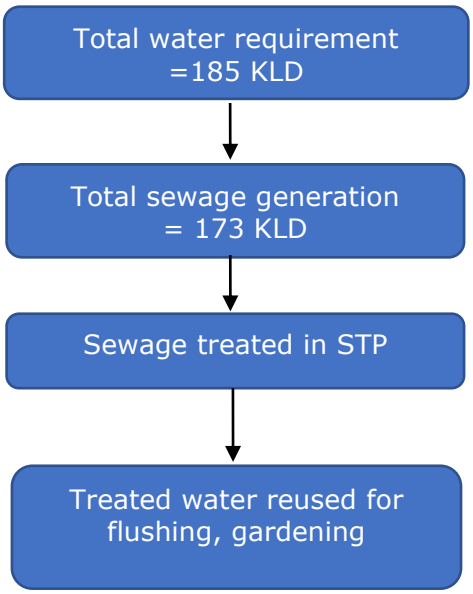
Estimation of liquid waste generation during operation and its management plan is given in **Chapter 2** of EIA report of this project.

2.2.2 Liquid waste generation

Total no. of population on site will be 1432.

Total water requirement is 185 KLD. Total sewage generation is 173 KLD. Sewage generated was treated in STP. Treated water was used at activities, like gardening, flushing.

Figure 2.1: Mass balance of liquid waste



Hydrogeology Report

Hydro-Geological Investigation for Assessment of Rainwater Harvesting Potential

Prepared for

"Bramha Exuberance"

Proposed residential project

At S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd,
Taluka Haveli, District Pune, Maharashtra

Prepared by

Mahabal Enviro Engineers Pvt. Ltd.
Pollution monitoring, Engineers & Contractors in Environmental Management

April 2023

Table of Contents

1.0 Geology 4
1.1 Geography 4
Figure 1: Google Earth Image of Site 4
1.2 Rainfall 4
1.3 Geomorphology: Morphological Location 6
Figure 2: Location Map 6
1.4 Petrology 7
1.4.1 Lava Flow Types 7
2.0 Hydro-geology 8
2.1 Vegetation 8
2.2 Soil 8
2.3 Hydrology/Well-hydrology 9
Figure 3: Hydrogeological Map 9
3.0 Ground Water Survey Report 10
3.1 Information 10
3.2 Methodology 10
3.2.1 Electrical Resistivity Method 10
3.2.2 Wenner's Configuration 12
Figure 4: Schematic representation of ERT with wenner's probe 12
3.2.3 VES data output 13
Table 1: Depth w.r.t Strata 13
Figure 5: Representation of sub surface strata 13
3.2.4 Data Procession 14
Figure 6: Resistivity Cross-Section 14
Graph 2: VES curve with table 15
3.2.5 Geophysical Observation 15
Table 2: Lithology of the land as per resistivity survey 15
4.0 Recharging 16
4.1 Rainwater Harvesting 16
Table 3: Run off Calculation 17
4.2 RWH Scheme Details (Proposed) 17

Executive Summary

Sr.	Details		Unit
1	Plot Area	17,433.10	m^2
2	Net Plot Area	14,599.75	m^2
3	Water Level: Summer Season Rainy Season Winter Season	 11.00 m. to 14.00 m. BGL. 5.00 m. to 6.00 m. BGL. 7.50 m. to 10.00 m. BGL.	m
4	Water Level Fluctuation	5 to 14 BGL.	m
5	Water that can be accommodated in the aquifer	=Area of aquifer (sq. m) x Thickness of Confined Aquifer (m) x Specific Yield of aquifer. = 14599.75 sq. m. x 4 m x 0.10 =5839.9	m^3
6	Balance Availability in Aquifer	1739.9	m^3/Year
7	Total surface run off after development	9020.34	m^3/Year
8	Total surface run off before development	5242.48	m^3/Year
9	Incremental rise in surface run off	3777.86	m^3/Year
10	Surface Rainwater That Can be Harvested Via Surface Recharge Pits – 2 pits	4100.00	m^3/Year
11	Size & No. of Recharge Pits	2 no. of RWH Pits & Size 3x3x4.5m	No. m
12	Percentage of Rainwater Harvest	108.53	%

1.0 Geology

1.1 Geography

The area is part of Deccan Plateau. The area is situated at Pune, Maharashtra in the survey of India Topo-sheet no. **E43H15** (47F/15) in quadrant **1D** at the altitude of 569 m. (Above MSL). Location of the site is at Latitude 18°28'31.22"N, 73°53'42.44"E. The area is easily approachable by tar road. The area lies on the eastern slopes of Sahyadri ranges.

Figure 1: Google Earth Image of Site

1.2 Rainfall

As the area lies in heavy rain fall (West of Sahyadris) area receives poor to average quantity of rain fall, (i.e. around 897.7 mm. approx. in 80 days per year) with nearly 82 % of the rainfall occurring during June – September and 10% occurring during October. The normal annual rain fall of Pune varies from about 505.78 to 2767.75 mm.

Taluka	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average
Pune City	335.3	652.4	1239.5	1246.0	779.4	689.29	909.7	1169.0	979.9	492.7	849.3
Haveli	452.2	890.6	1250.4	1247.5	859.4	709.3	938.3	1147.0	979.6	505.4	897.7
Mulshui	1251.0	1878.0	2875.5	2804.0	1834.0	1602.0	1836.7	1592.0	1792.0	1438.0	1890.35
Bhor	712.0	1380.1	1714.0	1762.0	1429.4	998.0	1213.0	1121.0	1129.3	833.0	1229.18
Maval	1026.0	1466.0	2561.0	2252.0	1462.6	1399.5	1364.8	1168.0	1482.0	1013.0	1517.49

Taluka	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average
Velhe	4120.0	2054.4	6320.6	3997.0	3263.0	2409.6	1405.0	2043.0	2695.1	2070.4	2767.75
Junnar	648.2	771.8	1344.4	1237.0	880.0	747.4	706.0	862.3	769.0	557.1	852.32
Khed	386.2	775.0	973.1	1461.1	756.5	692.66	639.4	1018.4	637.7	436.2	777.646
Ambegaon	421.8	735.1	1025.0	1338.3	830.9	735.0	732.3	823.4	836.0	616.6	809.44
Shirur	266.0	374.0	460.0	760.0	674.0	492.0	859.3	849.5	441.8	321.0	549.79
Baramati	113.0	521.0	711.0	567.0	622.0	454.0	738.8	804.6	291.0	235.0	505.76
Indrapur	163.3	651.9	696.1	668.0	640.3	345.4	932.4	805.8	399.0	250.6	555.28
Daund	256.3	522.0	742.2	594.0	604.85	326.7	474.3	693.3	347.6	337.4	474.465
Purandar	215.0	710.0	1158.0	1476.0	519.0	497.0	806.0	602.0	609.4	371.0	696.34
Dist.Av.	540.46	955.6	1647.9	1529.3	1081.1	863.9	968.3	1046.2	956.39	677.0	1026.63

Source: http://cgwb.gov.in/District_Profile/Maharashtra/Pune.pdf

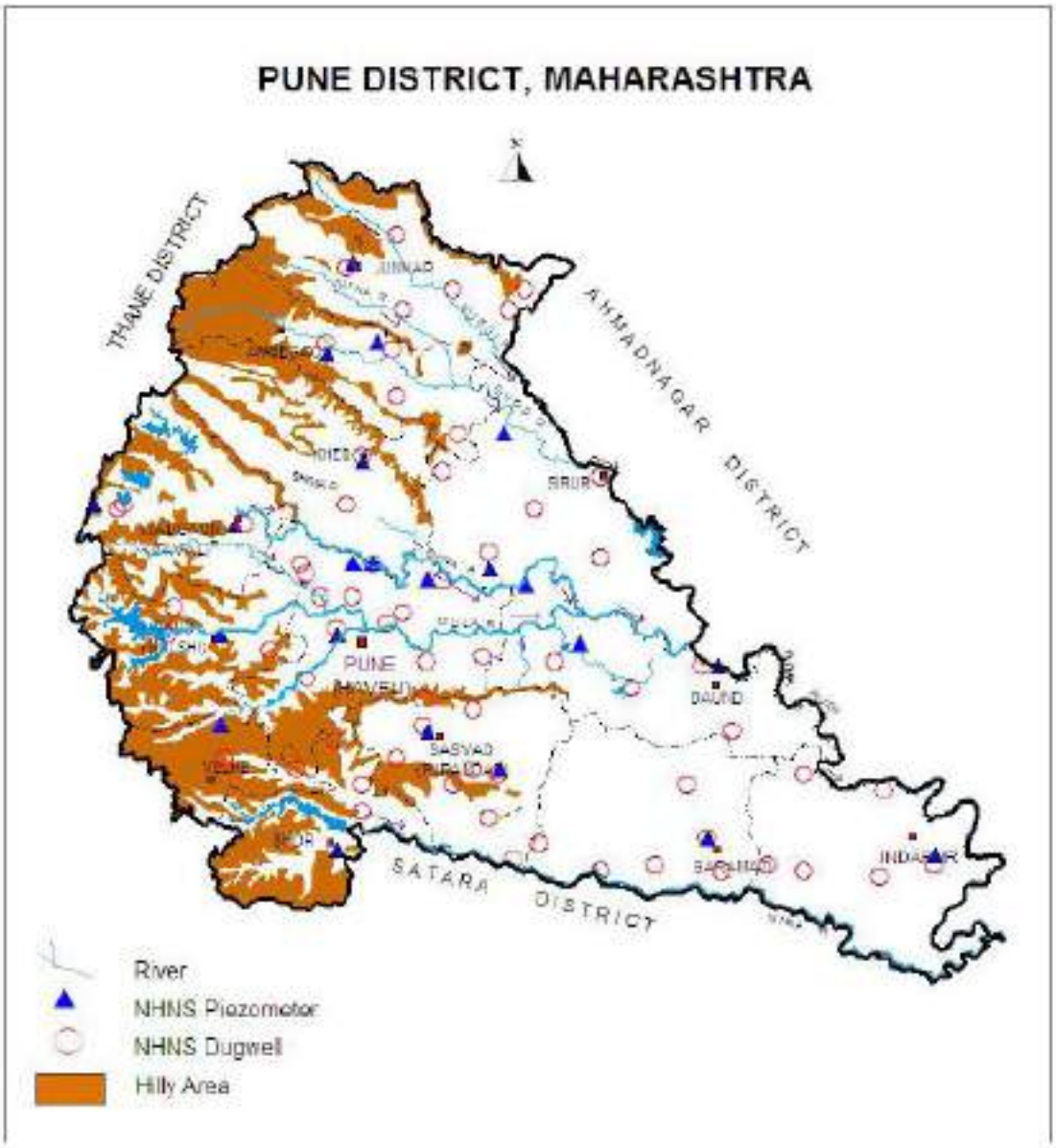
Average Rainfall for Haveli = 0.8977 m/year

Project Site Location: Topo sheet

1.3 Geomorphology: Morphological Location

The village & site lies in BM –46 watersheds and in 2/9 Micro-shed of safe zone classified in Morphozone- Site comes under Moderate to moderate Priority Zone of Kondhwa Khurd village. Site comes under Arial photograph no. 728. The property slopes towards West.

Figure 2: Location Map



The property slopes in general towards West (W). Topography of plot is almost flat in nature. Topography shows that the Eastern part of the land is at higher altitude and Western part is at lower altitude. In general, a variation of altitude of about 0.75 to 1.0 meters is observed. From the water shed, it shows typical dendritic drainage pattern.

1.4 Petrology

The area forms the heart of a vast suite of basalts. In general soil cover is good in all parts of land. Below soil well weathered and fractured basalt is present. Basalts are formed from the solidification molten lavas, rich in minerals of Augite and Plagioclase.

1.4.1 Lava Flow Types

Mafic lava flows have been classically divided into two categories: pahoehoe and aa (e.g., Dutton, 1884; Macdonald, 1953). Pahoehoe is characterized by having a smooth surface, and aa has a spinose auto breccia surface. In more recent years, some transitional types of basaltic lava have been noted, including slab pahoehoe and spiny pahoehoe (also called "toothpaste" or "sharkskin" pahoehoe). Spiny pahoehoe has the same centimeter scale morphology as classical pahoehoe but has a spinose surface (e.g., Rowland and Walker, 1987). Slab pahoehoe has the same meter-scale morphology as an aa flow, but the auto breccia is dominated by slabs of broken pahoehoe surfaces (e.g., Macdonald, 1972). There are also many sub varieties of classic pahoehoe in Hawaii, such as S- and P type pahoehoe (Walker, 1989), dense blue glassy pahoehoe (Hon et al., 1994), and shelly pahoehoe (Swanson, 1973). Most recently, another type of intermediate lava flow has been recognized. This flow type, dubbed "rubbly pahoehoe," is characterized by a flow top auto breccia comprised primarily of broken pahoehoe lobes (Keszthelyi, 2000; Keszthelyi and Thordarson, 2000). The area under investigation forms the part of the volcanic sequence of basaltic rocks belonging to the Deccan Volcanic activity, which is one of the largest known geological formations in India, covering over 80 percent area of the state of Maharashtra. As described earlier the local Basalt is converting in to Laterite in upper layers. The significant contributions to the field studies of the Deccan Volcanic Province during last few decades have recognized different flow types of basalts on the basis of associated volcanic features. In general, the basaltic lava flows have been grouped in to two as follows;

- Compound (Pahoehoe) type
- Simple (Aa) type flows

The lava flows in the proposed site area are of compound types that occur in entire Pune area. The most characteristic feature of the compound flows is that they consist of flow units, which have smooth upper surface, often with ropy structures developed on them, and a basal zone exhibiting inverted 'Y' shaped pipe vesicles. The western and northern portion consists of a relatively denser rock. The upper portion of such flow units is vesicular / amygdaloidal (filled with white or green silica material) and the cavities are generally ovoidal. The compound flows consist of such several flow units. Ropy surfaces and ovoidal vesicles (often filled) together with pipe amygdales are characteristic features to recognize the individual units of a compound flow. A thin glassy (fine-grained) crust, which is usually reddened at the top, also delineates the different flow units. Congealed glassy lava toes with hummocky (undulating) tops are often noticed in fresh exposures in northern part. The maximum and minimum thickness observed for compound flows is 160 m and 40 m respectively. Thinner flow units are throughout vesicular. These features are especially very common in the region around Mumbai, Pune, Lonavala, Nasik, Aurangabad and Ahmednagar and have been documented. The simple (Aa) flows on the contrary are characterized by rough fragmental clinker tops and dense, hard and massive rock below. The clinker fragments are irregular, spiny and varying in size from a few cm reaching to the order of about a meter. The basalt Flows, in general are thick, tabular in form, having large areal extent. Thickness of flows generally ranges between 5 and 80 m.

Another aspect of the flows is that seldom they are separated by tuffaceous material referred to as bole. The boles are of red-, green and brown- types depending on their color. These represent fine-grained material and are not uniformly developed on flows. The flows are also separated by volcanic breccias. Volcanic breccias consist of angular to sub angular fragments of basalt in a tuffaceous material. Both these features have some adverse effect on the quarrying of rock depending upon their thickness.

2.0 HYDRO-GEOLOGY

2.1 Vegetation

The natural vegetation is poor in the study area. Developer has planted lots of trees as per their requirement / convenience.

2.2 Soil

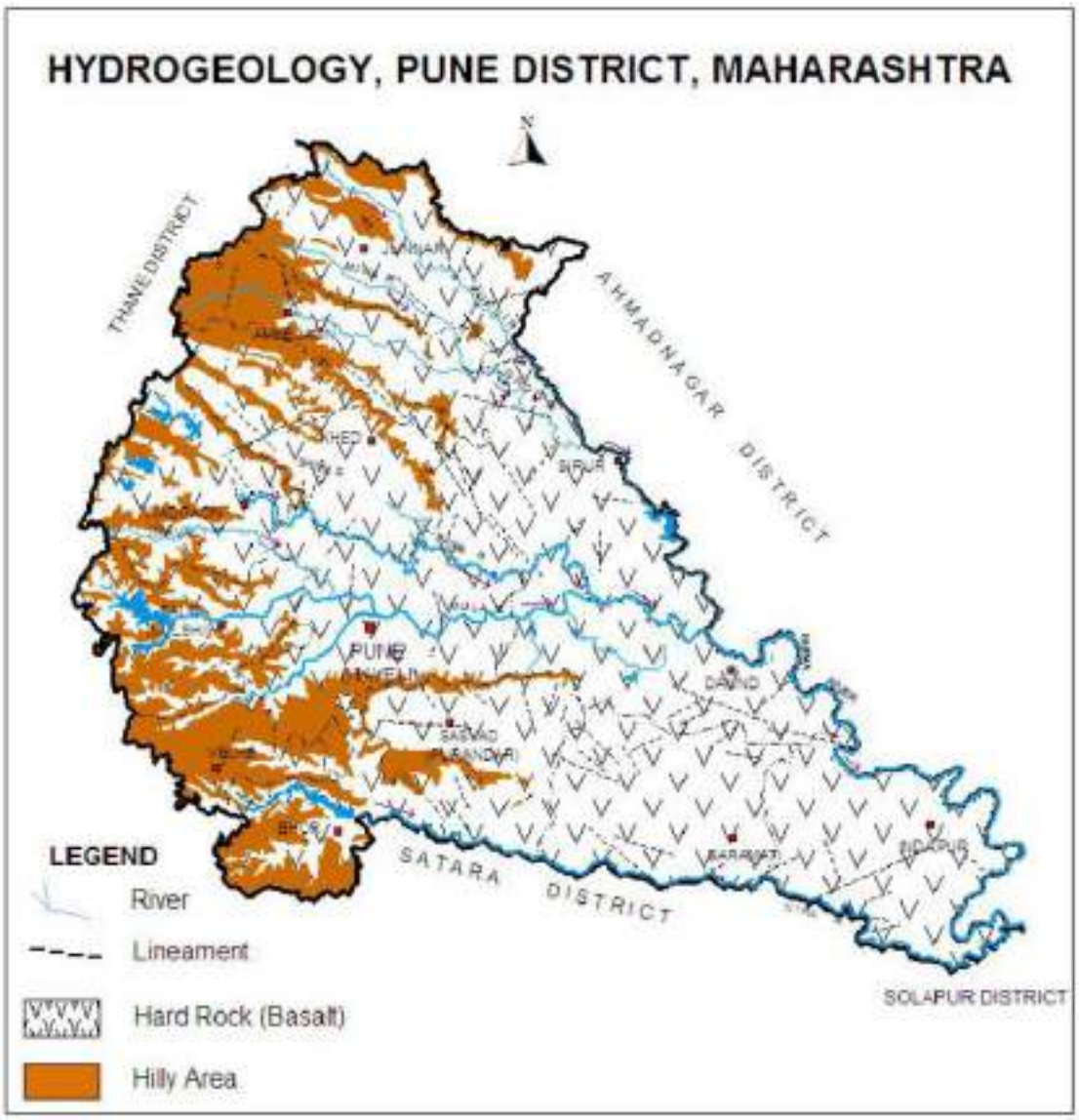
The area forms the heart of a vast suite of basalts with 0.1 to 0.2 m. of soil cover in N, NW, W, & SW parts of land and it is about 0.2 to 0.3 m. of soil cover in SW, SE and S and Southern parts of land.

In general soil cover is very good in entire parts of land. The soil is mainly grayish in colour. In some areas the soil is mixed with concerns, small Zeolites like Silica, Calcite, Feldspars, Natrolites and Green earths etc.

2.3 Hydrology / Well-hydrology

In the surrounded areas, bore wells are present. Depths of bore wells are limited between 30 to 60 m. and yield varies from 1" to 1 ¼". Water from the bore wells is mainly used for plantation, construction and domestic purpose.

Figure 3: Hydrogeological Map



3.0 Ground Water Survey Report

3.1 Information

The Groundwater survey was conducted using Electrical resistivity method in the given premises. In all 2 no. of soundings were taken. We have identified 4 no. of spots with the help of Resistivity data and Hydro – Geological conditions to explore the ground water by drilling bore wells.

Deccan basalts of west-central India are hydro-geologically inhomogeneous rocks. A proper understanding of the physical framework of the basalts within which groundwater resides and moves is a key to the hydrogeology of these rocks. Two types of basalt, the vesicular amygdaloidal basalt and the compact basalt, occur as alternate layers in the volcanic pile. Although the rocks are generally inhomogeneous, structures in the basalt, such as sheet joints and vertical joints, serve as zones of groundwater flow. In the shallow subsurface, two groundwater systems are operative. Groundwater system A consists of a vesicular amygdaloidal basalt underlain by a compact basalt, whereas groundwater system B consists of a vesicular amygdaloidal basalt overlain by a compact basalt. Groundwater system A has a better developed network of openings and, as a consequence, this system has a higher transmissivity and storage coefficient than groundwater system B. Wells tapping groundwater system A have higher yields on average and irrigate more hectares of cropland than do wells tapping groundwater system B. This simple systems concept offers a practical methodology for understanding the geometry of the physical framework that contains groundwater in the Deccan basalts. The efficacy of the concept is in its widespread utility for the region. The concept may also be extrapolated to help understand the hydrogeology of deeper Deccan basalt groundwater systems.

3.2 Methodology

3.2.1 Electrical Resistivity Method (IS: 1892-1979)

By applying this method, the resistance to the flow of an electric current through the subsurface materials is measured at intervals on the ground surface. The resistivity is usually defined as the resistance between opposite phases of a unit cube of the material. Each material has its own resistivity depending upon the water content, compaction and composition. The test is conducted by driving four metal spikes to serve as electrodes in to the ground along a straight line at equal distances. A direct voltage is imposed between the two outer potentiometer electrodes and the potential

drop is measured between the inner electrodes. To interpret the resistivity data for knowing the nature and distribution of the subsurface formations, it is necessary to make preliminary trial on known formations. The potential 'V' thus obtained divided by the current 'I' applied gives the resistance 'R' of the ground. The product of the resistance and the spacing factor, which is depending upon the disposition of the electrodes, is the resistivity of the ground.

This method is routinely used for:

- Determining the sub-surface strata classification
- Determination of hard rock foundation
- Estimation of overburden thickness and hard rock quantities
- Determination of the suitability of the area for quarrying and excavation

A great variety of electrode arrangements have been used to measure the earth resistivity but essentially, they may be grouped into three classes.

1. Arrangements in which the potential differences between two widely spaced measuring electrodes are recorded.
2. Arrangements in which a potential gradient or electric field intensity is measured using closely spaced pair of measuring electrodes.
3. Arrangements in which the curvature of the potential function is measured using a closely spaced current electrode pair as well as a closely spaced measuring electrode pair.

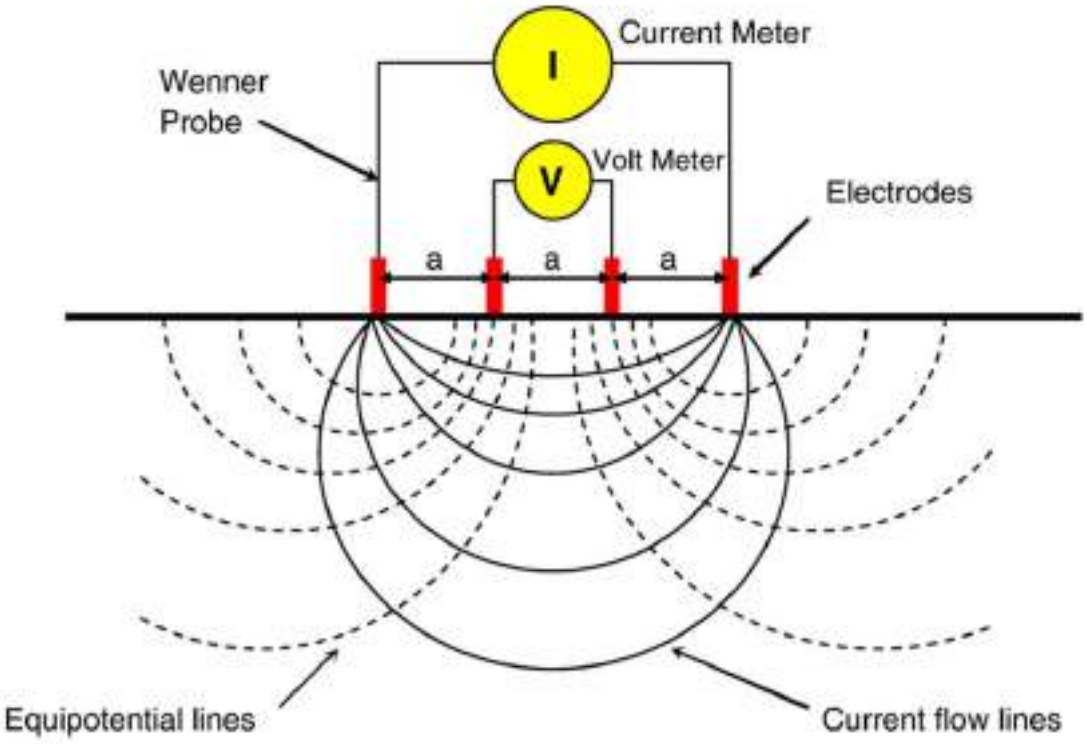
Any one of these arrays may be used to study variations in resistivity with depth or in lateral condition. In studying the variation of resistivity with depth, as in the case of a layered medium the spacing between the various electrodes is gradually increased. With larger spacing, the effect of material at depth on the measurements becomes more pronounced.

In studying the lateral as well as vertical variations, various electrode configurations are adopted and the array is moved as a whole along a traverse line. The first type of measurement is called as 'Vertical Electrical Sounding' (VES) and the second one is 'Horizontal Profiling' (HP). In the present work VES were conducted at 2 different locations and the depth was limited to 60 m.

3.2.2 Wenner's Configuration

It is a geophysical prospecting operation method in which measurement of earth resistivity is made from ground surface. The relative value of electrical resistivity can be interpreted, under certain condition, in terms of the general geology of the subsurface to limits depths. The method has been used in ground water exploration since the early 1930s.

Figure 4: Schematic representation of electrical resistivity measurement with Wenner's probe



Various types of earth materials generally exhibit certain ranges of the resistivity values. Using four electrodes set in the ground, the apparent earth resistivity is determined by measuring the voltage drop between two interior electrodes when current is passed thought the earth between outer electrodes.

The most common arrangement is the Wenner's Configuration with the electrodes equally spaced along straight line. Electrical resistivity surveying finds its best application in preliminary exploration of large areas, where a substantial ground water development is desired.

In the present work VES were conducted at 2 different locations.

3.2.3 VES Data Output

Table 1: Depth w.r.t Strata characteristic

Depth in BGL	Description of Strata
0-3	Soil + Weathered Murum
3-12	Moderately fractured weathered
12-27	Poorly fractured weathered basalt
27-42	Moderately fractured basalt rock
45-60	Poorly fractured basalt
60-65	Moderately weathered/ Hard rock at places
65<	Compact rock

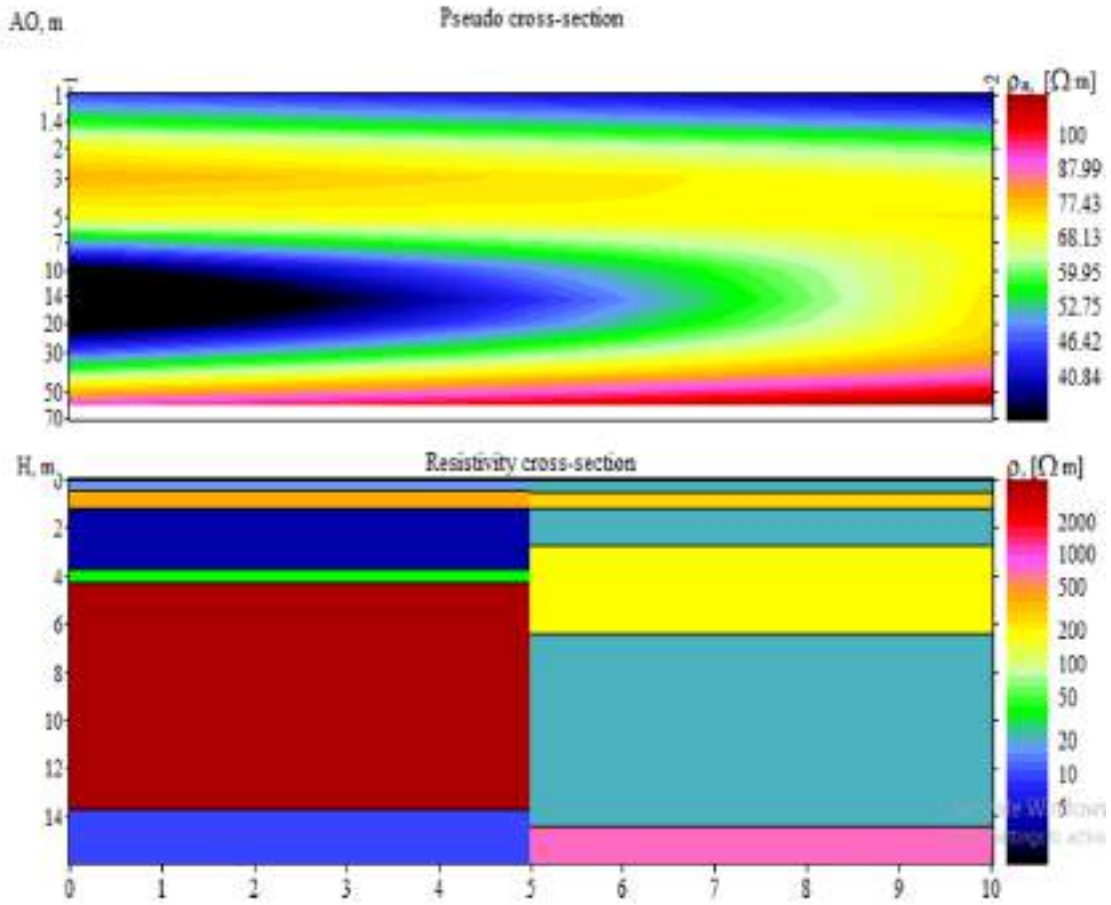
Figure 5: Representation of Sub Surface Strata

3.2.4 Data Procession

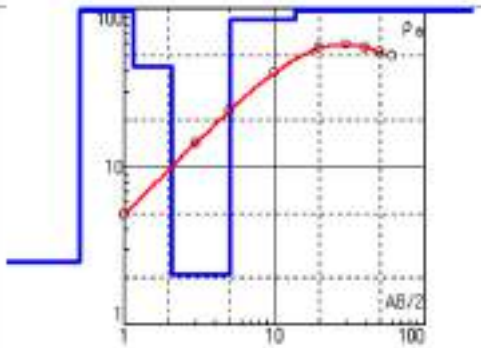
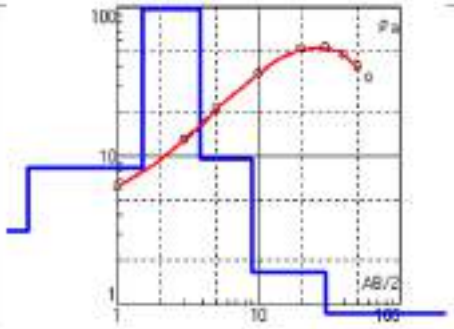
In the area to understand the shallow subsurface geological and aquifer conditions extending up to 60 meters' depth, vertical electrical soundings were conducted. The proposed area was investigated based on VES data as attached. Using IPI2 WINDOW based software the data obtained from field was processed. This software helps in interactive semi-automated interpretation of the field data. All the sounding data were modeled for the existing sections. The VES data on apparent resistivity values was modeled by using IPI2 WINDOW based software to get different layers depicting their thickness, depth and true resistivity.

In nutshell, the above interpretation gives generalized geological situation with depth-wise variations. As discussed above the sounding points with typical curves at selected sites give point information, which was further utilized to build comprehensive picture of subsurface geological situation depth-wise by preparing 2-D geo-electrical sections.

Figure 6: Resistivity Cross-Section



Graph 2: VES Curve with Table

Sr. No.	Graph	Values
1		N ρ h d Alt 1 2.508 0.5101 0.5101 0.5100 2 2319 0.6469 1.157 -1.1569 3 42.64 0.909 2.066 -2.0659 4 2.079 3.003 5.069 -5.0687 5 85.81 8.65 13.72 -13.719 6 472.6
2		N ρ h d Alt 1 3.124 0.2299 0.2299 0.2299 2 8.242 1.281 1.51 -1.5105 3 1965 0.4124 1.923 -1.9229 4 423.6 1.947 3.87 -3.8703 5 9.617 5.039 8.909 -8.9094 6 1.66 21.09 30 -30 7 0.8638

3.2.5 Geophysical Observations

Groundwater Investigations have been carried out by using geological and hydro-geological observations as already mentioned. Geophysical investigations have been carried out using electrical resistivity method at 2 no. of spots with Wenner's configuration. The recommendations are as follows:

Table 2: Lithology of the land as per resistivity survey

Sr. No.	Soil + Weathered Rock	Moderately Fractured Basalt	Poorly Weathered and Fractured Basalt	Poorly Weathered Fractured, Hard Compact Basalt
VES 1	1-3 m	3-12 m	12-27 m	27-65 m
VES 2	1-2.95 m	2.95-14 m	14-29 m	29-65 m

Aquifer Status:

Average depth of Un-confined aquifer is at 5.00 m. to 6.00 m. (5.50 m. Average).

Average depths of Confined aquifers are at 12.00 m. to 15.00 m. & 37.50 m. to 42.50 m.

Aquifer layers shows an uneven thickness.

Ground Water Table:

Summer Season – 11.00 m. to 14.00 m. BGL. (12.50 m. Average)
Rainy Season – 5.00 m. to 6.00 BGL. (5.50 m. Average)
Winter Season – 7.50 m. to 10.00 m. BGL. (8.75 m. Average)

4.0 Recharging

Recharging may be carried out by artificial surface recharging. Recharging would not only help in sustaining the well by recharging but also in improving the quality of the water by reducing alkalinity (salinity) and hardness.

4.1 Rainwater Harvesting

Rainwater harvesting should be carried out in the property to enhance the availability of groundwater. In this case surface rain water pits are suggested.

Considerations:

1) Total plot area: 17,433.10 m^2

2) Less deductions for road widening & amenity area: 2,833.35 m^2

3) Net area under Consideration: 14,599.75 m^2

4) Total roof top area: 2,948.08 m^2

5) Total area under internal road, paved, services and rest area: 9,605.82 m^2

6) Open space, plotting area, Landscape / Garden area: 2,045.85 m^2

7) We are considering 897.7 mm. annual rain fall.

8) We are considering 50 days of rainfall in one year.

9) We are considering 0.85 factor for roof top area.

10) We are considering 0.7 factor for road, paved area & services area.

11) We are considering 0.4 factor for open Space and landscape & garden area,

12) Expected percolation of water via pit with bore is – NA -

13) Total harvesting capacity 4,100.00 m^3/Year i.e. 82.00 m^3/ Day.

14) Total suggested harvesting is > 100 % of total surface run off after development, it is > 100 % of incremental rise in surface run off after development.

Table 3: Run off calculations

Run off for Roof top Area	Run off for Paved, Internal Roads, Services Area	Run off for Open Space, Landscape & Garden Area	Total Run off for Entire Area
2,249.52 m^3/year	6,036.20 m^3/year	734.62 m^3/year	9,020.34 m^3/year
44.99 m^3/day	120.72 m^3/day	14.69 m^3/day	180.41 m^3/day
Total surface run off before development			5,242.48 m^3/year
Total surface run off after development			9,020.34 m^3/year
Incremental rise in surface run off			3,777.86 m^3/year
Incremental rise in surface run off			75.56 m^3/day

4.2 RWH Scheme Details (Proposed)

a. Number of RWH Pits– 2 No. (Surface rain water pits)

b. Volume of rainwater that can be harvested in 1 Pit = 41.00 cum/day

c. Rainwater available from site = 75.56 cum/day.

d. Rain water harvesting capacity = 82.00 cum/day.

e. Suggested harvesting more than available surface rain water = 6.44 m^3 per day.

f. Suggested harvesting more than incremental rise in run off = 322.14 m^3 per year.

g. Percentage Harvesting capacity = > 100 % of total available rain water, it is > 100 % of incremental rise in surface run off after development.

Conclusions:

1) As the unconfined aquifer is at the depth of 5.00 m. to 6.00 m. (5.50 M. Average), we have recommended surface rain water pits only.

2) Confined aquifers are at the depth of 12.00 m. to 15.00 m. & 37.50 m. to 42.50 m. of depth (Average).

3) As the increase in the runoff is 3,777.86 m^3 per year i.e. 75.56 m^3 per day, available surface rain water after development is 9,020.34 m^3 per year i.e. 180.41 m^3 per day & as per requirement of form 1 B, we have recommended a recharge of 82.00 m^3/Day with the help of 2 no. of RWH Pits.

4) Total harvesting provided is > 100 % of the total surface run off after development, it is > 100 % of incremental rise in surface run off after development.

5) Percentage of harvesting compared to incremental raise in rain water (w.r.t average rain fall): - **108.53%.**

*****

RUNOFF CALCULATIONS

Mahabal Enviro Engineers Pvt Ltd

NAME - Bramha Exuberance
SITE - Residential Project
SITE ADDRESS - S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Tal.

DATE: 30-04-2023

DESCRIPTION			SURFACE RUNOFF PER YEAR (m^3)	SURFACE RUNOFF PER DAY (m^3)
Total Plot Area	17433.1	sq. m		
Total Deductions	2833.35	sq. m		
Net Area Under Consideration	14599.75	sq. m		
Annual Average Rain Fall	0.0977	m.		
Peak Rain Fall	0.05	m.		
Roof Top (Concrete)	0.85			
Internal Road & Paved Area	0.7			
Open Space, Landscape, Garden	0.4			
Roof Top Area	2948.08	sq. m	2249.52	44.99
Area Under Road, Paved, Rest etc	9605.82	sq. m	6036.20	120.72
Open Space, Landscape, Garden Area	2045.85	sq. m	734.62	14.69
Total	14599.75		9020.34	180.41
Average Runoff Coefficient	0.4			
Total Surface Runoff After Development		Cu. m	9020.34	180.41
Total Surface Runoff Before Development		Cu. m	5242.48	104.85
Increase in Surface Runoff After Development		Cu. m	3777.86	75.56

Rain Water Harvesting Details	Surface Rain Water Harvesting
No. of RWH Pits with Bores	2.00
Individual single unit RWH capacity (Cum/Day)	41.00
Typewise Individual capacity of RWH Pits (Cum/Day)	44.99
Total Capacity of RWH Pits (Cum/Day)	82.00
Total Capacity of RWH Pits (Cum/Year)	4100.00

- Percentage of harvesting compaired to incremental raise in rain water (w.r.t average rain fall): - **108.53%**
- Total harvesting provided is greater than 100 % of total surface runoff after development, it is greater than 100 % of incremental rise in surface runoff after development.

RUNOFF CALCULATIONS

Total Plot Area (sq.m)	17433.1
Total Deductions (Sq.m)	2833.35
Net Area (Sq.m)	14599.75
Rainfall (mm)	50

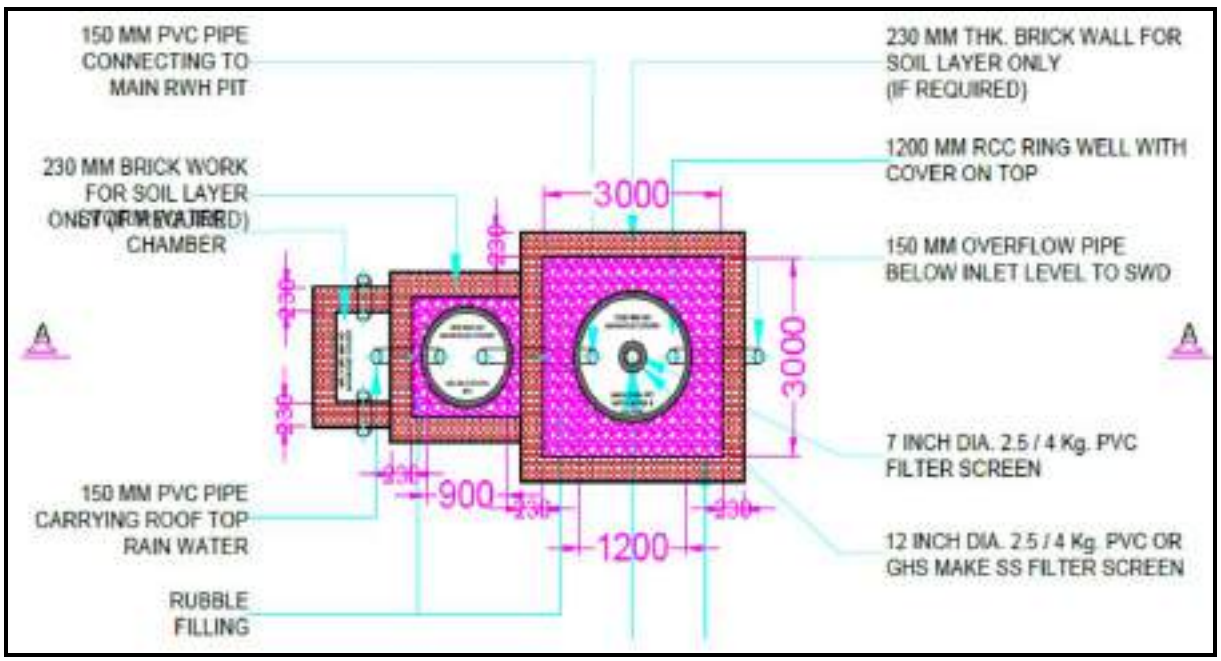
Rain Water Discharged from Roof Area	
Total Roof Area	2948.08
Run-off Coefficient	0.85
Quantity of rain water collected from roof	125.29

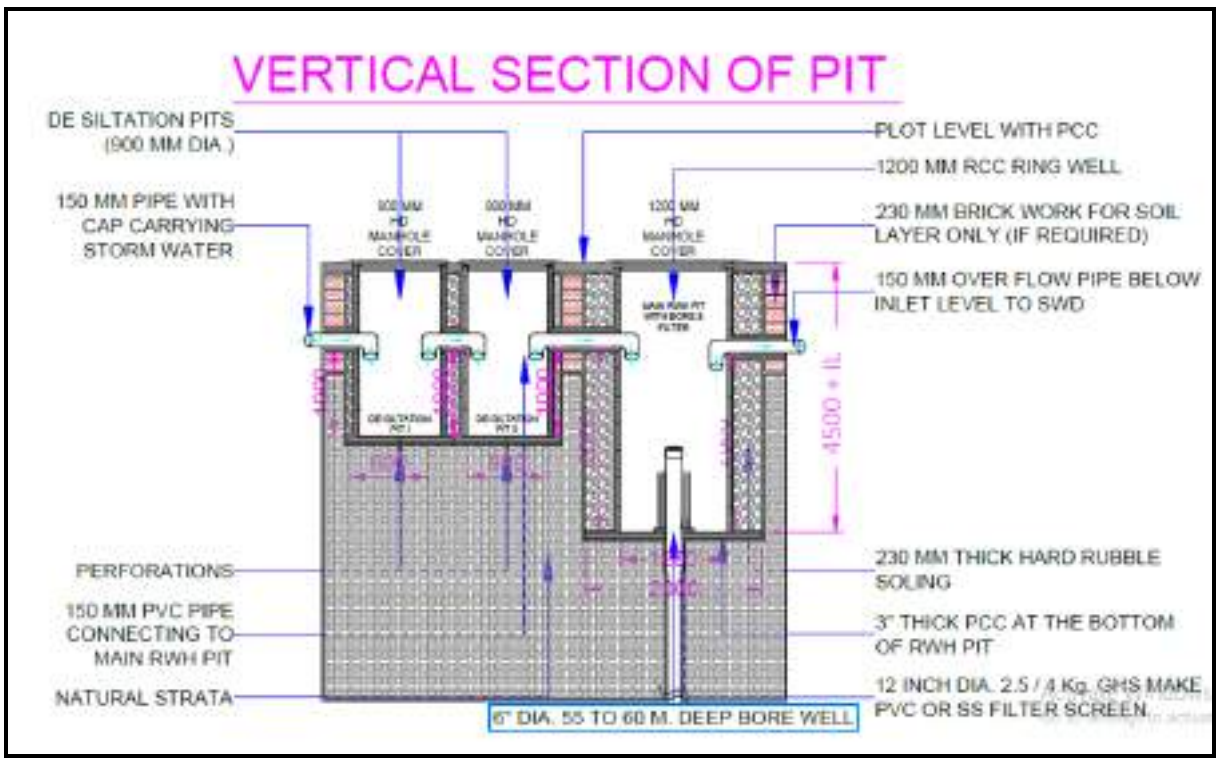
Storm water runoff from paved surfaces	
Internal roads, paved, services area	9605.84
Run-off Coefficient	0.7
Quantity of storm water run-off from paved areas	336.20

Storm water runoff from landscape area	
Total landscape area on mother earth	2045.85
Run-off Coefficient	0.4
Quantity of storm water run-off from green areas	40.92

Total storm water discharge (m3/hr.)	502.41
Water collected in 5 min. of peak rainfall	83.74
volume of one recharge pit	41.94
No. of recharge pit required	2.00
No. of RWH Pits proposed	2

3.00 M. X 3.00 M. X 4.5 M. RECHARGING PIT
2 UNITS FOR SURFACE RUN OFF





Tree Survival Report

Bramha Exuberance project S. No. 13, H.No.1,2 &3,
Kondhwa Khurd, Haveli, Pune Maharashtra

By

BramhaCorp Ltd

Sr.	Name of Plant	Local Name	Girth (Meters)	Height (Meters)	Tree Age
1.	Peltophoraum	Copper Pod	0.70	6	16
2.	Buch	Sweet Flag	0.80	7	16
3.	Peltophoraum	Copper Pod	0.80	7	14
4.	Buch	Sweet Flag	0.50	5	10
5.	Peltophoraum	Copper Pod	0.50	5	12
6.	Buch	Sweet Flag	0.50	5	12
7.	Peltophoraum	Copper Pod	0.70	6	16
8.	Buch	Sweet Flag	0.60	6	16
9.	Peltophoraum	Copper Pod	1	7	20
10.	Buch	Sweet Flag	1	8	20
11.	Peltophoraum	Copper Pod	1.1	8	20
12.	Ficus	Weeping Fig	0.20	2	6
13.	Ficus	Weeping Fig	0.20	4	6
14.	Buch	Sweet Flag	0.90	8	20
15.	Ficus	Weeping Fig	0.10	3	4
16.	Peltophoraum	Copper Pod	1.11	8	20
17.	Ficus	Weeping Fig	0.15	3	6
18.	Ficus	Weeping Fig	0.15	3	6
19.	Buch	Sweet Flag	0.18	8	18
20.	Peltophoraum	Copper Pod	1	8	20
21.	Ficus	Weeping Fig	0.20	3	6
22.	Ficus	Weeping Fig	0.20	3	6
23.	Buch	Sweet Flag	1.1	8	20
24.	Peltophoraum	Copper Pod	1	8	20
25.	Ficus	Weeping Fig	0.20	3	6
26.	Buch	Sweet Flag	1	9	20
27.	Peltophoraum	Copper Pod	1.1 0	9	20
28.	Buch	Sweet Flag	0.70	6	16
29.	Peltophoraum	Copper Pod	0.80	6	16
30.	Ficus	Weeping Fig	0.20	3	6
31.	Ficus	Weeping Fig	0.20	3	6
32.	Buch	Sweet Flag	1	9	20
33.	Ficus	Weeping Fig	0.15	2	5
34.	Peltophoraum	Copper Pod	0.80	7	14
35.	Ficus	Weeping Fig	0.20	3	6
36.	Ficus	Weeping Fig	0.30	3	8
37.	Buch	Sweet Flag	0.80	7	16
38.	Ficus	Weeping Fig	0.15	3	5
39.	Peltophoraum	Copper Pod	1	8	20
40.	Buch	Sweet Flag	1	8	20

41.	Peltophoraum	Copper Pod	1.10	8	20
42.	Ficus	Weeping Fig	0.30	3	8
43.	Buch	Sweet Flag	1	9	20
44.	Ficus	Weeping Fig	0.30	3	8
45.	Peltophoraum	Copper Pod	1	8	20
46.	Ficus	Weeping Fig	0.20	3	6
47.	Ficus	Weeping Fig	0.20	3	6
48.	Buch	Sweet Flag	1	9	20
49.	Ficus	Weeping Fig	0.20	2	5
50.	Peltophoraum	Copper Pod	1	8	20
51.	Ficus	Weeping Fig	0.30	3	6
52.	Grvillea Robusta	Silveroak	0.90	9	20
53.	Ficus	Weeping Fig	0.15	2	5
54.	Peltophoraum	Copper Pod	1	8	20
55.	Araucaria	X-mas Tree	0.15	4	6
56.	Ficus	Weeping Fig	0.10	2	4
57.	Grvillea Robusta	Silveroak	0.8	9	15
58.	Ficus	Weeping Fig	0.15	2	5
59.	Peltophoraum	Copper Pod	0.8	5	14
60.	Ficus	Weeping Fig	0.2	3	6
61.	Ficus	Weeping Fig	0.2	3	6
62.	Grvillea Robusta	Silveroak	1	9	20
63.	Ficus	Weeping Fig	0.15	2	6
64.	Peltophoraum	Copper Pod	0.8	8	18
65.	Ficus	Weeping Fig	0.15	2	6
66.	Ficus	Weeping Fig	0.15	2	6
67.	Butea monosperma	Palas	0.3	4	8
68.	Nyctanthes arbor-tristis	parijat	0.2	3	6
69.	Peltophoraum	Copper Pod	0.5	4	12
70.	Araucaria	X-mas Tree	0.15	3	8
71.	Plumeria rubra	Chafa	0.15	3	5
72.	Aegle marmelos Correa	Bael	0.10	2	8
73.	Ficus benghalensis	mangoyan	0.15	3	8
74.	Nyctanthes arbor-tristis	Parijat	0.15	3	6
75.	Nyctanthes arbor-tristis	Parijat	0.15	3	6
76.	Mangifera indica	Mango	0.2	3	8
77.	Guava	Myroxylon Balasarum	0.2	4	8

78.	Nyctanthes arbor-tristis	parijat	0.15	3	5
79.	Plumeria rubra	Chafa	0.6	5	14
80.	Peltophoraum	Copper Pod	1	9	20
81.	Tabebuia	Pink Rosy Trumpet	0.8	9	18
82.	Peltophoraum	Copper Pod	0.7	8	16
83.	Peltophoraum	Copper Pod	0.9	8	18
84.	Peltophoraum	Copper Pod	0.5	6	14
85.	Peltophoraum	Copper Pod	1	9	20
86.	Plumeria rubra	Chafa	0.3	4	18
87.	Spathodea campanulata	African Tulip Tree	1	8	20
88.	Plumeria rubra	Chafa	0.40	4	10
89.	Plumeria rubra	Chafa	0.50	12	12
90.	Plumeria rubra	Chafa	0.4	4	12
91.	Peltophoraum	Copper Pod	0.9	8	18
92.	Tecoma	Yellow Bells	0.3	6	10
93.	Tecoma	Yellow Bells	0.2	2	5
94.	Tecoma	Yellow Bells	0.2	4	8
95.	Tecoma	Yellow Bells	0.3	5	8
96.	Tecoma	Yellow Bells	0.3	4	8
97.	Tecoma	Yellow Bells	0.4	6	8
98.	Tecoma	Yellow Bells	0.4	6	8
99.	Tecoma	Yellow Bells	0.3	4	8
100.	Tecoma	Yellow Bells	0.4	3	8
101.	Geiger tree	Cordia sebestena	0.3	5	8
102.	Geiger tree	Cordia sebestena	0.3	5	8
103.	Bamboo	Bambusa Vulgaris	Bet	2	4
104.	Bamboo	Bambusa Vulgaris	Bet	3	6
105.	Umbrella Tree	Octopus Tree	0.30	4	6
106.	Peltophoraum	Copper Pod	0.80	8	18
107.	Peltophoraum	Copper Pod	0.50	6	14
108.	Peltophoraum	Copper Pod	0.6	6	14
109.	Peltophoraum	Copper Pod	0.5	5	12
110.	Peltophoraum	Copper Pod	0.6	6	14
111.	Plumeria rubra	Chafa	0.5	4	12
112.	Plumeria rubra	Chafa	0.4	5	10

113.	Plumeria rubra	Chafa	0.5	5	12
114.	Spathodea campanulata	African Tulip Tree	0.7	9	18
115.	River tamarind	Leucaena leucocephala	0.8	6	10
116.	Cordia	Cordia dichotoma	0.26	4	10
117.	River tamarind	Leucaena leucocephala	0.7	10	14
118.	tabebuia	Trumpet trees	0.7	8	16
119.	tabebuia	Trumpet trees	0.6	8	14
120.	tabebuia	Trumpet trees	0.4	7	12
121.	tabebuia	Trumpet trees	0.6	6	12
122.	Azadirachta Indica	Neem	0.4	5	12
123.	Alstonia scholaris	Blackboard tree	0.5	4	12
124.	Alstonia scholaris	Blackboard tree	0.5	4	12
125.	Santalum album	Sandalwood	0.2	4	12
126.	Alstonia scholaris	Blackboard tree	0.3	4	8
127.	Tecoma	Yellow Bells	0.15	4	8
128.	Alstonia scholaris	Blackboard tree	0.3	4	8
129.	Alstonia scholaris	Blackboard tree	0.2	4	6
130.	Bauhinia variegata	Kanchan tree	1	8	20
131.	Bauhinia variegata	Kanchan tree	0.8	7	16
132.	Bauhinia variegata	Kanchan tree	1	8	20
133.	Cordia	Cordia dichotoma	0.3	4	12
134.	Cordia	Cordia dichotoma	0.2	4	12
135.	Citrus limon	lemon	0.10	1	3
136.	Mangifera indica	Mango	0.1	1	3
137.	Aegle marmelos	Bel tree	0.10	1	3
138.	Bambusa Vulgaris	Bamboo	Bet	4	8
139.	Cordia sebestena	Geiger tree	0.3	4	8
140.	Peltophoraum	Copper Pod	0.9	8	18
141.	Peltophoraum	Copper Pod	0.6	6	14
142.	Peltophoraum	Copper Pod	0.7	8	16
143.	Peltophoraum	Copper Pod	0.7	8	16
144.	Nyctanthes arbor-tristis	parijat	0.1	3	6
145.	Bambusa Vulgaris	Bamboo	Bet	2	4

146.	Peltophoraum	Copper Pod	0.8	8	16
147.	Citrus sinensis	Sweet orange	0.1	2	16
148.	Nyctanthes arbor-tristis	parijat	0.1	2	5
149.	Bambusa Vulgaris	Bamboo	Bet	4	6
150.	Bambusa Vulgaris	Bamboo	Bet	4	6
151.	Bambusa Vulgaris	Bamboo	Bet	4	6
152.	Bambusa Vulgaris	Bamboo	Bet	4	6
153.	Cordia	Cordia dichotoma	0.3	4	6
154.	Peltophoraum	Copper Pod	0.8	8	18
155.	Peltophoraum	Copper Pod	0.8	8	18
156.	Cordia dichotoma	Cordia	0.3	4	8
157.	Spathodrea campanulata	African Tulip Tree	0.8	8	16
158.	Citrus limon	lemon	10	2	3
159.	Spathodrea campanulata	African Tulip Tree	1	8	20
160.	Araucaria columnaris	Christmas tree	0.10	2	3
161.	Spathodrea campanulata	African Tulip Tree	0.20	5	8
162.	Spathodrea campanulata	African Tulip Tree	0.70	8	16
163.	Swietenia	Mohgani	0.60	9	15
164.	Swietenia	Mohgani	0.60	9	15
165.	Alstonia scholaris	Blackboard tree	1	8	20
166.	Swietenia	Mohgani	0.60	9	15
167.	Alstonia scholaris	Blackboard tree	0.60	9	15
168.	Swietenia	Mohgani	0.60	9	15
169.	Bauhinia variegata	Kanchan tree	0.10	3	6
170.	Bauhinia variegata	Kanchan tree	0.15	3	6
171.	Alstonia scholaris	Blackboard tree	1	8	20
172.	Swietenia	Mohgani	0.30	6	12
173.	Spathodrea campanulata	African Tulip Tree	0.70	8	16
174.	Thespesia populnea	Bhendi	0.10	3	5
175.	Mangifera indica	Mango	0.10	1	3
176.	Spathodrea campanulata	African Tulip Tree	0.90	8	18
177.	Bauhinia variegata	Kanchan tree	0.80	6	15

178.	Mangifera indica	Mango	0.10	1	3
179.	Mangifera indica	Mango	0.10	1	3
180.	Citrus limon	lemon	0.10	2	3
181.	Cordia dichotoma	Cordia	0.3	4	8
182.	Mangifera indica	Mango	0.10	1	3
183.	Mangifera indica	Mango	0.10	1	3
184.	Tabebuia	Pink Rosy Trumpet	0.70	8	16
185.	Azadirachta Indica	Neem	0.80	7	16
186.	Tabebuia	Pink Rosy Trumpet	0.70	8	16
187.	Bauhinia variegata	Kanchan tree	0.70	5	14
188.	Citrus limon	lemon	0.10	1	3
189.	Citrus limon	lemon	0.10	1	3
190.	Cordia dichotoma	Cordia	0.30	4	14
191.	Azadirachta Indica	Neem	0.10	1	3
192.	Azadirachta Indica	Neem	0.10	3	6
193.	Mangifera indica	Mango	0.10	3	6
194.	Peltophoraum	Copper Pod	0.7	8	16
195.	Peltophoraum	Copper Pod	0.7	8	16
196.	Peltophoraum	Copper Pod	0.7	8	16
197.	Peltophoraum	Copper Pod	0.8	8	16
198.	Peltophoraum	Copper Pod	0.8	8	16
199.	Azadirachta Indica	Neem	0.3	5	10
200.	Bauhinia variegata	Kanchan tree	1	8	20
201.	Tabebuia	Pink Rosy Trumpet	0.40	8	15
202.	Tabebuia	Pink Rosy Trumpet	0.50	8	16
203.	Saraca asoca	Ashoka tree	0.10	2	3
204.	Tabebuia	Pink Rosy Trumpet	0.40	5	10
205.	Tecoma	Yellow Bells	0.10	3	4
206.	Santalum album	Sandalwood	0.10	3	8
207.	Ficus	Weeping Fig	1	8	20
208.	Peltophoraum	Copper Pod	0.70	7	16
209.	Tecoma	Yellow Bells	0.15	3	6
210.	Tecoma	Yellow Bells	0.40	3	8
211.	Tecoma	Yellow Bells	0.30	3	6
212.	Tecoma	Yellow Bells	0.40	3	6

213.	Tecoma	Yellow Bells	0.30	2	5
214.	Tecoma	Yellow Bells	0.50	4	8
215.	Tecoma	Yellow Bells	0.60	4	8
216.	Tecoma	Yellow Bells	0.40	5	8
217.	Tecoma	Yellow Bells	0.30	3	5
218.	Tecoma	Yellow Bells	0.20	3	4
219.	Tecoma	Yellow Bells	0.20	4	4
220.	Tecoma	Yellow Bells	0.40	4	8
221.	Tecoma	Yellow Bells	0.30	3	6
222.	Tecoma	Yellow Bells	0.20	3	5
223.	Tecoma	Yellow Bells	0.20	3	5
224.	Tecoma	Yellow Bells	0.40	4	6
225.	Tecoma	Yellow Bells	0.40	4	6
226.	Tecoma	Yellow Bells	0.30	3	6
227.	Tecoma	Yellow Bells	0.10	2	4
228.	Tecoma	Yellow Bells	0.40	3	8
229.	Tecoma	Yellow Bells	0.20	3	5
230.	Tecoma	Yellow Bells	0.20	3	5
231.	Tecoma	Yellow Bells	0.15	2	5
232.	Tecoma	Yellow Bells	0.15	2	5
233.	Tecoma	Yellow Bells	0.20	3	5
234.	Tecoma	Yellow Bells	0.20	3	5
235.	Tecoma	Yellow Bells	0.30	4	6
236.	Tecoma	Yellow Bells	0.30	4	6
237.	Tecoma	Yellow Bells	0.20	3	5
238.	Tecoma	Yellow Bells	0.30	4	8
239.	Tecoma	Yellow Bells	0.30	4	8
240.	Tecoma	Yellow Bells	0.20	4	6
241.	Tecoma	Yellow Bells	0.10	2	4
242.	Tecoma	Yellow Bells	0.20	3	6
243.	Tecoma	Yellow Bells	0.40	4	8
244.	Tecoma	Yellow Bells	0.30	4	8
245.	Tecoma	Yellow Bells	0.20	3	20
246.	Tecoma	Yellow Bells	0.20	3	5
247.	Tecoma	Yellow Bells	0.30	4	8
248.	Tecoma	Yellow Bells	0.40	5	8
249.	Tecoma	Yellow Bells	0.20	3	6
250.	Tecoma	Yellow Bells	0.20	3	6
251.	Tecoma	Yellow Bells	0.15	2	4
252.	Tecoma	Yellow Bells	0.20	3	5
253.	Tecoma	Yellow Bells	0.20	3	5
254.	Tecoma	Yellow Bells	0.15	2	4

255.	Tecoma	Yellow Bells	0.20	3	4
256.	Tecoma	Yellow Bells	0.40	4	8
257.	Tecoma	Yellow Bells	0.30	4	6
258.	Tecoma	Yellow Bells	0.10	3	3
259.	Tecoma	Yellow Bells	0.10	2	3
260.	Tecoma	Yellow Bells	0.10	2	3
261.	Tecoma	Yellow Bells	0.10	2	3
262.	Tecoma	Yellow Bells	0.2	4	6
263.	Tecoma	Yellow Bells	0.2	4	6
264.	Tecoma	Yellow Bells	0.4	5	8
265.	Tecoma	Yellow Bells	0.30	4	6
266.	Tecoma	Yellow Bells	0.40	4	8
267.	Tecoma	Yellow Bells	0.60	5	10
268.	Prunus avium	Cherry	0.40	4	6
269.	Prunus avium	Cherry	0.30	3	5
270.	Plumeria rubra	Chafa	0.50	4	6
271.	Nyctanthes arbor-tristis	parijat	0.20	3	5
272.	Cascabeta thevetia	Beeti	0.20	4	6
273.	Cascabeta thevetia	Beeti	0.30	5	8
274.	Cascabeta thevetia	Beeti	0.30	5	8
275.	Cascabeta thevetia	Beeti	0.10	2	5
276.	Cascabeta thevetia	Beeti	0.30	4	6
277.	Khaya senegalensis	Khaya	0.40	5	8
278.	Azadirachta Indica	Neem	0.70	5	12
279.	Murraya paniculata	Kamini	0.20	2	5
280.	Murraya paniculata	Kamini	0.20	2	5
281.	Murraya paniculata	Kamini	0.20	2	5
282.	Murraya paniculata	Kamini	0.20	2	5
283.	Ficus	Weeping Fig	0.10	2	5
284.	Peltophoraum	Copper Pod	1	8	18
285.	Ficus	Weeping Fig	0.10	2	4
286.	Grvillea Robusta	Silveroak	0.20	5	8
287.	Spathodea campanulata	African Tulip Tree	0.10	2	3
288.	Peltophoraum	Copper Pod	0.15	3	6
289.	Spathodea campanulata	African Tulip Tree	0.80	6	12
290.	Syzgium cumini	Jamun tree	0.10	2	6
291.	Annona squamosa	Custard apple	0.10	2	6
292.	Ficus	Weeping Fig	0.30	3	8
293.	Spathodea	African Tulip	1	8	20

	campanulata	Tree			
294.	Ficus	Weeping Fig	0.10	2	4
295.	Ficus	Weeping Fig	0.10	2	4
296.	Ficus	Weeping Fig	0.20	3	5
297.	Spathodea campanulata	African Tulip Tree	0.40	4	10
298.	Ficus	Weeping Fig	0.10	2	4
299.	Ficus	Weeping Fig	0.20	3	5
300.	Spathodea campanulata	African Tulip Tree	0.90	8	18
301.	Ficus	Weeping Fig	0.20	2	6
302.	Peltophoraum	Copper Pod	1	8	20
303.	Ficus	Weeping Fig	0.20	3	6
304.	Silveroak	Grevillea robusta	0.40	5	10
305.	Ficus	Weeping Fig	0.10	2	6
306.	Ficus	Weeping Fig	0.10	2	6
307.	Peltophoraum	Copper Pod	1	8	20
308.	Lagerstroemia speciosa	Tamhan	0.10	2	4
309.	Lagerstroemia speciosa	Tamhan	0.10	2	4
310.	Lagerstroemia speciosa	Tamhan	0.10	2	4
311.	Lagerstroemia speciosa	Tamhan	0.10	2	4
312.	Mangifera indica	Mango	0.10	2	4
313.	Ficus racemosa	Umbar	0.20	2	6
314.	spathodea campanulata	Tulip Tree	0.60	6	14
315.	Ficus	Weeping Fig	0.20	3	6
316.	Ficus	Weeping Fig	0.20	3	6
317.	Ficus	Weeping Fig	0.20	3	6
318.	Ficus	Weeping Fig	0.20	3	6
319.	spathodea campanulata	Tulip Tree	0.80	3	14
320.	Ficus	Weeping Fig	0.20	3	6
321.	Ficus	Weeping Fig	0.20	3	6
322.	Ficus	Weeping Fig	0.20	3	6
323.	spathodea campanulata	Tulip Tree	1	8	20
324.	Ficus	Weeping Fig	0.20	3	6
325.	Ficus	Weeping Fig	0.20	2	6

326.	spathodea campanulata	Tulip Tree	1.20	8	22
327.	spathodea campanulata	Tulip Tree	0.40	7	12
328.	spathodea campanulata	Tulip Tree	0.10	4	6
329.	Ficus	Weeping Fig	0.20	3	6
330.	Ficus	Weeping Fig	0.20	3	6
331.	Peltophoraum	Copper Pod	0.90	8	18
332.	Plumeria	Chafa	0.10	2	4
333.	Peltophoraum	Copper Pod	0.80	8	16
334.	Syzygium cumini	Jambhool	0.10	2	3
335.	Prunus Dukis	Badam	0.10	3	4
336.	spathodea campanulata	Tulip Tree	0.60	6	14
337.	Prunus Dukis	Badam	0.10	3	5
338.	Peltophoraum	Copper Pod	1	8	18
339.	Silveoak	Grevillea robusta	0.60	8	14
340.	Peltophoraum	Copper Pod	0.90	8	18
341.	Silveroak	Grevillea robusta	0.80	8	18
342.	Peltophoraum	Copper Pod	0.90	8	18
343.	Ficus	Weeping Fig	0.10	2	3
344.	Ficus	Weeping fig	0.20	3	6
345.	Grevillea robusta	Silveroak	0.50	7	14
346.	Ficus	Weeping fig	0.20	3	6
347.	Peltophoraum	Copper Pod	1	8	20
348.	Ficus	Weeping fig	0.20	3	6
349.	Ficus	Weeping fig	0.20	3	6
350.	Ficus	Weeping fig	0.20	3	6
351.	Peltophoraum	Copper Pod	0.90	8	18
352.	Ficus	Weeping fig	0.20	3	6
353.	Ficus	Weeping fig	0.20	3	6
354.	Ficus	Weeping fig	0.20	3	6
355.	Ficus	Weeping fig	0.20	2	6
356.	Peltophoraum	Copper Pod	0.40	4	10
357.	Ficus	Weeping fig	0.20	3	6
358.	Ficus	Weeping fig	0.20	3	6
359.	Peltophoraum	Copper Pod	0.80	7	16
360.	Ficus	Weeping fig	0.20	2	6
361.	Ficus	Weeping fig	0.20	2	6

362.	Peltophoraum	Copper Pod	0.80	6	16
363.	Ficus	Weeping fig	0.20	2	6
364.	Ficus	Weeping fig	0.20	2	6
365.	Grevillea robusta	Silveroak	0.70	8	14
366.	Leucaena leucocephala	Subhabul	0.60	6	10
367.	Ficus	Weeping fig	0.15	2	5
368.	Ficus	Weeping fig	0.15	2	5
369.	Peltophoraum	Copper Pod	0.90	8	18
370.	Ficus	Weeping fig	0.15	2	5
371.	Ficus	Weeping fig	0.15	2	5
372.	Ficus	Weeping fig	0.15	2	5
373.	Grevillea robusta	Silveroak	0.40	5	12
374.	Plumeria	Chafa	0.20	2	5
375.	Plumeria	Chafa	0.20	2	5
376.	Ficus Religiosa	Pimpal	0.30	3	8
377.	Grevillea robusta	Silveroak	0.50	6	12
378.	Tabebuia	Trumpet Tree	1	8	20
379.	Plumeria	Chafa	0.40	3	8
380.	Tabebuia	Trumpet Tree	0.70	8	16
381.	Plumeria	Chafa	0.30	3	8
382.	Tabebuia	Trumpet Tree	0.60	6	12
383.	Plumeria	Chafa	0.20	3	5
384.	Tabebuia	Trumpet Tree	0.60	6	12
385.	Plumeria	Chafa	0.20	4	8
386.	Plumeria	Chafa	0.50	6	10
387.	Plumeria	Chafa	0.20	3	5
388.	Tabebuia	Trumpet Tree	0.60	6	12
389.	Plumeria	Chafa	0.20	2	4
390.	Plumeria	Chafa	0.20	3	4
391.	Plumeria	Chafa	0.10	2	4
392.	Tabebuia	Trumpet Tree	0.60	6	12

Peltophoraum

Ficus

Buch

Silver oak

Christmas Tree

Palash

Bamboo

Parijaat

Saptparni

Kanchan

Sandalwood

Mango

Cherry

Kamini

Khaya

Umber

Jamun

Sitafal

Tamhan

Almond

Pimpal	**Chafa**
Bell	**Baniyan tree**

Mohgani	**Tabebuia**
African tulip	**Tecoma**

Subabhul	**Lemon**
Orange	**Ashoka**

Beeti	**Bhendi**
Cordia	

Existing Environmental Status Report

Project Name	Bramha-Exuberance : Survey No. 13 hissa No. 1 2 3 at Kondhwa Khurd, Haveli, Pune-411048
Date of report	2021.10.23
Construction status	Wing A B C D and E were completed Wing A (4 wings) – Podium +Stilt + 11 Wing B (4 wings) – Podium +Stilt + 11 Wing C (5 wings) – Lower parking + Podium + 11 Wing D (5 wings) – Podium +Stilt +7 Wing E (5 wings) – Podium +Stilt + 11
Facility	✓ Statutory compliance has been completed by Project Proponent Received plan sanctioned, land documents, CFO, Water, Drainage, Garden,
	✓ Air, Water, Noise, Soil and land : Considering all Impact, its mitigation measures has been provided and taken care by Project Proponent
	✓ Green Belt and play area : According to Corporation DCR norms, proper green belt and play area has been provided and well developed by Project Proponent
	✓ Energy Conservation measures : Like LED street light and Solar PV Panels has been provided and well developed
	✓ Waste Management : Composting : Facility of Proper vermin composting pits has been provided and maintained. Drainage : Also sewerage network line well designed and connected to municipal line.
	✓ Water network : Storm water network : well-designed network as per contour slop has been provided Rain water harvesting network : Proper Rain water ground water recharge pits has been provided. Proper water sprinkling also doing to maintain the soil moisture and reduce the dust and air pollution Facility of swimming pool has been provided
	✓ Fire tender Movement : Internal road and fire-fighting movement has been well designed and proper fire-fighting equipment's has been installed. Lift and staircase also provided.
	✓ Parking facility : Provision of 4W Parking designed and developed considering DCR rules.

Environment facilities provided	
1.	✓ Proper entry and exit to project
2.	✓ Sewage Treatment Plant
3.	✓ Sewerage Drainage network
4.	✓ Rainwater Harvesting pits with Ground water recharges pits
5.	✓ Storm water network
6.	✓ Provision of Solar PV Panels
7.	✓ Provision of Street light - LED
8.	✓ Internal driveway
9.	✓ Road connectivity
10.	✓ Water Facility
11.	✓ Tree Plantation
12.	✓ Amenities like Club house, swimming pool and play area
13.	✓ Green area
14.	✓ Provision of parking area
15.	✓ External road connectivity
16.	✓ Provision of DG set and transformer
17.	✓ Provision of transformer
18.	✓ Provision of Fire Fighting system
19.	✓ Utilization of Recycled water as well as Ground water
20.	✓ Approval plan and sanctioned
21.	✓ Contour slop – hill area
22.	✓ Solid waste management

Photo	Remark
	Latitude: **18° 28' 31.20" N and** **Longitude :** **73° 53' 37.46" E** **Project Site** **on Google Map** **dated 2003.05.02**
	Google Map **dated 2007.02.04**
	Google Map **dated 2017.03.01**

Photo	Remark
	Google Map dated 2021.10.23
	Project Entry Gate
	Project Exit Gate **Underground collection tank near exist gate with nearly capacity 380 m^3** **Water Consumption actual quantity- 168 KLD on sanctioned plan on 31.06.2017**

Photo	Remark
	External Road **has well road connectivity**
	Surroung area – well developed
	Project Site **Construction completed**

Photo	Remark
	Completed wing
	Completed wing **Fly ash bricks are used for construction work at project site**
	Completed wing with parking facility with propoer ventilation

Photo	Remark
	Corporation water supply network has been provided – for fresh water line network for all wing
	Proper Parking arrangement and proper fighting system
	Parking area at Ground / Stilt level **Natural ventilation and fire-fighting system has been provided**

Photo	Remark
	Parking area at Ground / Stilt level **Proper natural ventilation provided as per slope**
	Parking area at Ground / Stilt level
	Internal driveway **6 m road width** **Natural ventillation and lighting has been provided**

Photo	Remark
	Solid Waste Management Facility (Vermin composting pits) **7 no of pits provided for each wing** **Non-biodegradable waste handed over to PMC authority**
	Ground water recharge with RH **Ground water is used for gardening purpose, from 1 borewell located in South East direction of project site**
	STP in parking Area of Building-A : having capacity of 70 CMD (Not is operational) **Total STP capacity as per norms to be required-158 KLD**

Photo	Remark
	Fire Pumping Station **Fire system is provided with fire pump room, fire extinguishers, fire hydrants, Firefighting hose, fire hose reels etc.**
	Provision of proper Fire-fighting system
	Provision of proper Fire firefighting system near parking area

Photo	Remark
	Internal Driveway and firefighting movement **Turning radius 9 m**
	Internal Driveway and firefighting movement **6m width of internal driveway**
	Internal Driveway and firefighting movement **6 m and 9 m turning radius**

Photo	Remark
	Internal Driveway and firefighting movement – 6 m and 9 m turning radius
	Proper manhole, storm water network and RWH pits has been provided
	Club House

Photo	Remark
	Play area
	Play area - Basketball Court and plantation
	Tree Plantation- Total 392 no has been done on site **Top Soil is used for landscaping purpose on project site**

Photo	Remark
	Tree Plantation - near plot boundary
	Shrub plantation – green area
	DG Set

Photo	Remark
	Proper DG Set with proper Stack **1 no. DG Set with capacity 82.5 kVA is provided with Chimney facility at height 3m**
	STP Tank – below the ground
	Borewell Water used for gardening

Photo	Remark
	Internal Drainage network – Sewerage network **Sewage line directly connected to Corporation Drainage line.**
	Internal Draiange chember network
	LED street Lighting

Photo	Remark
	Solar PV Panels **Having capacity 90 kW** **Providing Hot water to Building C and Solar PV panels provide to buidnf A B D & E**
	Swimming Pool facility has been provided
	Lift Provison in each wing

Annexure XII

ALOK KIRAD & ASSOCIATES
Office : 443 Nana Peth, Laxmi Road, Kirad Villa Office No:1, Ground Floor, Pune - 411 002 Ph. : 020 - 26055252
Email : alokkiradandassociate@yahoo.co.in

Date23.05.2023

To,
State Environment Appraisal Committee (SEAC-III)/
State Environment Impact Assessment Authority (SEIAA),
Environment and Climate Change Department,
Mantralaya, Mumbai, Maharashtra

Subject: Proposed Expansion of existing "Bramha Exuberance" is a residential project at sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BrahmaCorp Ltd.

Reference: SanctionPlandt. 21.06.2017 for the existing "Bramha Exuberance"is a residential project at sr. no.13, H.No.1, 2 & 3 of Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra by BramhaCorp Ltd.

Dear Sir,

This is stated that our client is developing the above property. The construction carried out till date for the "Bramha Exuberance"project on the said property is attached as **ANNEXURE I**.

We certify that the construction work carried on the ground by the project proponent till the date of the SEAC-III/SEIAA hearing is within the built-up area and in accordance with the configuration of the earlier Sanctioned Plan for the "Bramha Exuberance" from Pune Municipal Corporation on dt. 21.06.2017.

Till now, PP has constructed area a total built-up area of 50,548.37m² (FSI Area:21,798.69m² &Non-FSI Area: 28,749.68m²) on the ground as per the earlier Sanction Plans.

Yours faithfully,

ALOK KIRAD & ASSOCIATES * PUNE

(ARCHITECT)
CA/38962/06

ALOK KIRAD & ASSOCIATES
Office : 443 Nana Peth, Laxmi Road, Kirad Villa Office No:1, Ground Floor, Pune - 411 002 Ph : 020 - 26055252
Email : alokkiradandassociate@yahoo.co.in

ANNEXURE I

Building name	Bldg. Configuration	Approved areas as per Sanction Plan			Total BUA as per application			Constructed areas till date			Remarks
		FSI area (m^2)	Non-FSI area (m^2)	Total area (m^2)	FSI area (m^2)	Non-FSI area (m^2)	Total area (m^2)	FSI area (m^2)	Non-FSI area (m^2)	Total area (m^2)	
Building A	Below podium parking, podium parking, 1st – 11th floor, terrace	3191.55	4806.71	7998.26	3191.55	4806.71	7998.26	3191.55	4806.71	7998.26	Completed
Building B	Below podium parking, podium parking, 1st – 11th floor, terrace	3191.55	5140.35	8331.9	3191.55	5140.35	8331.9	3191.55	5140.35	8331.9	Completed
Building C	Below podium parking, podium parking, 1st – 11th floor, terrace	4706.14	6059.14	12148.86	4706.14	6059.14	12148.86	4706.14	6059.14	12148.86	Completed
Building D	Lower Basement parking, Below podium parking, podium parking, 1st – 11th floor, terrace	4867.09	5583.2	10450.29	4867.09	5583.2	10450.29	4867.09	5583.2	10450.29	Completed
Building E	Below podium parking, podium parking, 1st – 11th floor, terrace	5443.65	6705.21	10765.28	5443.65	6705.21	10765.28	5443.65	6705.21	10765.28	Completed
Excess Balcony Area		398.71		398.71	398.71		398.71	398.71		398.71	Completed
ClubHouse			310.06	310.06		310.06	310.06		310.06	310.06	
UGWT			100	100		100	100		100	100	
SecurityCabin			25	25		25	25		25	25	
Transformer			20	20		20	20		20	20	
		21,798.69	**28,749.68**	**50,548.37**	**21,798.69**	**28,749.68**	**50,548.37**	**21,798.69**	**28,749.68**	**50,548.37**	

ALOK KIRAD & ASSOCIATES * PUNE

Annexure XIII

BRAMHACORP LIMITED

UNDERTAKING

PROVISION OF DG SET BACK UP

Project name: Environment clearance for Proposed residential project "Bramha Exuberance" by Bramha Corp Ltd.

Site address: SR. No. 13, H. No. 1, 2 & 3, Village-Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra-411048

We, Bramha Corp Ltd., hereby undertake that, we will provide DG set backup to all the Pollution Control Devices, Water Supply, Emergency Services including lifts and all Environmental infrastructures etc. of capacity 1,135 KW (1 No. × 82.5 kVA) during operation phase in our project.

BRAMHACORP LTD.

Place: Pune
Date: 10.05.2023

PROJECT PROPONENT

गाव नमुना सात (अधिकार अभिलेख पत्रक)

महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवही (तयार करणे व सुधारित करणे) नियम, [illegible]

गाव कोंढवा खुर्द तालुका हवेली

तहसिलदार हवेली पुणे

20

भूमापन क्रमांक	भूमापन क्रमांकाचा उपविभाग	भूधारणा पद्धती
93/9		

शेताचे स्थानिक नाव

लागवडीयोग्य क्षेत्र	हेक्टर	आर
.....	9-	03
.....		
.....		
एकूण	9-	03
पोटखराब (लागवडीयोग्य नसलेले)-	0-	07
वर्ग (अ) ..		
वर्ग (ब) ..		
एकूण ..	9-	05
आकारणी दिनदोती ..	रुपये 4	पैसे 45
खुडी किंवा विशेष आकारणी ..		

भोगवटादाराचे नाव :

9992 9403E 4E9
9EC8 9306 E992
9403E 9909 E232
9306 9436 936UC
9403E 9440

दिना नाथ को-ऑप. हौसिंग सोसायटी (नियोजित) तर्फे प्रमोटर
1) किसन अंकुश मोलमव सिलकाना जागपत्र नेहरे-सेक्रेटरी
9C37 9446E
9403E

इतर अधिकार :

9449E 9399Y 9426
E232 9306

कुलमुखत्यार नोंद क्रमांक E232-9306 दिनांक 9-4-2015 नुसार श्री. प्रतिक महेशकुमार सिंदे 9403 यांचे वडील ऑफ इंडिया प्रॉपर्टीज E0E चौ.मी. 1225.9/0000001 - पार्वती दिनाथ को ऑप सोसा. 9E0EE

गाव नमुना बारा (पिकांची पाहणी)

अ	ब	पोटखराब क्षेत्र तपशील						जिरायत क्षेत्र		बागायत क्षेत्र				
2090								पड						एकूण
2095								पड						खुणे
92/92								पड						खुणे
92/93								पड						खुणे
2093 2098								पड						खुणे
9491								पड						खुणे
93/9E								पड						खुणे

दिनांक 30/6/2[illegible] पर्यंत अद्ययावत

जगदीश [illegible]

गाव नमुना सात (अधिकार अभिलेख पत्रक)

गाव कोढवा खुर्द तालुका हवेली

भूमापन क्रमांक	भूमापन क्रमांकाचा उपविभाग	भूधारणा पद्धती
93/2		

होलाचे स्थानिक नाव

लागवडीयोग्य क्षेत्र	हेक्टर	आर
.....	0	43
.....		
.....		
एकूण	0	43
पोटखराब (लागवडीयोग्य नसलेले)-	0	09
वर्ग (अ)		
वर्ग (ब)		
एकूण	0	47
आकारणी (सेझरेती)	रुपये 1	पैसे 66
जुडी किंवा विशेष आकारणी		

पोटखराबदाराचे नाव

1962

मेसर्स व्होरा को. ऑप. हौसिंग सोसा. लि. पुणे चेअरमन सज्जाद अली कासमअली व्होरा, सेक्रेटरी - अवीदकार हातेमअली पुनावाला.

1962 1962 स्टेट बँक ऑफ इंडिया यांच्या नावे 1,00000001-चा बोजा

1962

तारीख

कुलाचे नाव

1953 1962

दि तिरुपती सहकारी बँक लि. यांचा 1,00,00,000/- चा बोजा

1962

1962

गाव नमुना सात (अधिकार अभिलेख)

वर्ष	विक्रीयोग्य एकूण क्षेत्र			लागवडीयोग्य क्षेत्र			बिनशेती/अकृषी क्षेत्र			पोटखराबा/लागवडीयोग्य नसलेले क्षेत्र		कुळाचे नाव	इतर हक्क
	जिरायत	बागायत	पाटबंधारे क्षेत्र	जिरायत	बागायत	पाटबंधारे क्षेत्र	जिरायत	बागायत	पाटबंधारे क्षेत्र	जिरायत	बागायत		
2090/2091													खुला
91/92													खुला
92/93													खुला
2093/2098													खुद
9895/9592													खुद

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दिनांक 30/3/2022 पर्यंत अद्ययावत

प्रमाणपत्र होरावर तयार

तलाठी सजा कोढवा
ता. हवेली

ई.का.यु.-५०,००,०००-ऊ.प.-एकत्र-[illegible]/८४ ८
G.R.D.No. 1003/24 dt 18-10-40
Do No Dist-VI [illegible] From D.C.P and S. Mantrik

गाव नमुना सात (अधिकार अभिलेख पत्रक)

(सहाय्यक जमीन महसूल अधिकार अभिलेख आणि वहिवाट (तयार करणे व सुस्थितीत ठेवणे) नियम, १९७१ [illegible] २२

गाव कोल्हा खुर्द तालुका हवेली

भूमापन क्रमांक	भूमापन क्रमांकाचा उपविभाग	भूधारणा पद्धती
231	3	
रेखांकित स्थानिक नाव		

लागवडीयोग्य क्षेत्र	हेक्टर	आर
.....	0	63
.....		
.....		
एकूण	0	63
पोटखराब (लागवडीयोग्य नसलेले)	0	09
वन (अ)		
इतर (ब)		
एकूण	0	63
आकारणी (मोबदला)	रुपये	पैसे
सुधी किंवा विशेष आकारणी	2	06

पोगवदाराचे नाव: (9306) (9962) मेसर्स व्होरा को-ऑप हौसिंग सोसा. लि. पुणे तर्फे अधिकृत सज्जादअली कासमअली व्होरा. सेक्रेटरी - अबीदभाई हातीमभाई धंचा 3,00,00,000/- चा बोजा (9962) (9962) पूना बारा (9962) (9962)

कुलाचे नाव: (9343) (9962) दि विश्वेश्वर सह. बँक लि. कडे 3,00,00,000/- चा बोजा (9962) मेसर्स [illegible] इंडिया प्रा.लि. कडे 28,70,00000/- चा बोजा (9962)

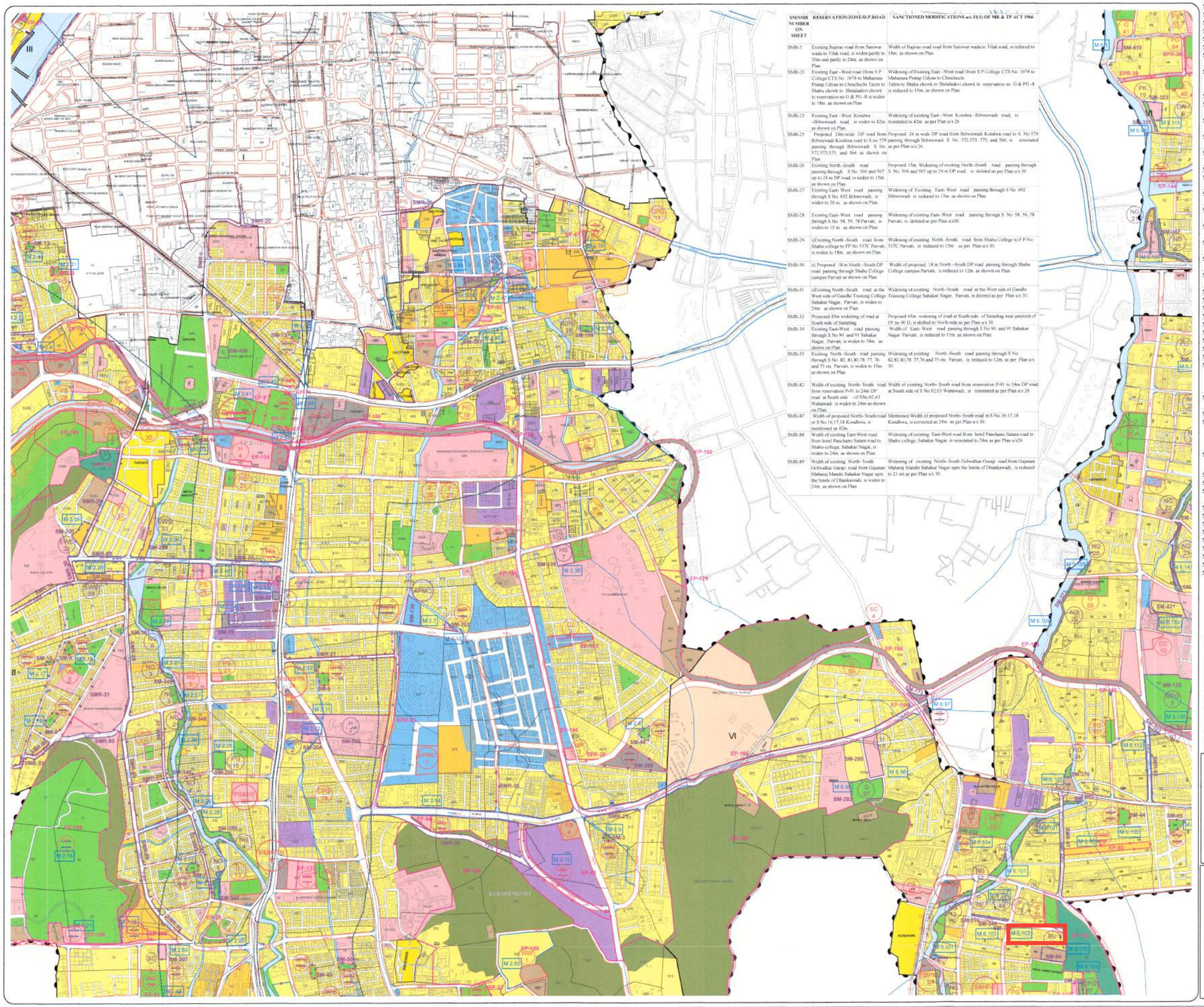
गाव नमुना सहा (पिकांची नोंदवही)

(सहाय्यक जमीन महसूल अधिनियम अभिलेख आणि नोंदवही (तयार करणे व सुस्थितीत ठेवणे) नियम, १९७१ चे नियम [illegible])

वर्ष	हंगाम	पिकाखालील एकूण क्षेत्र						पिकाखालील निव्वळ क्षेत्र			आकारणीस पात्र असलेले क्षेत्र			शेरा	पिकांची नोंद
		हंगामी बागायत क्षेत्र		बारमाही बागायत क्षेत्र	फळझाडे व इतर बागायत क्षेत्र			हंगामी बागायत क्षेत्र		बारमाही बागायत क्षेत्र	हंगामी बागायत क्षेत्र		बारमाही बागायत क्षेत्र		
2090								पड							खु।
2091								पड							खु।।
91/92															
92/93								पड							खु।।
2093								पड							खु०
2098								पड							खु०
97/94								पड							खु०
93/94															

दिनांक 20/9/2024 रोजीत अद्यावत

प्रमाणीत होणेबा तलाठी [illegible]



SM/SMR NUMBER ON SHEET	RESERVATION/ZONE/D.P.ROAD	SANCTIONED MODIFICATIONS u/s 31(1) OF MR & TP ACT 1966
SMR-5	Existing Bajirao road from Sanswar wada to Tilak road, is widen partly to 20m and partly to 24m as shown on Plan	Width of Bajirao road road from Sanswar wada to Tilak road, is reduced to 18m. as shown on Plan
SMR-20	Existing East –West road (from S P. College CTS No. 1674 to Maharana Pratap Udyan to Chinchechi Talim to Shahu chowk to Shitaladevi chowk to reservation no G & PG -8 is widen to 18m. as shown on Plan.	Widening of Existing East –West road (from S P. College CTS No. 1674 to Maharana Pratap Udyan to Chinchechi Talim to Shahu chowk to Shitaladevi chowk to reservation no G & PG -8 is reduced to 15m. as shown on Plan.
SMR-23	Existing East –West Kondwa –Bibwewadi road, is widen to 42m as shown on Plan.	Widening of existing East –West Kondwa –Bibwewadi road, is reinstated to 42m. as per Plan u/s 26.
SMR-25	Proposed 24m wide DP road from Bibwewadi Kondwa road to S no 579 passing through Bibwewadi S No. 572,573,575, and 566 as shown on Plan	Proposed 24 m wide DP road from Bibwewadi Kondwa road to S. No 579 passing through Bibwewadi S. No. 572,573, 575, and 566, is reinstated as per Plan u/s 26.
SMR-26	Existing North -South road passing through S No 566 and 567 up to 24 m DP road, is widen to 15m as shown on Plan.	Proposed 15m Widening of existing North -South road passing through S. No. 566 and 567 up to 24 m DP road, is deleted as per Plan u/s 30
SMR-27	Existing East- West road passing through S No. 692 Bibwewadi, is widen to 20 m. as shown on Plan.	Widening of Existing East- West road passing through S No. 692 Bibwewadi is reduced to 15m as shown on Plan
SMR-28	Existing East- West road passing through S No. 58, 59, 78 Parvati, is widen to 15 m. as shown on Plan.	Widening of existing East- West road passing through S No. 58, 59, 78 Parvati, is deleted as per Plan u/s30
SMR-29	i)Existing North -South road from Shahu college to FP No 517C Parvati, is widen to 18m. as shown on Plan.	Widening of existing North -South road from Shahu College to F P No 517C Parvati, is reduced to 15m as per Plan u/s 30.
SMR-30	ii) Proposed 18 m North –South DP road passing through Shahu College campus Parvati as shown on Plan.	Width of proposed 18 m North –South DP road passing through Shahu College campus Parvati, is reduced to 12m. as shown on Plan.
SMR-31	i)Existing North -South road at the West side of Gandhi Training College Sahakar Nagar, Parvati, is widen to 24m. as shown on Plan.	Widening of existing North -South road at the West side of Gandhi Training College Sahakar Nagar, Parvati, is deleted as per Plan u/s 30.
SMR-33	Proposed 45m widening of road at South side of Sarasbag	Proposed 45m widening of road at South side of Sarasbag near junction of FP no 40 D, is shifted to North side as per Plan u/s 30.
SMR-34	Existing East-West road passing through S No 90 and 91 Sahakar Nagar, Parvati, is widen to 18m. as shown on Plan.	Width of East- West road passing through S No 90 and 91 Sahakar Nagar Parvati, is reduced to 15m. as shown on Plan.
SMR-35	Existing North -South road passing through S No. 82, 81,80,78 ,77, 76 and 75 etc Parvati, is widen to 15m as shown on Plan.	Widening of existing North -South road passing through S No. 82,81,80,78 ,77,76 and 75 etc Parvati, is reduced to 12m. as per Plan u/s 30.
SMR-82	Width of existing North- South road from reservation P-91 to 24m DP road at South side of SNo.82,63 Wanawadi is widen to 24m as shown on Plan.	Width of existing North- South road from reservation P-91 to 24m DP road at South side of S No.62,63 Wanawadi, is reinstated as per Plan u/s 26
SMR-87	Width of proposed North- South road m S No 16,17,18 Kondhwa, is mentioned as 42m	Mentioned Width of proposed North- South road in S No 16,17,18 Kondhwa, is corrected as 24m as per Plan u/s 30.
SMR-88	Width of existing East-West road from hotel Panchami Satara road to Shahu college, Sahakar Nagar, is widen to 24m as shown on Plan	Widening of existing East-West road from hotel Panchami Satara road to Shahu college, Sahakar Nagar, is reinstated to 24m as per Plan u/s26.
SMR-89	Width of existing North- South Golwalkar Guruji road from Gajanan Maharaj Mandir Sahakar Nagar upto the limits of Dhankawadi, is widen to 24m. as shown on Plan	Widening of existing North- South Golwalkar Guruji road from Gajanan Maharaj Mandir Sahakar Nagar upto the limits of Dhankawadi, is reduced to 21 mt as per Plan u/s 30.

SM/SMR NUMBER ON SHEET	RESERVATION/ZONE/D.P.ROAD	MODIFI CATION NUMBER	SANCTIONED MODIFICATIONS u/s 31(1) OF MR & TP ACT 1966
SM-13	CPG-31	M 2.32	Reservation is deleted and shown as Layout Open Space
SM-136	BT&FM-1	M 2.7	BT&FM-1 Reservation is Reinstated and Re-designated for APMC.
SM-138	H-2	M 2.11	Reservation H-2 is Reinstated as per published plan U/S 26.
SM-139	HS-7	M 2.36	Reservation HS-7 is Reinstated as per published plan U/S 26.
SM-14	CPG-33	M 2.33	Reservation is deleted and shown as Layout Open Space
SM-173	IC-7	M 6.97	IC-7 is re-designated as Parking.
SM-199	CPG-28	M 2.30	CPG-28 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966
SM-200	EWS-33	M 2.34 M 2.35	M2.34 and M2.35- EWS-33 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966
SM-202	MP-6	M 2.12	MP-6 Reservation Reinstated & Re-designated for Parking
SM-204	OAH-2	M 2.13	OAH-2 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966
SM-206	PG-16	M 2.25	PG-16 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-293	G-37	M 6.95	G-37 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-295	H-18	M 6.96	H-18 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-3	CPG-13	M 2.9	Reservation is deleted and shown as Layout Open Space
SM-303	OAH-5	M 6.111	OAH-5 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-314	P-75	M 6.102	P-75 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-315	P-76	M 6.103	P-76 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-322	P-91	M 6.110	P-91 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-331	PK-19	M 6.98	PK-19 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-332	PO-6	M 6.104	PO-6 Reservation deleted and Included in Residential Zone as per the Hon High Court Decision.
SM-344	VM-44	M 6.105	VM-44 Reservation is Reinstated as per published plan U/S 26 of the MR & TP Act, 1966.
SM-347	NG-1	M 2.22	NG-1 is reinstated as per published plan u/s 26.
SM-348	NG-2	M 2.26	NG-2 is reinstated as per published plan u/s 26.
SM-349	NG-3	M 2.27	NG-3 is reinstated as per published plan u/s 26.
SM-350	NG-4	M 2.28	NG-4 is reinstated as per published plan u/s 26.
SM-351	NG-5	M 2.29	NG-5 is reinstated as per published plan u/s 26.
SM-352	NG-6	M 2.29A	NG-6 is reinstated as per published plan u/s 26.
SM-367	NG-21	M 6.107	NG-21 is reinstated as per published plan u/s 26.
SM-370	NG-24	M 6.108	NG-24 is reinstated as per published plan u/s 26.
SM-371	NG-25	M 6.109	NG-25 is reinstated as per published plan u/s 26.
SM-385	P-19	--	In view of Hon High Court decision in Writ Petition No. 7819/2006 regarding lapsing of reservation, the proposed reservation P-19 on land bearing no 587/A+B is deleted and land there under included in adjoining zone.
SM-391	Residential Zone	M 2.46	Refused to accord sanction to the proposed modification. Zoning of land is as per plan published u/s 26.
SM-415	PSP zone	M 6.1	Ghorpadi S.No.64 pt. is included in Residential Zone as shown on plan.
SM-426	F.P.No.41/ TPS-3 Neharu Stadium		Land from F.P.No.41 is wrongly shown in existing Nehru Stadium. As per the Hon?ble High Court decision 4400 / 2000 and earlier Government notification dated 07/11/2000, the said land from F.No.41 / TPS-3 is shown in Residential Zone.
SM-44	G-57	M 6.100	Reservation is deleted and shown as Layout Open Space
SM-45	PG-108	M 6.145	Reservation is deleted and shown as Layout Open Space
SM-46	CPG-12	M 2.8	CPG-12 Reservation is deleted & shown as existing open space.
SM-48	PK-4	--	Reservation is PK-4 is deleted and land thereunder included in layout open space.
SM-58	P-21	M 2.23	Reservation P-21 is Reinstated as per published plan U/S 26.
SM-59	P-22	M 2.24	Reservation P-22 is Reinstated as per published plan U/S 26.
SM-6	CPG-19	M 2.10	Reservation is deleted and shown as Layout Open Space
SM-60	P-24	M 2.38	Reservation P-24 is Reinstated as per published plan U/S 26.
SM-62	VM-7	M 2.44	Reservation VM-7 is Reinstated as per published plan U/S 26.
SM-7	CPG-20	M 2.17	Reservation is deleted and shown as Layout Open Space
SM-8	CPG-22	M 2.18	Reservation is deleted and shown as Layout Open Space
SM-84	BU-11	M 6.155	Reservation BU-11 is Reinstated as per published plan U/S 26.
SM-9	CPG-23	M 2.19	Reservation is deleted and shown as Layout Open Space

SEC31 SM/SMR SHOWN AS

RED FLOOD LINE (EP-167)

BLUE FLOOD LINE (EP-167)

SEC31 EP/EPR SHOWN AS

MODIFICATION U/S 30 SHOWN AS

NOTES:
1.METRO ALIGNMENT SHOWN IN THIS MAP IS INDICATIVE AND MAY CHANGE AS PER THE SITE CONDITION.
2.FLOOD LINES (RED AND BLUE) ALONG MULA AND MUTHA RIVER, SHALL BE PART OF DEVELOPMENT PLAN AS AND WHEN RECEIVED FROM IRRIGATION DEPT DULY MARKED WITH REFERENCE TO SURVEY NO./C.T.S.NO/F.P.NO.BOUNDARY.
3.THE LAND AVAILABLE DUE TO MODIFICATION IN ROAD/ROAD WIDENING SHALL BE INCLUDED IN ADJOINING RESERVATION/ZONE.
4.THE RESERVATIONS/ALLOCATIONS/DESIGNATIONS WHICH DO NOT APPEAR IN THE SCHEDULE-A AND SCHEDULE-B ARE HEREBY SANCTIONED FOR THE RESPECTIVE PURPOSES AS DESIGNATED ON THE SUBMITTED FINAL DEVELOPMENT PLAN u/s 30.

SHEET NO - 9

Town Planning Officer & City Engineer
Pune Municipal Corporation
Pune-411 005.

Municipal Commissioner
Pune Municipal Corporation

Deputy Secretary
Urban Development Deptt.
Mantralaya, Mumbai - 32.

N W E S

1:10,000

PUNE MUNICIPAL CORPORATION
SHIVAJINAGAR,PUNE-411005

DRAFT DEVELOPMENT PLAN (2007-2027) FOR OLD PMC LIMIT OF PUNE MUNICIPAL CORPORATION SANCTIONED MODIFICATIONS PUBLISHED BY THE GOVT. OF MAHARASHTRA U/S 31 (1) OF M.R.T.P. ACT 1966 vide Notification Nos.
1) TPS-1815/209/CR-69/15/DP-PUNE/Sanction/UD-13, Dtd 05/01/2017
2)TPS-1815/209/CR-69/15/DP-PUNE/Corrigendum/UD-13, Dtd 09/01/2017
3)TPS-1815/209/CR-69/15/DP-PUNE/Corrigendum/UD-13, Dtd 01/03/2017
4)TPS-1815/209/CR-69/15/DP-PUNE/Corrigendum/UD-13, Dtd 24/03/2017
5)TPS-1815/209/CR-69/15/DP-PUNE/Corrigendum/UD-13, Dtd 03/07/2017
6)TPS-1815/209/CR-69/15/DP-PUNE/Corrigendum/UD-13, Dtd 09/10/2017

MMDM. (1452) 10,000–1–03

(193-07)

Office of the Chief Fire Officer
Pune Municipal Corporation

Out W. No. : FA/ 1726
Date : 15/10/2007

To,
The Aid,
Architects,
Pune-4.

Sub. : Final N.O.C. for perposed building at S.No.13, H.No.1,2 & 3, Kondhwa-Khurd, Pune. (For Bldgs. A, B & E only)

Ref. : Your office letter, Dtd.10.10.2007.

Sir,

As per your refered letter, visited the proposed site along with Mr.Khandelwal on 12.10.2007 and tested the hydrant system, hose reel system with equipments and portable fire extinguishers suggested, in our last N.O.C. F.B./770, , dt. 16.6.2007.

All the suggestions made in our last N.O.C. are carried out to my satisfaction and I have no objection to use the building for proposed purpose.

All the fire fighting equipments and systems installed in the building should be maintained in high efficiency state and in proper working order at all time during the use of the building by owner or occupier.

Yearly inspection of the fire protection system shall be carried out by this office.

Name of the person, owner, society responsible for the maintenance should be informed to this office.

Fire protection system provided in the building should not be removed from the building for any reason.

This no objection is subjected to any other conditions laid by any other department.

Chief Fire Officer,
Pune Municipal Corporation.

Copy to : Asst. Engineer (B.C.)
Pune Municipal Corporation.

Office of the Chief Fire Officer
Pune Municipal Corporation
Out W.No : FB/ 1924
Date : 4/8/18

(254 / 2014)

To,
Alok Kirad Architects,
Nana Peth, Pune.

Sub :- Final Fire NOC for the Building at S.No. 13, H.NO. 1,2,3, Kondhawa Khurd, Pune. (For Building C Only)

Ref :- Your Office letter Dt.26.06.2018.

As per your above reffered request letter, visited the proposed site along with Mr. Khandelwal on Dt.26.07.2018 and tested the Hydrant system, Hose Reel system with equipments portable fire extinguishers and all type of fire fighting system suggested in Provisional N.O.C.FB/8832, Dt.03.12.2016 issued by Fire Department.

The suggestions made in Provisional N.O.C. are carried out to my satisfaction and I have No Objection to use the building for proposed purpose. Annual Fee is paid by challan No. 34950, Dt.01.08.2018, Rs.600/- M/s. Red Air Fire Solutions (India), Pune has submitted the **"FORM A"** to this office for the fire prevention, protection & fire fighting system installed in the above said building as per The Maharashtra Fire Prevention & Life Safety Measures Act 2006.

The fire fighting equipments and systems installed in the building should be maintained in high efficiency state and in proper working order at all time during the use of the building by owner or occupier. It will be your responsibility to get the yearly renewal of this Fire NOC after due inspection from the Fire Brigade authorities. The maintenance work of the fire fighting system shall be done by the licensed contractor, having license from Director, Maharashtra Fire services or Chief Fire Officer, Pune Fire Brigade. The list of the licence contractor is available on www.maharashtrafireservices.org.

Name of the person, owner, responsible for the building maintenance should be informed to this office. Fire protection system provided in the building should not be removed from the building for any reason.

This Final No Objection is subjected to any other conditions laid by any other department.

(Ramesh B. Gangad)
Assi. Divisional Fire Officer
Pune Municipal Corporation

(Prashant B. Rapise)
Chief Fire Officer
Pune Municipal Corporation

Copy to : Asst. Engineer (B C)
Pune Municipal Corporation.

पुर्तता पत्र

बिबवेवाडी क्षेत्रिय कार्यालय
पुणे महानगर पालिका
जा.क्र. १०५१/८८
दिनांक ६/७/०७

मा.नगरउपअभियंता(मलनि:सारण)
पुणे महानगरपालिका
यांजकडे स.सादर.

श्री./सौ./श्रीमती व्हि के बिल्डर्स आणि डेव्हलपर्स तर्फे भागीदार
यांस---

महाशय,

पुणे पेठ कोंढवा सर्व्हे नं ४३ हिस्सा नं १+२+३

येथील ड्रेनेज पूर्तता पत्र मिळण्या बाबतचा आपला दिनांक २१/६/०७ चा अर्ज मिळाला.सदर ठिकाणी ड्रेनेज संबंधित सर्व कामे नियमाप्रमणे केल्याचा लायसेन्स प्लंबरचा दाखला आपण दाखल केला आहे.त्या वरुन पहाणी करुन खालील नमूद केलेल्या इमारत भागाचे ड्रेनेज पूर्तता पत्र देण्यात येत आहे.

आत्या मकाशा मुक्तसं
इमारत क्र० ए- विंग १ ते ४३ फ्लॅक्स
इमारत क्र० बी- विंग १ ते ४३ फ्लॅक्स
दोन्ही इमारती मधिल बाकीचा + मुख्य रस्ता
(ड्रेनेज) पूर्तता झाला असल्याकारणे

S S S

तरी वरील नमूद केलेल्या इमारतींचे /इमारती या भागास बांधकाम नियंत्रण खात्याकडून भोगवटापत्र मिळण्यास ड्रेनेज दृष्टया या विभागाची हरकत नाही.

प्रत,
मा.सहाय्यक अभियंता (बांधकाम नियंत्रण)
पुणे महानगर पालिका

मा.सहाय्यक अभियंता ६/७
बिबवेवाडी क्षेत्रिय कार्यालय
पुणे महानगर पालिका
०६/७/०७

पुर्तता पत्र

बिबवेवाडी क्षेत्रिय कार्यालय
पुणे महानगर पालिका
जा.क्र. १४०/बि/१८८४
दिनांक १७/१०/०७

मा.नगरउपअभियंता(मलनि:सारण)
पुणे महानगरपालिका
यांजकडे स.सादर.

श्री./श्रीमती/श्रीमती ---- [illegible]
यांस---

महाशय,

पुणे पेठ कोंढवा सर्व्हे नं ९३ हिस्सा नं ९+२+३

येथील ड्रेनेज पूर्तता पत्र मिळण्या बाबतचा आपला दिनांक १६/१०/०७ चा अर्ज मिळाला.सदर ठिकाणी ड्रेनेज संबंधित सर्व कामे नियमाप्रमाणे केल्याचा लायसेन्स प्लंबरचा दाखला आपण दाखल केला आहे.त्या वरुन पहाणी करुन खालील नमूद केलेल्या इमारत भागाचे ड्रेनेज पूर्तता पत्र देण्यात येत आहे.

[illegible]

तरी वरील नमूद केलेल्या इमारतीचे /इमारती या भागास बांधकाम नियंत्रण खात्याकडून भोगवटापत्र मिळण्यास ड्रेनेज दृष्ट्या या विभागाची हरकत नाही.

प्रत,
मा.सहाय्यक अभियंता (बांधकाम नियंत्रण)
पुणे महानगर पालिका

मा.सहाय्यक अभियंता
बिबवेवाडी क्षेत्रिय कार्यालय
पुणे महानगर पालिका
17/10/07

पुर्तता पत्र

(10)

बिबवेवाडी क्षेत्रीय कार्यालय
पुणे महानगरपालिका

बिबवेवाडी क्षेत्रिय कार्यालय
पुणे महानगर पालिका
जा.क्र. 293
दिनांक 21/5/19

मा.नगरउपअभियंता(मलनि:सारण)
पुणे महानगरपालिका
यांजकडे स.सादर.

श्री./सौ./श्रीमती ---------- व्हि पि इन्फ्रास्ट्रक्चर (PAH)
यांस---

महाशय,

पुणे पेठ कोंढवा खुर्द सर्व्हे नं 69 बिल्डिंग नं 1+2+3 पार्ट

येथील ड्रेनेज पूर्तता पत्र मिळण्या बाबतचा आपला दिनांक ---------- चा अर्ज मिळाला.सदर ठिकाणी ड्रेनेज संबंधित सर्व कामे नियमाप्रमणे केल्याचा लायसेन्स प्लंबरचा दाखला आपण दाखल केला आहे.त्या वरुन पहाणी करुन खालील नमूद केलेल्या इमारत भागाचे ड्रेनेज पूर्तता पत्र देण्यात येत आहे.

सर्व्ह नकाशा नुसार या कामेसमोरील (प्रमाणे)
CC/1736/10 दि. 13/07/2010

इमारत क्रमांक डी बिल्डिंग 1 या मधील पार्किंग 1 या सह 1 ते 5 (चोथ्या) फ्लॅक्स या सह वरील इमारती बिल्डिंग या सहीत

S S S

तरी वरील नमूद केलेल्या इमारतीचे /इमारती या भागास बांधकाम नियंत्रण खात्याकडून भोगवटापत्र मिळण्यास ड्रेनेज दृष्टया या विभागाची हरकत नाही.

प्रत,
मा.सहाय्यक अभियंता (बांधकाम नियंत्रण)
पुणे महानगर पालिका

सहायक अभियंता
बिबवेवाडी क्षेत्रिय कार्यालय
पुणे महानगर पालिका

वर्कऑर्डर ड्रेनेज (पार्ट)

महापालिका सहाय्यक आयुक्त
हडपसर-मुंढवा क्षेत्रिय कार्यालय,
पुणे महानगरपालिका
जावक क्र. २८०५
दिनांक 13 AUG 2018

श्री. भगवान लक्ष्मण भाडळे
उरुळी देवाची,ता.हवेली,जि.पुणे.
लायसेन्स प्लंबर यांस.....

विषय - इमारत क्र.सी करिता जलोत्सराण जोड मिळणेबाबत .

संदर्भ:-आपला अर्ज क्र. ४४४७ दिनांक ०७/०८/२०१८ चा अर्ज.
१.कमेंसमेंट सर्टिफिकेट नं. सी.सी/०८१९/१७ दि. २१/०६/२०१७ नुसार
२.मा.अतिरिक्त नगर अभियंता कार्यालय बांधकाम विकास यांचेकडील जावक क्र. अ/नअजा/ज/९७३/ दि.२०/१२/२०११ चे कार्यालयीन परिपत्रक.

महाशय,

पुणे पेठ कोंढवा खुर्द, स.नं.१३,हिस्सा नं.१+२+३ पार्ट,कोंढवा खुर्द,पुणे .येथिल अर्जा सोबत जोडलेले ड्रेनेज जोड नकाशे आमचे खात्याने मान्य केलेले आहेत.तरी मान्य प्लॅन प्रमाणे काम करण्यात यावे.तसेच ड्रेनेज पुर्ततेा पत्र याबाबत संदर्भ २ नुसार कार्यवाही करण्यात येईल.

प्रस्तुत ठिकाणी यापुर्वी इमारत क्र.ए,बी,डी,ई या इमारतीस खालील प्रमाणे ड्रेनेज पुर्ततापत्र दिलेले आहे

१. इमारत क्र. ए,बी -जावक क्र-क्षे.का.बी/८८४ दिनांक ०६.०७.२००७.
२. इमारत क्र. ई -जावक क्र-क्षे.का.बी/९८८४ दिनांक १७.१०.२००७.
३. इमारत क्र. डी -जावक क्र-क्षे.का.बी/२१३ दिनांक ०२.०५.२००९.

प्रस्तुत प्रकरणी आता इमारत क्र.सी करिता वर्क ऑर्डर देण्यात येत आहे.

कळावे.

टिप -१. पावसाळ्यानंतर खोदाई करणार या अटीवर सपंती आहे.
२. अंतिम ड्रेनेज पुर्तता पत्रापुर्वी नियमानुसार आवश्यक त्या बाबींची पुर्तता करणार या अटीवर.

कनिष्ठ अभियंता
हडपसर-मुंढवा क्षेत्रीय कार्यालय
पुणे महानगरपालिका

श्री.दिलीप पोवरा
उप अभियंता
हडपसर-मुंढवा क्षेत्रीय कार्यालय
पुणे महानगरपालिका

* प्रत- मे.श्री.करण व्ही.अगरवाल
स.नं.१३,हिस्सा नं.१+२+३ पार्ट,कोंढवा खुर्द,पुणे.

मुमादामु (५८४) ३०,०००-८-०३ पाणीपुरवठा

पाणीपुरवठा कार्यालय

पुणे महानगरपालिका
शिवाजीनगर, पुणे ५.
सहायक अभियंता यांचे कार्यालय
जावक क्र. : 994 (वि)
दिनांक : 99। ५ ।२००७

मा. सहायक अभियंता
बांधकाम नियंत्रण विभाग
पुणे महानगरपालिका.

भाग ~~हे. टिळकरोड~~ इमारत क्र ए+बी (पहिले)

यांजकडेस –

विषय : ना – हरकत दाखला (पहिले)

संदर्भ : मे. निलेश कि अंबरनाथ अर्ज क्र १६७ दि १/१२००७

(१) ~~घर क्रमांक~~ / स. नं. / ~~फा. प्लॉट~~ नं. ९३ हिस्सा क्र १+२+३ पैकि

(२) बांधकाम परवाना क्रमांक / दिनांक ~~बांधकाम~~ रमी सं./३५८२/०६ दि ८१२००७

(३) बांधकाम क्षेत्रफळ इमारत क्र ए+बी = ३११२.५५+ ३१९१.५५ = ६३८३.१०

(४) ग्राहक क्रमांक म.न.पा.चा नंबरलेड नाही.

सदर ठिकाणी झालेल्या बांधकामास / ~~वरील बांधकामास मीटरप्रमाणे पाणीपट्टी कालावधी~~ / जादा बांधकाम पाणीपट्टी दिनांक । । २०० ते । । २०० रक्कम रुपये

चलन क्र. / , दिनांक । । २०० रोजी भरलेले आहेत.

तरी सदर ठिकाणी झालेल्या ~~बांधकामास~~ / ~~वरील~~ बांधकामास ~~पूर्णत्वाचा दाखला~~ / पार्ट पूर्णत्वाचा दाखला देण्यास मीटर विभागाची काही हरकत नाही.

मा. स. कळावे.

टीप-१) ~~ला क्र~~ (पहिले) दिनांक : । । २०० दि ८१२१२००६
अन्वये कळविले ~~आहे~~ ~~ने~~ ~~कनेक्शन~~ घेतली आहे

२) सिक्युरिटी ~~व~~ रु. ~~चेक~~ कनेक्शन
~~मंजूर~~ ~~प्रकरणी~~ ~~घेतली~~ नाही.

टीप-१) ~~व~~ रु. ~~कनेक्शन~~ रद्दचे ~~घेणार~~ व तशी
कळवणा ~~मीटर~~ विभागास रद्दचे देणार.

२) ~~व~~ रु. ~~कनेक्शन~~ घेतलेपर्यंत सिक्युरिटीस
पाणीपट्टी रक्कम ~~दंड~~ जबाबदारीवर करणार
व तशी कळवणा गळट धारक व ओव्हरफ्लोचा
~~दंड~~ देणार

३) परिशिष्टपत्र क्र. दि.

ला अधिन राहुन,
(कृपया वरिल अटींचा उल्लेख ~~करावा~~)

सहायक अभियंता (मीटर)
पाणीपुरवठा विभाग
पुणे महानगरपालिका.

मुमादापु (५८४) ३०,०००-८-०३

पाणीपुरवठा

पाणीपुरवठा कार्यालय

पुणे महानगरपालिका

शिवाजीनगर, पुणे ५.

सहायक अभियंता यांचे कार्यालय

जावक क्र. : ११९९

दिनांक : १६/१०/२००७

मा. सहायक अभियंता
बांधकाम नियंत्रण विभाग
पुणे महानगरपालिका.

भाग कोंढवा खुर्द (इमारत-कू-ई-करिता)

यांजकडेस – (पार्ट २ रे)

विषय : ना – हरकत दाखला

संदर्भ श्री. व्ही. बी. अगरवाल-अर्ज क्र. ७६१ दि. ९/१०/०७

(१) घर क्रमांक / स. नं. / क्र. ~~क्रमांक~~ ९३ हि.क्र. १+२+३ पार्ट कोंढवा खुर्द

(२) बांधकाम परवाना क्रमांक / दिनांक ८८/३५८२/०६ दिनांक ८/१/२००७

(३) बांधकाम क्षेत्रफळ इमारत क्र.-ई - ५४४३.६५ चौ.मी.

(४) ग्राहक क्रमांक म.न.पा. नळजोड नाही.

सदर ठिकाणी झालेल्या ~~बांधकामास~~ / वाढीव बांधकामास ~~मीटरप्रमाणे पाणीपट्टी कालमर्यादी~~ / जादा बांधकाम पाणीपट्टी दिनांक / /२००० ते / /२००० रक्कम रुपये

चलन क्र. / , दिनांक / /२००० रोजी भरलेले आहेत.

तरी सदर ठिकाणी झालेल्या ~~बांधकामास~~ / वाढीव बांधकामास ~~पूर्णत्वाचा दाखला~~ / पार्ट पूर्णत्वाचा दाखला देण्यास मीटर विभागाची काही हरकत नाही.

मा. स. कळावे.

दिनांक १८/१२/०६

टिप:-१) जा.क. ~~नळजोड~~ नळजोड/४६२ दि. १८/१२/०६ अन्वये कळविले आहे

२) [illegible] नसल्याने [illegible] नाही.

टी:-१) [illegible] तशी कल्पना मिळत [illegible] देणार.

२) [illegible] पाणीपुरवठा स्वतःच्या [illegible] व तशी कल्पना पत्रक [illegible] यांना देणार.

३) प्रतिज्ञापत्र क्र. / दि.

[illegible]

(कृपया [illegible] उल्लेख

16/10

सहायक अभियंता (मीटर)
पाणीपुरवठा विभाग
पुणे महानगरपालिका.

पुमनपा/(199) 10,000-2-2001
पाणी पुरवठा (मिटर) कार्यालय

नगर उप अभियंता यांचे कार्यालय
पाणी पुरवठा मिटर
पुणे महानगरपालिका,
शिवाजीनगर पुणे ५
जावक क्र. ९४
दिनांक : २१/५/२००९

(69)

मा.सहायक अभियंता
बांधकाम नियंत्रण विभाग
पुणे महानगरपालिका.

(इमारत क्र. D)
(पार्ट ३ रे व अंतिम)

भाग---------कोंढवा खुर्द---------
यांजकडेः.....

विषयः- ना --हरकत दाखला
संदर्भः- जी. हि. बी. अगरवाल व इतर (Pah) अर्ज क्र दि.

(1) घर क्रमांक/स.नं./~~कार्यालय~~ स.क्र.१३हि.क्र.१+२+३(पार्ट) कोंढवाखुर्द.

(2) बांधकाम परवाना क्रमांक/दिनांक- cc/०१३८/०९ दिनांक १३/४/२००९ टक्कन चौ.

(3) बांधलेल्या बोअरचा इमारत क्र. D = ४८६७.०९ चौ.मि.=१६.३५=४१३.४८

(4) ग्राहक क्रमांक- ३/२ तीन नळजोड दि.१३/८/०८ चे टक्कम मध्ये वर्ग आहेत.

सदर ठिकाणी झालेल्या ~~बांधकामास~~/वाढीव बांधकामास ~~मिटर नवाचे पाणीपट्टी~~ ~~रक्कमची~~/जादा बांधकाम पाणीपट्टी दिनांक १३/८/२००८ ते ३०/४/२००९ रक्कम रुपये -२४७५=००

चलन क्र ०२९४६ दिनांक ३०/४/२००९ रोजी भरलेले आहेत.

बांधकामास बोअरचे/टॅंकर/विहिर चे पाणी वापरले.

तरी सदर ठिकाणी झालेल्या ~~बांधकामास~~/वाढीव बांधकामास पूर्णत्वाचा दाखला/~~पार्ट पूर्णत्वाचा दाखला~~ देण्यास मिटर विभागाची काही हरकत नाही.

ना.स.ककाचे

सहा. अभियंता
पाणी पुरवठा (मिटर)
पुणे महानगरपालिका.

प्रत:-

मुमाद्यानु. (५८४) ३०,०००-८-०३

पाणीपुरवठा

पुणे महानगरपालिका

शिवाजीनगर, पुणे ५.

सहायक अभियंता यांचे कार्यालय

जावक क्र. : 936

दिनांक : १७।७।२०१८

पाणीपुरवठा कार्यालय

मा. सहायक अभियंता
बांधकाम नियंत्रण विभाग
पुणे महानगरपालिका.

भाग कोंढवा खुर्द. पुणे.

यांजकडेस –

(इमारत क C - करिता - अंतिम)

विषय : ना — हरकत दाखला

संदर्भ : मे. करन व्ही. अगरवाल. अर्ज. क्र. 936
दिनांक २६/०६/२०१८

(१) घर क्रमांक / स. नं. / ~~का. प्लॉट नं.~~ 93 हिस्सा नं. 1+2+3 (P) कोंढवा खुर्द पुणे.

(२) बांधकाम परवाना क्रमांक / दिनांक cc/०८१९/१७ दिनांक २१/०६/२०१७

(३) बांधकाम क्षेत्रफळ बिल्डिंग - C - ४७०६.१४ चौ.मी.

(४) ग्राहक क्रमांक 3/4" व्यासाचे पाच नळजोड R.V.वर आहेत.

सदर ठिकाणी झालेल्या बांधकामास / वाढीव ~~बांधकामास मीटरप्रमाणे पाणीपट्टी काढावी~~ / जादा बांधकाम पाणीपट्टी दिनांक २६।०९।२०१४ ते 31।०५।२०१८ रक्कम रुपये = ४१८२८ = ०० चलन क्र. ०२५५७, दिनांक १६।०७।२०१८ रोजी भरलेले आहेत.

बांधकामास टँकरने पाणी वापरलेले आहे.

तरी सदर ठिकाणी झालेल्या ~~बांधकामास~~ / वाढीव बांधकामास ~~पूर्णत्वाचा दाखला~~ / पार्ट पूर्णत्वाचा दाखला देण्यास मीटर विभागाची काही हरकत नाही.

मा. स. कळावे.

दिनांक : १७।०७।२०१८

प्रत :-
मे. करन व्ही. अगरवाल

१७/७/१८
उप अभियंता
सहायक अभियंता (मीटर)
पाणीपुरवठा विभाग
पुणे महानगरपालिका.

१७/७/१८

मुमादामु. (१२२८) ५,०००-३-०९

(67)

उद्यान कार्यालय
पुणे महानगरपालिका
जावक क्र. उकाजा / २०६६
दिनांक २५। ९। २००९

मा. सहायक अभियंता (बांधकाम परवाना विभाग)
पुणे महानगरपालिका

यांजकडेस –

विषय :– स.नं. १३/१+२+३(पार्ट) इमारत क्र. मे.बी.डी.ई साठी फक्त, कोंढवा बु.
पुणे येथील बांधकामास पूर्णत्वाचा दाखला देणेबाबत. पुणे

संदर्भ :– (१) मे. ब्रम्हा बिल्डर्स यांचे दि. २५। ८। २००९ चे पत्र.
(२) महापालिका आयुक्त यांचे कार्यालयीन परिपत्रक जा. क्र. न.अ.जा.।ज।२३३, दि. २६–११–२००७.
(३) मिळकतीचे एकूण क्षेत्रफळ २६६७.६० चौ. मी.
(४) मान्य बांधकाम परवाना क्र. ०२३८/०८ व दिनांक २३/४/२००८

संदर्भांकित क्र. १ च्या पत्रानुसार विषयांकित ठिकाणी असलेल्या जागेची समक्ष पाहणी करण्यात आली. सदर जागेचे क्षेत्रफळ २६६७.६० चौ. मी. असून सदर ठिकाणी ३९२ वृक्षांचे यशस्वीरित्या संवर्धन केले आहे.

सबब विषयांकित ठिकाणच्या बांधकामास पूर्णत्वाचा दाखला देण्यास हात्याची शिफारस आहे.

मा. स. कळावे.

वृक्ष अधिकारी,
पुणे महानगरपालिका.

टीप :- अंतिम भोगवटा पत्र घेणेपूर्वी
पुन्हा ना हरकत पत्र घेणेच्या अगोदर
(only Part No.C)

Vermicomposting Design Basis Report

For

Proposed Residential Project

“Bramha Exuberance”

at

S. No. 13 H No.1, 2&3 Kondhwa Khurd, Haveli, Pune

by

M/s. BramhaCorp Ltd.

Prepared by

BramhaCorp Ltd.

The Residency Club, 3 Queen's Garden Road, Camp, Pune 411001.

Vermicomposting Design Basis Report

Vermicomposting Plant

Introduction:

Solid Wastes are being produced since the beginning of civilization. One of the sources of environmental pollution in any human settlement today is the improper handling and disposal of waste. The challenge is to preserve the urban environment's carrying capacity for the sake of sustainable and environmentally sound development and to provide for a proper and healthy living environment for its inhabitants. Several alternatives are available to handle the disposal of solid wastes. Composting is one of the alternatives in a form of recycling because over 50% of the domestic wastes generated have "organic" nature. While solid waste generation rates have increased, the capacity to handle these materials has declined. Technological developments have opened new opportunities for resource recovery, recycling, and reuse. Landfill facilities are closed because they are full; others are choosing to shut down rather than meet stringent new regulations governing their design and operation. In addition, new landfills and combustors are increasingly difficult to site. In conjunction with this growing gap in disposal capacity, tipping fees at solid waste management facilities are rising in many communities, and the trend does not appear to be changing. As communities search for safe and effective ways to manage solid waste, composting is becoming a more attractive management option, which leads to a reduction of the number of wastes that require disposal. Composting is the natural process of decomposition and recycling of organic material into a humus rich soil amendment known as compost.

Vermicomposting Concept:

Vermicomposting is a natural process whereby earthworms convert waste material with rigid structures into compost. The compost produced in this green process is traditionally and popularly used as a natural fertilizer for enhancing plant growth. Earthworms belong to the phylum Annelida, subclass Oligochaeta.

This process is mainly required to add nutrients to the soil. Compost is a natural fertilizer that allows an easy flow of water to the growing plants. The earthworms are mainly used in this process as they eat the organic matter and produce castings through their digestive systems.

Objective:

1. To offer decentralized solution for treatment of Segregated Organic Waste.
2. To minimize haulage of waste to long distance landfill site.
3. Compliance with government regulations and codes.

4. Resale the resulting compost and generate revenue.
5. Reduction in garbage volume.
6. A rich, natural fertilizer cuts back on use of chemical fertilizers.
7. Improves soil aeration and drainage.
8. Helps control weeds.
9. Decreases the need for costly watering.

Input Data:
Type of waste: Domestic segregated wet waste
Type of Composter: Verm composter

Manual machine Duty of operation: Continuous operated, one compost batch of 45-50 days.

Vermicomposting system comprising of:
Each building has 7 Vermicomposting pits (for each day of week)

Process:

1. To prepare the vermicompost, a concrete tank has used according to the availability (Size- based on the number of raw materials available)
2. Collect the dried biomass (garden waste, animal waste, municipal waste, etc.) and chop them.
3. Mix the chopped dry material with cow dung in a 1:3 ratio and keep them aside for 15-20 days for partial decomposition.
4. Add a thin layer of soil /sand (2-3 inches) at the bottom of the tank.
5. Now prepare the bedding by adding the partially decomposed cow dung and dried waste mixture. Distribute it evenly on the soil.
6. Continually add the mixture up to a depth of 0.5-1 foot.
7. Now release the earthworms in the tank (1000-2000 earthworms / square meters). Cover the mixture with gunny bags/ straw/ plastic.
8. Monitor the bin for the availability of food to the earthworms and add the food (fruit and vegetable peels, other kitchen waste) when necessary (make sure not to add excess food)
9. Do water regularly to maintain moisture.
10. Monitor the composting tank to maintain temperature and moisture
11. Beds turned in every 30 days for aeration and proper decomposition.
12. The compost is ready in 45-50 days.

Waste generation:

Proposed Residential building project "Bramha Exuberance" following are detail calculations for waste generation;

Details	Population	Total waste generated (kg/day)	Wet waste (kg/day)	Dry waste (kg/day)	Capacity (m^3)
Residential Project	**1432**	**699**	**419**	**280**	**49.35**

From above calculations we required to provide vermicomposting plant of 49.35 m^3 capacity.

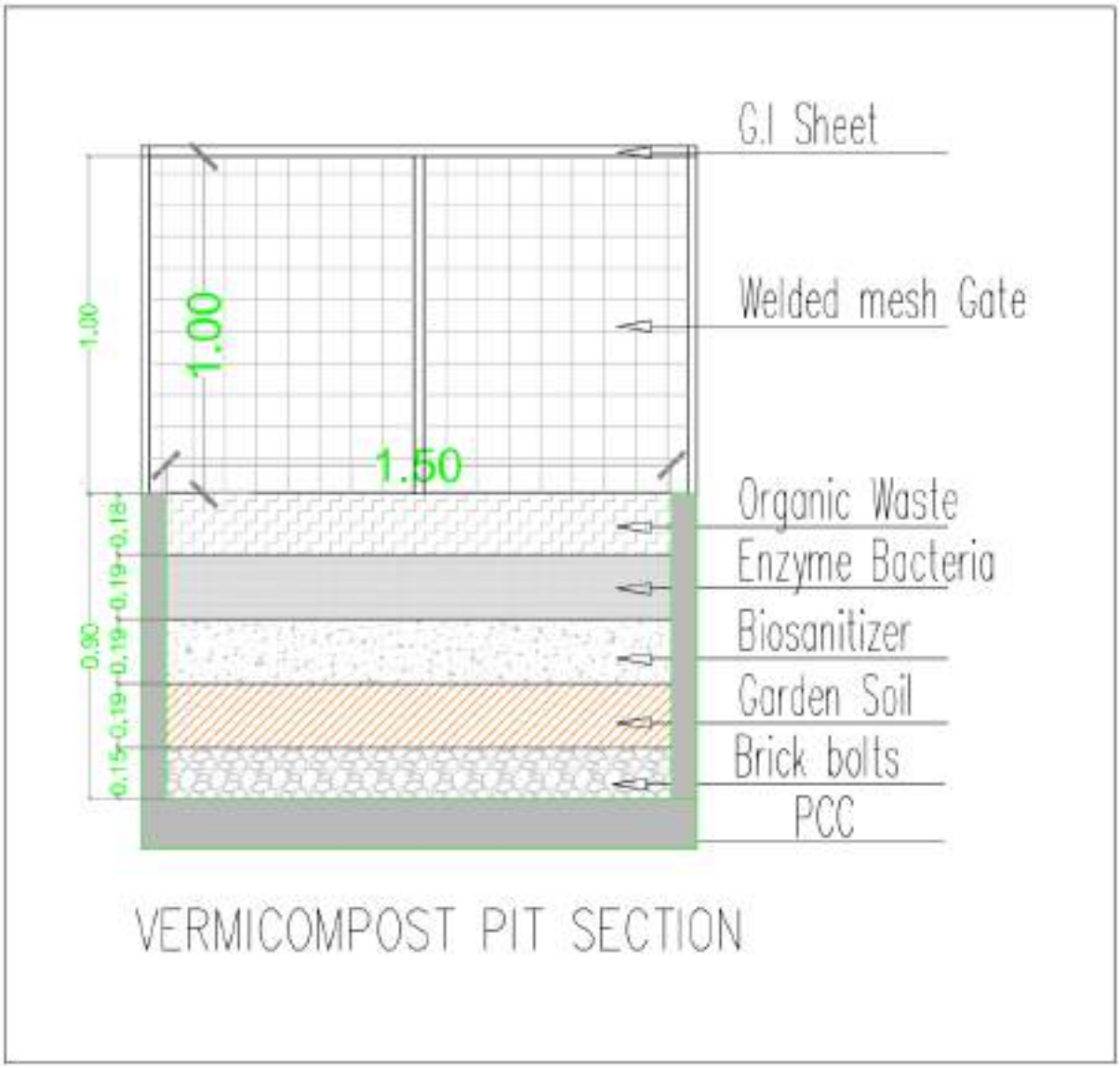
Design calculations:

Volume of one pit – 5*4*2.5 Feet = 50 Cubic Feet i.e., 1.41 m^3

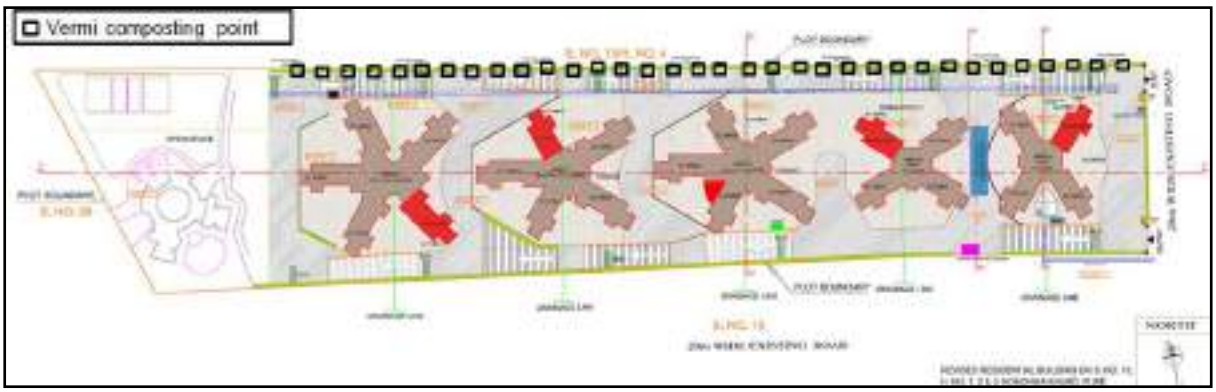
Per week 7 pits are provided so, 7*1.41 = 9.87 m^3

For 5 buildings total capacity: 9.87*5 = 49.35 m^3

Vermicomposting pit section:



Vermicomposting pits Location:



Vermicomposting pits photograph

No. of units	**35 no.**
Total Capacity	**49.35 m^3**
Total space provided	**56.35 m^2**

Operation and maintenance costing:

Organic Waste – 419 kg/day
Vermicomposting plant capacity – 49.35 m^3

Vermicomposting plant	**(Rs. in Lakhs)**
Capital Cost	3
Operation and maintenance cost (per year)	0.4
Total cost	**3.4**

Annexure XVIII

National Accreditation Board for Education and Training

QCI/NABET/ENV/ACO/23/2781 May 17, 2023

To,

Mahabal Enviro Engineers Pvt. Ltd.
Plot No. F-7, Road No. 21, Wagle Estate,
Thane-400604, Maharashtra
(**Kind Attention**: Dr. D. A. Patil)

Sub.: Extension of Validity of Accreditation till August 16, 2023– regarding
Ref.: 1. Certificate no. NABET/EIA/1821/RA 0160
2. Request e-mail dated May 16, 2023

Dear Sir,

This has reference to the Accreditation of your organization under the QCI-NABET EIA Scheme and your request email dated May 16, 2023. It is to inform your good self that the validity of **Mahabal Enviro Engineers Pvt. Ltd.**, is hereby extended till August 16, 2023, or the completion of the accreditation process, whichever is earlier.

2. The above extension is subject to the submission of required documents/information concerning your existing application, timely submission/closure of NC/Obs (if any), and applicable fee (pending if any) during the application process.

3. You are requested not to use this letter after the expiry of the above-stated date.

With best regards.

(A K Jha)
Senior Director
QCI-NABET

Gmail

Sachin Shah <mahabal.thane153@gmail.com>

Acceptance Letter for EC Application(SEIAA)

1 message

dattatray.bhalerao@nic.in <dattatray.bhalerao@nic.in> Mon, Jun 12, 2023 at 4:19 PM
To: mahabal.thane153@gmail.com
Cc: monitoring-ec@nic.in, psec.env-1@maharashtra.gov.in

Acceptance Letter for EC

F.No.- SIA/MH/INFRA2/432570/2023

State Environment Impact Assessment Authority

Maharashtra

Environment Dept 15 th Floor, New Administrative Building.,Mantralaya Mumbai.

Dated: 12 Jun 2023

To,

BRAMHACORP LIMITED

, 329

Maharashtra , 411001

Subject : Proposed residential project “Bramha Exuberance” at S. No. 13, H. No. 1, 2 & 3, Village- Kondhwa Khurd, Taluka Haveli, District Pune, Maharashtra by BramhaCorp Ltd.

Sir,

This has reference to your proposal No. SIA/MH/INFRA2/432570/2023 dated 07 Jun 2023 regarding grant of Environmental/CRZ Clearance for the above mentioned proposal.

2. This is to acknowledge that the soft copies of EIA/EMP/other reports along with the proceedings of Public Hearing (if applicable to the instant project) have been uploaded on Parivesh Portal.

Yours Sincerely

SEIAA, Maharashtra

Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

Ax.D

Application for Consent/ Authorisation

Sir,
I/We hereby apply for*

1. Consent to Establish/Operate/Renewal of consent under section 25 and 26 of the Water (Prevention & Control of Pollution) Act, 1974 as amended.

2. Consent to Establish/Operate/Renewal of consent under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended.

3. Authorization/renewal of authorization under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 in connection with my/our/existing/proposed/altered/ additional manufacturing/processing activity from the premises as per the details given below.

Consent Information

UAN No:
MPCB-CONSENT-0000164434

Application submitted on:
08-03-2023

Industry Information

Consent To:
Establish (New)

IIN No.:

Submit to:
SRO - Pune I

Type of institution:
Municipal Corporation

Industry Type:
O21 Building and construction project more than 20,000 sq. m built up area

Category:
Orange

Scale:
L.S.I

Location of industry/activity/etc:
Local Body

Name of Local Body:

EC Reqd.
Yes

EC Obtained
Application submitted

Date Of Application
May 17, 2022

Parivesh Proposal Number
SIA/MH/MIS/76973/2022

Status Of Application
Consider project in SEAC meeting agenda

Whether construction-buildup area is more than 20,000 sq.mtr.(Existing Expansion Unit)
Yes

General Information

1. Name, designation, office address with Telephone/Fax numbers, e-mail of the Applicant Occupier/Industry/Institution / Local Body.

Name
Sachin Shah

Address
BramhaCorp Ltd. Residency Club,3 Queen’s Garden Road, Camp, Pune

Designation
Design and Development Head

Taluka
Haveli

Area
Camp

District
Pune

Telephone
8007040306

Fax

Email
bramha.suncity1@yahoo.com

Pan Number
AAFCB0273N

---

2. (a) Name and location of the industrial unit/premises for which the application is made (Give revenue Survey Number/Plot number name of Taluka and District, also telephone and fax number)

Industry name
BramhaCorp Ltd.

Location of Unit
Village-Kondhwa Khurd, Taluka-Haveli, District Pune, State-Maharashtra

Survey number/Plot Number
Sr. no.13, H.No.1, 2 & 3

Taluka
Haveli

District
Pune

(b) Details of the planning permission obtained from the local body/Town and Country Planning authority/Metropolitan Development authority/ designated Authority.

Planning permission
Pune Municipal Corporation

Planning Authority
Pune Municipal Corporation

Name of the local body under whose jurisdiction the unit is located and Name of the licence issuing authority

Name of Local Body
Pune Municipal Corporation

Name of the licence issuing authority
Pune Municipal Corporation

---

3. Names,addresses with Telephone and Fax Number of Managing Director / Managing Partner and officer responsible for matters connected with pollution control and/or Hazardous waste disposal.

Name of Managing Director
Mr. Ajay Agarwal (Director)

Telephone number
02041423333

Fax number
0

Officer responsible for day to day business
Mr Sachin Shah

4. (a.) Are you registered Industrial unit ?

Yes

Registration number
1931000313180747

Date of registration
Jan 1, 1970

---

5. Gross capital investment of the unit without depreciation till the date of application (Cost of building, land, plant and machinery). (To be supported by an affidavit/undertaking on Rs.20/- stamp paper, annual report or certificate from a Chartered Accountant for proposed unit(s), give estimated figure)

Gross capital (in Lakh)	**** Verified***	**** Terms***	**** Consent Fee***
2733.00	CA Certificate	1	75000.00

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6. If the site is located near sea-shore/river bank/other water bodies/Highway, Indicate the crow fly distance and the name of the water body, if any.

Distance From	***Distance(Km)***	**** Name***
SH/NH	1.73	Pune-Nagar Road
River	7.70	Mula-Mutha
Human Habitation	0.00	--NA--
Religious Place	0.00	--NA--
Historical Place	0.00	--NA--
Creek/Sea	1.09	

2631

6b. Enter Latitude and Longitude details of site

Latitude	Longitude
182830.41	735343.23

7. Does the location satisfy the Requirements Under relevant Central/State Govt. Notification such as Coastal Regulation Zone. Notification on Ecologically Fragile Area, Industrial Location policy, etc. If so, give details.

Location	Approved Industry Area	Sensitive Area	If Yes, Name Of Area	Industry Location with Reference to CRZ
NA	No	No	NA	

8. If the site is situated in notified industrial estate,

		Details
(a) Whether effluent collection, treatment and disposal system has been provided by the authority.	No	NA
(b) Will the applicant utilize the system, if provided.	No	NA
(c) If not provided, details of proposed arrangement.	NA	

9.

(a) Total plot area (in squear meter)	(b) Built up area and (in squear meter)	(c) Area available for the use of treated sewage/ trade effluent for gardening/irrigation. (in squear meter)
17433.10	50548.37	2045.82

10. Month and year of commissioning of the Unit.

1970-01-01

11. Number of workers and office staff

Workers	staff	Hrs. of shift	Weekly off
20	10	8	Sunday

12.

(a) Do you have a residential colony Within the premises in respect of Which the present application is Made ?	No	NA

(b) If yes, please state population staying

Number of person staying	Water consumption	Sewage generation	Whether is STP provided?
	0	0	No

(c) Indicate its location and distance with reference to plant site.

Number of person staying	Water consumption
NA	0

13. List of products and by-products Manufactured in tonnes/month, Kl/month or numbers/month with their types i.e.Dyes, drugs etc. (Give figures corresponding to maximum installed production capacity

Products Name and Quantity

Product Name	UOM	Product Name	Existing	Consented	Proposed Revision	Total	Remarks

716

OTHERS	--NA--	0	0	0	0	0	This is a construction project of Bramha Exuberance residential project, We are applying for Consent to Establish.

Products Name and Quantity

Product Name	UOM	Quantity	Remarks
This is a construction project of Bramha Exuberance residential project, We are applying for Consent to Establish.	--NA--	0	This is a construction project of Bramha Exuberance residential project, We are applying for Consent to Establish.

14. List of raw materials and process chemicals with annual consumption corresponding to above stated production figures, in tonnes/month or kl/month or numbers/month.

Name of Raw Material	UOM	Quantity	Hazardous Waste	Hazardous Chemicals	Remarks
This is a construction project of Bramha Exuberance residential project, We are applying for Consent to Establish.	--NA--	0	No	No	This is a construction project of Bramha Exuberance residential project, We are applying for Consent to Establish.

15. Description of process of manufacture for each of the products showing input, output, quality and quantity of solid, liquid and gaseous wastes, if any from each unit process.

This is a construction project of Bramha Exuberance residential project, We are applying for Consent to Establish.

Part B : Waste Water aspects

16. Water consumption for different uses (m3/day)

Purpose	Consumption	Effluent Generation	Treatment	Remarks	Disposal	Remarks
Domestic Pourpose	185	173	STP	NA	On Land for Gardening	NA
Water gets Polluted & Pollutants are Biodegradable	0	0	--NA--	NA	--NA--	NA
Water gets Polluted,Pollutants are not Biodegradable & Toxic	0	0	--NA--	NA	--NA--	NA
Industrial Cooling,spraying in mine pits or boiler feed	0	0	--NA--	NA	--NA--	NA
Others	0					

17. Source of water supply, Name of authority granting permission if applicable and quantity permitted.

Source of water supply	Name of Local Body	Name of authority granting permission	Qauntity permitted
Local Body	Pune Municipal corporation	Pune Municipal corporation	185

2633

18. Quantity of waste water (effluent) generated (m3/day)

Domastic	Boiler Blowdown	Industrial	Cooling water blowdown
173	0	0	0
Process	**DM Plants/Softening**	**Washing**	**Tail race discharge from**
0	0	0	0

* 19. Water budget calculations accounting for difference between water consumption and effluent generated.

Water budget calculations is attached

20. Present treatment of sewage/canteen effluent (Give sizes/capacities of treatment units).

Capacity of STP (m3/day)

70

Treatment unit	Size (mxm)	Retention time (hr)
MBBR	0	0

21. Present treatment of trade effluent (Give sizes/capacities of treatment units) (A schematic diagram of the treatment scheme with inlet/outlet characteristics of each unit operation/process is to be provided. Include details of residue Management system (ETP sludges)

Capacity of ETP (m3/day)

0

Treatment unit	Size (mxm)	Retention time (hr)
0	0	0

22.

(i) Are sewage and trade effluents mixed together?	No
If yes, state at which stage-Whether before, intermittently or after treatment.	NA

23. Capacity of treated effluent sump, Guard Pond if any.

Capacity of treated effluent sump (m3)	0	
Effluent sump/Guard pond details	No	NA
If yes, state at which stage-Whether before, intermittently or after treatment.	No	NA

24. Mode of disposal of treated effluent With respective quantity, m3/day

(i) into stream/river (name of river)	0	**(ii) into creek/estuary (name of Creek/estuary)**	0
(iii) into sea	0	**(iv) into drain/sewer (owner of sewer)**	0
(v) On land for irrigation on owned land/ase land. Specify cropped area.	0	**(vi) Connected to CETP**	0
(vii) Quantity of treated effluent reused/ recycled, m3/day Provide a location map of disposal arrangement indicating the outler(s) for sampling. Treated effluent reused / recycled (m3/day)	0		

25. (a) Quality of untreated/treated effluents (Specify pH and concentration of SS, BOD,COD and specific pollutants relevant to the industry. TDS to be reported for disposal on land or into stream/river.

Untreated Effluent

pH	6.5
SS (mg/l)	100-200
BOD (mg/l)	100-300
COD (mg/l)	500-600
TDS (mg/l)	1170

Specific pollutant if any	***Name***	***Value***
1	NA	0

Treated Effluent

pH	5.5-9.0
SS (mg/l)	<100
BOD (mg/l)	<30
COD (mg/l)	<150
TDS (mg/l)	<2100

Specific pollutant if any	***Name***	***Value***
1	NA	0

(b) Enclose a copy of the latest report of analysis from the laboratory approved by State Board/ Committee/Central Board/Central Government in the Ministry of Environment expected characteristics of the untreated/treated effluent

water analysis report is attached

---

26. Fuel consumption

Fuel Type	***UOM***	***Fuel Consumption TPD/LKD***	***Calorific value***
HSD	Ltr/Hr	0	0
Ash content	***Sulphur content***	***Quantity***	***Other (specify)***
0	0	1	NA

---

27. (a) Details of stack (process & fuel stacks: D. G.)

(a) Stack number(s)	***(b) Stack attached to***	***(c) Capacity***	***(d) Fuel Type***
1	DG Set	0	Diesel
(e) Fuel quantiy (Kg/hr.)	***(f) Material of construction***	***(g) Shape (round/rectangular)***	***(h) Height, m (above ground level)***
0	MS	Round	0
(i) Diameter/Size, in meters	***(j) Gas quantity, Nm3/hr.***	***(k) Gas temperature °C***	***(l) Exit gas velocity, m/sec.***
0	0	0	0
(m) Control equipment preceding the stack	***(n) Nature of pollutants likely to present in stack gases such as CI2, Nox, Sox TPM etc.***	***(o) Emissions control system provided***	***(p) In case of D.G. Set power generation capacity in KVA***
Acoustic Enclosure	TPM, Nox, Sox	0	1 DG of 82.5 KVA

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27. (B) Whether any release of odoriferous compounds such as Mercaptans, Phorate etc. Are coming out from any storages or process house.

NA

2635

28. Do you have adequate facility for collection of samples of emissions in the form of port holes, platform, ladder\etc. As per Central Board Publication “Emission regulations Part-III” (December, 1985)

Poart hole	No	***Details***	Port hole provided
Platform	No	***Details***	Port hole provided
Ladder	No	***Details***	Port hole provided

29. Quality of treated flue gas emissions and process emissions. Quantity of treated flue gas emissions and process emissions.

Sr. No.	***Stack attached to***	***Parameter***	***Concentration mg/Nm3***	***flow (Nm3/hr)***
1	82.5 KVA DG set	TPM, Nox, Sox	0	0

(Specify concentration of criteria pollutants and industry/process-specific pollutants stack-wise. Enclose a copy of the latest report of analysis from the laboratory approved by State Board/Central Board/ Central Government in the Ministry of Environment & Forests. For proposed unit furnish expected characteristics of the emissions..

Stack Monitoring report will be attached

Part - D: Hazardous Waste aspect

30. Information about Hazardous Waste Management as defined in Hazardous Waste (Management & Handling) Rules, 1989 as amended in Jan.,2000. Type/Category of Waste as per

Waste (Annually) Schedule I

Cat No	***Type***	***Qty***	***UOM***
NA		0	--NA--
Max	***Method of collection***	***Method of reception***	***Method of storage***
	NA	NA	NA
Method of transport	***Method of treatment***	***Method of disposal***	
NA	NA	NA	

Waste (Annually) Schedule II

31. Details about use of hazardous waste

Name of hazardous waste/Spent chemical	***Quantity used/month***	***Party from whom purchased***	***Party to whom sold***
NA	0	NA	NA

32.

a. Details about technical capability and equipments available with the applicant to handle the Hazardous Waste

NA

b. Characteristics of hazardous waste(s) Specify concentration of relevant pollutants. Enclose a copy of the latest report of analysis from the laboratory approved by State Board/Central Board/Central Govt. in the ministry of Environment & Forests. For proposed units furnish expected characteristics

NA

33.

Copy of format of manifest/record Keeping practiced by the applicant.

NA

34.

Details of self-monitoring (source and environment system)

NA

35.

Are you using any imported hazardous waste. If yes, give details.

NA

36.

Copy of actual user Registration/certificate obtained from State Pollution Control Board/Ministry of Environment & Forests, Government of India, for use of hazardous waste.

NA

37.

Present treatment of hazardous waste, if any (give type and capacity of treatment units)

NA

38. Quantity of hazardous waste disposal

(i) Within factory

0

(ii) Outside the factory (specify location and enclose copies of agreement.)

0

(iii) Through sale (enclosed documentary proof and copies of agreement.)

0

(iv) Outside state/Union Territory, if yes particulars of (1 & 3) above.

0

(v) Other (Specify)

0

Part - E: Additional information

39.

a. Do you have any proposals to upgrade the present system for treatment and disposal of effluent/emissions and/or hazardous waste.

NA

b. If yes, give the details with time- schedule for the implementation and approximate expenditure to be incurred on it.

NA

40.

Capital and recurring (O & M) expenditure on various aspect of environment protection such as effluent, emission, hazardous waste, solid waste, tree- plantation, monitoring, data acquisition etc. (give figures separately for items implemented/to be implemented).

NA

41.

To which of the pollution control equipment, separate meters for recording consumption of electric energy are installed ?

42.

Which of the pollution control items are connected to D.G. Set (captive power source) to ensure their running in the event of normal power failure

STP

43. Nature, quantity and method of disposal of non- hazardous solid waste generated separately from the process of manufacture and waste treatment. (Give details of area/capacity available in applicant's land)

Type	*Quantity*	*UOM*	*Treatment*	*Disposal*	*Other Details*
Bio-degradable waste	419	Kg/Day	Composting	Used as Manure	NA
Non Bio-degradable and Inert Waste	280	Kg/Day	NA	Handed over to Authorized Vendor	NA
STP dry sludge	1	Kg/Day	NA	NA	NA

44. Hazardous Chemicals – Give details of Chemicals and quantities handled and Stored.

(i) Is the unit a Majot Accident Hazard unit as per Mfg.Storage Import Hazardous Chemicals Rules ?

NA

(ii) Is the unit an isolated storage as defined under the MSIHC Rules ?

NA

(iii) Indicate status of compliance of Rules 5,7,10,11,12,13 and 18 of the MSIHC Rules.

NA

(iv) Has approval of site been obtained from the concerned authority?

NA

(v) Has the unit prepared an off-site Emergency Plan? Is it updated ?

NA

(vi) Has information on imports of Chemicals been provided to the concerned authority?

NA

(vii) Does the unit possess a policy under the PLI Act?

NA

45. Brief details of tree plantation/green belt development within applicant's premises (in hectors)

Open Space Availability	*Plantation Done On*	*Number of Trees Planted*
14599 Square meter	2045.82 Square meter(14 %)	392

46.

Information of schemes for waste Minimization, resource recovery and recycling - implemented and to be implemented, separately.

NA

47.

(a) The applicant shall indicate whether Industry comes under Public Hearing, if so, the relevant documents such as EIA, EMP, Risk Analysis etc. shall be submitted, if so, the relevant documents enclosed shall be indicated accordingly.

NA

(b) Any other additional information that the applicants desires to give

7 no. of Vermicomposting pits, 1 no of the recharge well, Solar PV Panels, fire fighting system have been provided at the project site

(c) Whether Environmental Statement submitted ? If submitted, give date of submission.

Yes

48.

I/We further declare that the information furnished above is correct to the best of my/our knowledge.

49.

***I/We hereby submit that in case of any change from what is stated in this application in respect of raw materials, products, process of manufacture and
treatment and/or disposal of effluent, emission, hazardous wastes etc. In quality and quantity; a fresh application for Consent/Authorization shall be made and
until the grant of fresh Consent/Authorization no change shall be made.***

50.

I/We undertake to furnish any other information within one month of its being called by the Board

Yours faithfully

Signature : Sachin Shah
Name : Mr Sachin Shah
Designation : AGM-D&D Head

Additional Information

Air Pollution

Sr No.	Air Pollution Source	Pollutants	APCS Provided	Remark
1	DG Set	NA	Acoustic Enclosure provided	NA

Separate EM Provided	No	***Other Emission Sources***	NA
Measures Proposed	NA	***Foul Smell Coming Out***	No
Air Sampling Facility Details	NA		

D.G. Set Details

Description	Capacity(KVA)	Remarks
DG set	82.5	Used for power back up, in case of power failure

Hazardous Waste Generation

Hazardous Waste	Quantity	UOM	Treatment	Disposal	Other Details

CHWTSDF Details

Member of CHWTSDF	CHWTSDF Name	Remarks

Cess Details

Cess Applicable	Cess Paid	If Yes, UpTo
No	No	Jan 1 1900 12:00:00:000AM

Legal Actions

Legal Action Taken	Legal Record Of Company	Legal Action Details	Remarks
No			

Bank Guarantee Applicable: No

FAIZ SHAIKH & CO.

CHARTERED ACCOUNTANTS

Flat No. 1, 2nd Floor, Majestic Crown, Synagogue Street, Camp, Pune - 411 001.
Mob. : +91 9922714081 E-mail : cafaizshaikh@gmail.com

To,

The Member Secretary,

Maharashtra Pollution Control board,

Kalpataru Point, Sion (East),

Mumbai-400022.

Dear Sir,

We hereby certify that fixed assets of M/s. "Bramha Exuberance" at S No. 13, H. No.1,2 & 3, Village- Kondhwa Khurd , Taluka, Haveli Maharashtra as on 10th March 2023, having its cost of acquisition is as under.

	Fixed Assets	Amount Rs.
1)	Land	5,18,54,000 /-
2)	Building/Premises	22,14,45,000/-
3)	Plant & Machinery Equipment's	NA
4)	Furniture & Fixture	NA
5)	Any other movable/Immovable fixed assets	NA
6)	Capital Work in Progress (if any)	-
	Cost of Acquisition of total fixed assets	27,32,99,000 /-

For Faiz Shaikh & Co
Chartered Accountant

FAIZ SHAIKH & CO. ★ Chartered Accountants ★ M.No. 141424

CA Faiz Shaikh
Proprietor
Membership Number: 141424
UDIN: 23141424BGWMKV9056

Date: - 10-03-2022

Place: - Pune.

2641

BC0/98/9/122
21/9/2004

Ax.F

PMCP (362) 20,000–4–90

PUNE MUNICIPAL CORPORATION

Building Control Department

Approval of Work upto Plinth Level

PROPOSAL NO.	PAGE NO.

Ref. No. :

Date :

पाटे इमारत 'ए' (संपूर्ण)

To :

श्री. सुधीर देशपांडे (आर्की)

909 एरंडणा

ममता ऑपर्टमेन्टस्

कांचनगंगा

पुणे 4

SITE DETAILS	
PETH/ T. P. SCHEME	
VILLAGE	कोंढवा (खु)
SOCIETY	
C. T. S. NO.	
SURVEY NO.	93 हिस्सा नं. 1, 23 पाटे
FINAL PLOT NO.	
SUB. PLOT NO.	
LAND MARK	ममता एकगुबेरन्स

Sir,

With reference to your intimation No. BCP/98/9/122 , dated 8/9/2004

regarding the completion of construction work upto plinth level in the above mentioned site I have to inform on verification at site that :—

1. The further work may be proceeded with as per sanctioned plans. Sanctioned under Commencement Certificate No. 3326 , dated : 30/9/2004

2. The work shall not be proceeded with.

   (a) As it is not as per sanctioned plans.

   (b) .....

   (c) .....

   (d) .....

3. .....

.....

Yours faithfully,

Sub / Junior Engineer,
Building Control,
Pune Municipal Corporation.
Date :

Asst. Engineer,
Building Control No. 9
Pune Municipal Corporation.
Date :

PMC (762) 20,000-4-90

दि. 20/03/2002

2642

PUNE MUNICIPAL CORPORATION

पुणे Building Control Department

Approval of Work upto Plinth Level

PROPOSAL NO.	PAGE NO.

Ref. No. ९३५०

Date : 9/3/2002

इमारत कंबी वर्डिंग

To :

श्री सुधीर देशपांडे (अकी)

एरंडवणा

१०९ ममता अपार्टमेंट्स

कोचनगल्ली

पुणे ४

SITE DETAILS	
PETH/ T. P. SCHEME	
VILLAGE	कोथरुड (खु)
SOCIETY	
C. T. S. NO.	
SURVEY NO.	१३ हिस्सा नं. १, २, ३ पार्ट
FINAL PLOT NO.	
SUB. PLOT NO.	
LAND MARK	ब्रह्मा एक्झुकेन्स

Sir,

With reference to your intimation No. BC/१९९/१४६, dated ९/३/०२ regarding the completion of construction work upto plinth level in the above mentioned site I have to inform on verification at site that :—

1. The further work may be proceeded with as per sanctioned plans. Sanctioned under Commencement Certificate No. : 3376/04 , dated : 30/12/04

2. The work shall not be proceeded with.

   (a) As it is not as per sanctioned plans.

   (b) .....

   (c) .....

   (d) .....

3. .....

.....

Yours faithfully,

9/3/2002

Sub / Junior Engineer,
Building Control,
Pune Municipal Corporation.

Asst. Engineer,
Building Control No. 9
Pune Municipal Corporation.

727

2643

BCO/98/09/324
दि. 9/6/90/2006

MMDM. (396) 10,000-4-02

Building Control Dept.

PUNE MUNICIPAL CORPORATION

Building Control Department

Approval of Work upto Plinth Level

PROPOSAL NO.	PAGE NO.

Ref. No. .....

Date 50

इमारत क्र. डी

To :

श्री सुधीर देशपांडे (अर्की)
909 ममता अपार्टमेन्ट्स
कोथरुड
शिवाजीनगर पुणे ४

SITE DETAILS	
PETH/ T.P. SCHEME	
VILLAGE	कोंढवा (खु)
SOCIETY	
C.T.S. NO.	
SURVEY NO.	93 हिस्सा 1+2+3 (पार्ट)
FINAL PLOT NO.	
SUB. PLOT NO.	
LAND MARK	

Sir,

With reference to your intimation No. BCP/98/09/324 dated 3/9/06 regarding the completion of construction work upto plinth level in the above mentioned site I have to inform on verification at site that :—

1. The further work may be proceeded with as per sanctioned plans. Sanctioned under Commencement Certificate No. : 9786 , dated : 2/1/06

2. The Work shall not be proceeded with.

(a) As it is not as per sanctioned plans.

(b) अट. जागेवरील बदला नुसार दुरुस्त नकाशे —

(c) मान्य करुन घेणे

(d) .....

3. .....

.....

Yours faithfully,

16.10.

Sub / Junior Engineer,
Building Control,
Pune Municipal Corporation.

Date :

Asst. Engineer,
Building Control No.
Pune Municipal Corporation.

Date :

728

Published by SEIAA on January 29, 2018

An Approach for Assessment for Environmental Damage And Estimation of Remediation Costs For Building Construction Projects initiated without obtaining mandatory Environmental clearance (Violation Cases)

1. Ministry of Environment and Forest (MoEFCC) has issued a notification on procedure to be adopted for dealing with the EC violation cases on 14.3.2017[1] and also, gave 6-month amnesty window for such proponents who have violated the EC regulations. These violations are primarily related to initiating the project work or carrying out the project activities without obtaining the mandatory EC. Special EAC was also notified to deal with violations cases at the central level. Subsequently, on 8.3.2018[2], MoEFCC issued another notification which delegated the powers to deal with such 'violation cases' to the concerned SEIAA and further provided an additional amnesty window of one month for such project proponents to apply for grant of EC.

2. The notification dated 14.3.2017 stipulated the procedure for consideration of such cases where construction of projects was carried out without obtaining EC, treating such cases as violation cases. The important provisions for considerations of such proposal in the said notification are as under;

   (2) In case the projects or activities requiring prior environmental clearance under Environment Impact Assessment Notification, 2006 from the concerned Regulatory Authority are brought for environmental clearance after starting the construction work, or have undertaken expansion, modernization, and change in product- mix without prior environmental clearance, these projects shall be treated as cases of violations and in such cases, even Category B projects which are granted environmental clearance by the State Environment Impact Assessment Authority constituted under sub-section (3) Section 3 of the Environment (Protection) Act, 1986 shall be appraised for grant of environmental clearance only by the Expert Appraisal Committee and environmental clearance will be granted at the Central level. (3) In cases of violation, action will be taken against the project proponent by the respective State or State Pollution Control Board under the provisions of section 19 of the

[1] MoEF notification SO 804 (E) Dated 14.3.2017
[2] MoEFCC notification SO 1030 (E) dated 8.3.2018

Environment (Protection) Act, 1986 and further, no consent to operate or occupancy certificate will be issued till the project is granted the environmental clearance. (4) The cases of violation will be appraised by respective sector Expert Appraisal Committees constituted under subsection (3) of Section 3 of the Environment (Protection) Act, 1986 with a view to assess that the project has been constructed at a site which under prevailing laws is permissible and expansion has been done which can be run sustainably under compliance of environmental norms with adequate environmental safeguards; and in case, where the finding of the Expert Appraisal Committee is negative, closure of the project will be recommended along with other actions under the law. (5) In case, where the findings of the Expert Appraisal Committee on point at sub-para (4) above are affirmative, the projects under this category will be prescribed the appropriate Terms of Reference for undertaking Environment Impact Assessment and preparation of Environment Management Plan. Further, the Expert Appraisal Committee will prescribe a specific Terms of Reference for the project on assessment of ecological damage, remediation plan and natural and community resource augmentation plan and it shall be prepared as an independent chapter in the environment impact assessment report by the accredited consultants. The collection and analysis of data for assessment of ecological damage, preparation of remediation plan and natural and community resource augmentation plan shall be done by an environmental laboratory duly notified under Environment (Protection) Act, 1986, or a environmental laboratory accredited by National Accreditation Board for Testing and Calibration Laboratories, or a laboratory of a Council of Scientific and Industrial Research institution working in the field of environment. (6) <u>The Expert Appraisal Committee shall stipulate the implementation of Environmental Management Plan, comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefit derived due to violation as a condition of environmental clearance.</u>

(7) <u>The project proponent will be required to submit a bank guarantee equivalent to the amount of remediation plan and Natural and Community Resource Augmentation Plan with the State Pollution Control Board and the quantification will be recommended by Expert Appraisal</u>

Committee and finalized by Regulatory Authority and the bank guarantee shall be deposited prior to the grant of environmental clearance and will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority.

Subsequently, vide notification dated 8.3.2018, such powers have also been delegated to concerned SEIAA.

3. Maharashtra Scenario: In Maharashtra, there are about 104 cases which have been submitted for grant of EC under this 'violation' notification. As per the information given by DoE, there are 91 cases related to building construction projects and 14 cases related to industry. However, this number is likely to increase substantially, as during evaluation of new EC cases, the SEAC generally finds non-compliance in the appraisal process.

4. Department of Environment (DoE) and SEIAA Maharashtra wanted to streamline the process of evaluation of the 'environmental damage assessment' for such violation cases to bring reasonable consistency and uniformity in approach and assessment while dealing with such cases. The assessment of environmental damage is no doubt a very specialised study and the parameters, approach, weightages, techniques are likely to vary significantly from project to project and also, from area to area. Still however, it would be necessary and prudent to develop some broad structure and framework for such environmental damage assessment which can be used by concerned SEAC for consistent and uniform methodology. The SEACs can obviously incorporate any new specific aspect of evaluation, based on project type, damages anticipated and sensitivity of project area by making special reference to such compelling factors to incorporate additional evaluation aspects. This report is outcome of such requirement of DoE and SEIAA Maharashtra.

5. As a part of preparation of Approach paper, a draft was widely circulated among the stakeholders including the NABET approved consultants and also, the associations of the project proponents. A consultative meeting

was also held in Pune on 21.12.2018 wherein inputs for stakeholders were also received.

6. The present approach paper deals only with Building construction project. However, the broad principles can be adopted with suitable modifications for the industrial projects. The subject of environmental damage assessment and also, restitution and restoration of environment is a very complex and multidisciplinary subject and the present approach paper is based on desktop studies to prepare some basic framework for assessment of the proposal received in order to ensure a broader consistency in appraisal for various SEAC. The framework is generic in nature and obviously, open for further updating with gain of knowledge and experience while dealing with subject, based on field level data and information.

7. Assessment of environmental damages and preparation of remediation plan are highly specialised subject and very much case specific. The methods and techniques to assess the damage would vary from project to project and also, has significant correlation with project site. Considering this, the scope of this approach paper has been limited to preparation of broad guidelines and framework to assess the damage, rather than detailing actual procedure and methodology. Considering the types of projects, the environmental damage assessment methodology can be conveniently grouped in three types of activities/process namely; a. building and construction activities b. infrastructure and mining and c. industries. The broader contours of environmental damage assessment of these three sectors would vary significantly in its content, scope of investigation and analytical processes to assess the damages. Considering the present scope of this report, the report only deals with damage assessment aspects of violation cases. In fact, most of the literature on environmental damage assessment is related to unauthorised effluent discharges, ecological damages, chemical accidents, ground water contamination, hazardous waste disposal etc. Though, there is also a serious and urgent need of developing India specific protocols for such environmental damage assessment as a part of enforcement strategy and interventions, the report does not deal with these aspects and the scope

strictly remains limited to damage assessment for violation cases as per MoEFCC notification dated 14.3.2018, with main focus on Building and construction projects as per the requirement of DoE and SEIAA.

8. Legal background: The "Polluter Pays" principle as interpreted by Supreme Court[3,4] means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental of the damaged environment is part of the process of "Sustainable Development" and as such polluter is liable to pay the cost to the individual sufferers as well as the cost of the reversing the damaged ecology The precautionary principle and the polluter pays principle have been accepted as part of the law of the land. It is thus settled by Supreme Court that one who pollutes the environmental must pay to reverse the damage caused by his acts. In *Vellore Citizens' Welfare Forum v. Union of India and Ors.: AIR1996SC2715*, the precautionary principles and polluter pays principle were held to be part of the environmental law of the country. It was held that the polluter pays principle means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of sustainable development.

9. The use of liability assessment following instances of physical damage or pollution of environmental resources has long been a feature of national legislations. The restitution and restoration aspects have been part of Water (P&CP) Act, 1974, but unfortunately no specific guidelines or protocol have been established so far. There are also not much of established success stories of restitution which can provide some guidance. The National Green Tribunal Act, 2010 specifically provides provisions for restitution, restoration and compensation in case of environmental damages or incidences of environmental degradation, on strict liability basis. However, no technical guidelines or procedures are available for such environmental damage assessment or restoration or

[3] Enviro-Legal Action vs. Union of India 1996 (2) JT 196

[4] (1997)1SCC388B . W.P.(C) No996: M.C. Mehta Vs Kamal Nath and ors.

compensation etc except one prepared for CPCB for liability assessment for HW disposal.[5] Still however, there are no published case studies regarding application of these guidelines.

10. For example, the US Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) has provided for the clean-up of hazardous waste sites since 1980 and requires resource damage assessment for this and similar instances of environmental injury. In Europe, the Environmental Liability Directive (ELD 2004/35/EC) now applies a common approach to assessment which aims to prevent and remedy environmental damage by holding those responsible liable for remediation. However, while there are prescribed procedures for remediation, there remain the difficulty of how to achieve an equivalent level of habitat quality to that, which existed before an incident and how to account for interim losses, including losses to social wellbeing.

11. Damage as defined by the ELD presupposes that liability can be identified. Where this is possible, the ELD allows for three types of remediation:
    a. Primary remediation to restore a damaged resource or impaired service to its baseline condition;
    b. Complementary remediation when a site cannot be fully restored using primary remediation and which involves intervention or improvements to habitat at another site which is physically or geographically linked in terms of species/ habitats or human interactions;
    c. Compensatory remediation in cases where there are interim losses before ecological functions can be fully restored or replaced.

12. Liability to the government for clean-up costs and natural resource damages under CERCLA is generally joint and several, unless the defendant can show that the harm is divisible or another reasonable basis for apportionment. However, in the present case, as there is only single project, there is no occasion to consider proportioning the liability. The entire liability (absolute) on the complementary basis stands against the

[5] Guidelines on Implementing Liabilities for Environmental Damages due to Handling & Disposal of Hazardous Waste and Penalty, published by CPCB 2016.

project proponent, as the remediation and restoration of construction site is not envisaged.

13. A number of US courts have applied the "Gore factors," so named because they were part of a 1980 proposed amendment to CERCLA sponsored by then-Senator (now Vice President) Albert Gore (which was not ultimately enacted):
    a. the ability of the parties to show that their contribution to a discharge, release or disposal of a hazardous waste can be distinguished;
    b. the amount of the amount of hazardous waste involved; - the degree of toxicity of the hazardous waste involved;
    c. the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste;
    d. the degree of care exercised by the parties with respect to the hazardous waste; and
    e. the degree of party cooperation with government officials.

14. Federal courts have also applied the following other equitable factors:
    a. the relative fault of the parties in causing the release of the hazardous materials;
    b. the knowledge and/or acquiescence of the parties in the contaminating activities;
    c. the benefits received by the parties from the contaminating activities;
    d. the relative clean-up costs incurred as a result of the released hazardous wastes;
    e. the financial resources of the parties involved;
    f. contracts between the parties bearing on the subject;
    g. circumstances and conditions of property conveyance in cases involving successive owners; and
    h. any traditional equitable defences as mitigating factors.

15. Role of Consultants: The PP and industries generally take advise of the NABET approved consultants for preparation of EIA report and also, for

completing EC procedure. These consultants are 'accredited' consultants duly recognised by NABET after careful evaluation of their capabilities and understanding of environmental law and regulations besides technical competence. In other words, these consultants have been given special recognition and also, the MoEFCC notification has especially mandated that all the EIAs and EC procedures needs to be done only through NABET approved consultants, carving out a niche business for these consultants. Such a recognition and special business opportunity will obviously entail with 'responsibility' cast upon these consultants to advise the project proponents on compliance, identify the non-compliance and also, bring it to notice of project proponents/regulators at the first instance while advising the project proponents to ensure timely compliance. It is therefore necessary that the role of such consultants, if they are associated with the project proponents during the occurrence of such violation or immediately thereafter, needs to be critically examined in order to ensure that these consultants perform their duty to ensure compliance in a more effective way. The proposed damage and liability assessment exercise needs to cover these aspects which will ensure that the non-compliances in future are brought to the notice of project proponents and regulator in time, for timely enforcement and compliance actions.

16. Considering the above discussions, it is proposed that in this phase of report, methodologies for damage assessment and liability evaluation are proposed for building and construction projects, with following considerations;

    a. These methodologies are for the projects (construction and industries) which are in 'permissible' in the area where project is located and are included in 'regulated' activity as per EC regulations and associated notifications. The methodology cannot be and should not be applied for the projects in non-conforming zone.
    b. These methodologies are evolved only to consider limited violation in terms for initiating the project activities without EC. They cannot and should not be applied in case of any case pollution or degradation incident for which separate methodologies need to be developed and adopted.

17. Damage Assessment and Remediation cost:

The notification of 14.3 2017 describes the rationale for assessment of environmental damage costs and remediation costs as under;

"6. *The Expert Appraisal Committee shall stipulate the implementation of Environmental Management Plan, comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefit derived due to violation as a condition of environmental clearance.*

7. The project proponent will be required to submit a bank guarantee equivalent to the amount of remediation plan and Natural and Community Resource Augmentation Plan with the State Pollution Control Board and the quantification will be recommended by Expert Appraisal Committee and finalized by Regulatory Authority and the bank guarantee shall be deposited prior to the grant of environmental clearance and will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority. "

16. Three aspects emerge from the above as under;

a. The project proponent needs to develop remediation action plan commensurate with the environmental damage assessed and also, the economic benefit derived due to violation of EC.
b. The PP also needs to develop natural and community Resource Augmentation plan (NCRAP) along with the cost. This is not linked with the environmental damage or economic benefits accrued from violation.
c. Both the remediation and NCRAP needs to be implemented by PP independently which needs to be verified by regulatory authority. There is no time limit or verification methodology defined for such implementation. Still however, the time limit can always be

considered by authority as a part of EMP while approving the EMP and EC.

17. The literature and references available on environmental damages are mainly related to environmental degradation resulting from waste disposal or degradation of forest. The important aspects in the design of remediation program can be as under;

a. Damage assessment and significance;
   i. Definition of the status of the resource prior to the incident causing damage; (Baseline)
   ii. Assessment of the scale of damage; (Services and beneficial use of site)
   iii. Impact assessment; (modeling) and;
   iv. Determining whether damage is 'significant'. (Significance threshold and integrity of site)

b. Primary restoration options,
   i. With an aim to restore the damaged resource and, if possible, return the resource to baseline (pre-incident) conditions
   ii. Setting restoration targets;
   iii. Identifying primary restoration options;
   iv. Selecting primary restoration options; and
   v. Estimating interim losses

c. Compensatory restoration options.
   i. Setting the objectives for compensatory restoration options;
   ii. Monetary compensation and/or resource compensation;
   iii. Identifying the compensatory options; and
   iv. Selecting the compensatory options.

18. Generally, the remediation and restoration need to be designed based on either of the three following approaches in order to design, select and determine the scale of the compensatory restitution and restoration options

a. **Service-to-service approach:** Accept a one-to-one trade-off between the services that are lost due to damage and the services that are created through compensatory restoration. Reasonable to make this

assumption if the replacement resources are of the same type, quality and of comparable value.

b. **Value-to-value approach:** Used for scaling of Class II and II options, i.e. when the assumption of a one-to-one match between lost services and compensatory services is not necessarily valid. The approach estimates the economic value of interim losses and the economic value of the services generated by the compensatory restoration option.

c. **Value-to-cost approach:** Within this approach, restoration is scaled by equating the cost of the restoration plan to the value (in monetary terms) of losses due to the injury. This approach is only suitable when damage is relatively minor.

The remediation plan also needs to be proactive on futuristic issues and need to consider following;

- should be the result of an evaluation process based on, but not limited to the following :
  - The cost to carry out the option;
  - Time it will it take for the restoration to be effective;
  - Extent to which each option is expected to return the damaged resource to its baseline;
- Likelihood of success of each option;
- The extent to which each option will prevent future damage (flowing from the initial incident), and avoid collateral damage as a result of implementing the option;
- The extent to which each option generates benefits for the damaged and/or other natural resources beyond returning the damaged resource to its baseline; and
- The effect of each alternative on public health and safety

19. The total environmental damage needs to be assessed based on the environmental restoration cost required considering the above-mentioned project related attributes and as per the settled legal principles, such assessment need to be based on 'absolute' liability principle.

The notification refers to covering mainly three aspects in overall damage assessment studies prior to consideration of such violation cases, namely;

- Opportunity cost: benefits accrued due to early implementation of project without obtaining the mandatory EC and shall also include Cost for deterrence (penalty) for violation of EC regulation which needs to consider factors like project proponents track record, factors contributing to environmental damage etc.
- Environmental damage cost to be assessed based on the available data
- Cost of remediation and restoration.

20. While working on these themes, it would be necessary to keep in mind that the entire exercise is being under the provisions of the EC regulation 2006, as amended and the Environmental protection Act. It is also necessary to note that there are hardly any scientific studies to assess the environmental damages in holistic manner and also, there are very few cases where environmental restoration and restitution has fully been achieved. However, they are related to remediated of contaminated sites and/or contaminated ground water. There are several cases where the SC, HCs and NGT have ordered remediation and restoration, but there are hardly any studies where both restitution/restoration and damage assessment has been carried out simultaneously. It would therefore be necessary to adopt an approach which may be advoc in nature but based on scientific approach. There could be uncertainty in damage assessment but as already held by judicial pronouncements, the uncertainly in environmental damage and restoration on a positive side, towards preserving environment (precautionary principle) is acceptable, while demonstrating the good efforts in assessing the same.

21. Economic Benefit Assessment: One of the important aspects of this notification is inclusion of concept of economic benefits accrued due to violation of EC regulations. Traditionally, this concept has always been integrated in effective enforcement of standards and regulations all over the world because any violation or relaxation in environmental regulations, would result into economic advantage, rather in many cases, environmental norms are violated to derive economic advantages and benefits. In order to ensure that the compliance is encouraged, it would

be in the best interest to develop some tools to incorporate financial disadvantage for the non-compliance.

22. Violators obtain an economic benefit from violating the law by delaying compliance, avoiding compliance or achieving an illegal competitive advantage. In delaying compliance, the violators eventually comply, but they use the money that should have been spent on compliance. The violators then use that money for profit-making investments. In a very simple sense, the violators "gain" the interest on the amount of money that should have been invested in pollution prevention and control measures. When an offender avoids compliance, it essentially does not incur the costs that would have been necessary to come into compliance. The third type of economic benefit is derived from an illegal competitive advantage. It is necessary to have reliable methods to calculate any significant economic benefit of non-compliance. The existence of a well-defined and substantiated methodology strengthens the enforcement agency's position in case of eventual appeal of the assessment.

Though there are several references available for such assessment particularly by USEPA and also, several state environmental agencies besides OECD, One of the good case studies is prepared by OECD and is available at http://www.oecd.org/env/outreach/46959936.pdf. [6]. The study illustrates a key principle that in order to deter future non-compliance, a fine should at a minimum eliminate any financial gain or benefit the operator has obtained as a result of his non-compliance. The "benefit component" of a fine corresponds to the delayed or avoided compliance costs or the illegal competitive advantage and puts the violator in a less favourable situation compared to those who comply with the requirements in a timely manner. The additional penalty amount, or the "gravity component", should reflect the seriousness of the offence and the operator's behaviour. USEPA has also elaborate case studies on such efforts and has also developed the penalty and financial models that can be used to analyze the financial aspects of enforcement actions. https://www.epa.gov/enforcement/penalty-and-financial-models. BEN (5.8.0) - Calculates a violator's economic benefit of noncompliance from delaying or avoiding pollution control expenditures. The model requires the date the violation occurred, the date of compliance, the costs of

[6] REMOVING ECONOMIC BENEFITS OF ENVIRONMENTAL VIOLATIONS IN AZERBAIJAN: Case Study Report, By OCED

compliance and the year the costs were estimated, and the date the penalty will be paid. Still however, no much work has been done in Indian context on this principle of effective environmental governance, particularly enforcement.

All such economic benefit assessment needs to carefully designed in case of construction projects as scope and extent of construction in such building cases are rather governed by local municipal rules particularly for built up area, FSI, requirement of open area, parking etc. In many cases, the municipal laws are amended and some modifications are made in available permissible limits for the above criteria. The general trend in building industry to initiate the construction in anticipation of such amendments and modification. And therefore, in order to assess the economic benefits, it is proposed to consider the applicable laws on the date of violation, rather than while assessment of the damages and benefits accrued. The allowable built up, FSI, open space etc only shall be considered and any violation of these ground should also be assessed as economic benefits. Based on the actual data, three scenarios can be envisaged for violation of EC regulations by Building construction Industry;

A. The construction work is fully/partly completed without EC and the flats/commercial area is already sold to third parties.
B. The construction work is started and some amount has been received from third party, but now the work is stopped.
C. The construction work is started but no amount has been received from any third party.

23. One such approach adopted by Indiana government [7] elaborately discuss the matrix of calculations for the penalties for environmental violations. Though, presently, this approach paper does not deal with penalties, but the process and structured approach adopted therein, can suitably be adopted in the present study.

Violators Track record: As referred in above references, the violators track record and also, action subsequent to noticing the violations play an important role in formulation of environmental restoration and

[7] INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT NONRULE POLICY DOCUMENT, https://www.in.gov/idem/ctap/files/nrpd_enf-002.pdf

restitution program. Hon'ble Supreme Court in CIVIL APPEAL NO. 10854 OF 2016 decided on 10th August 2018 has elaborately considered such aspects and it is necessary to adopt the same approach while dealing with the EC violators.[8]

24. **Proposed Framework**: Considering the discussions above, following broad approach and framework is suggested to derive the environmental damage cost which needs to be considered while appraising the remediation plan and the costs associated with such proposed remediation costs. Moreover, such cost needs to be appropriately accounted for the opportunity costs which *inter alia* should include the factors related to environmental track record of the project proponents. The proposed framework is suggestive in nature and is an attempt to develop a framework for such assessment in future, based on scientific evidence. Moreover, this framework is essentially for cases of violation of EC regulations in terms on obtaining the EC by construction projects and is not aimed to be used as enforcement tool in case of violation of EC conditions and/or incidences of pollution of environmental degradation. Still however, the SEAC can expand the scope of such assessment and costing with reference to any specific incidence on case to case basis, particularly where construction is carried out at industrial sites and/or there are complaints of pollution due to construction which will further strengthen such appraisal process. It is necessary to collect some specific information from the project proponents to assess such cost of remediation and also, opportunity cost. Therefore, a set of information is proposed to be called from PP as under. Some of the information could be repetitive but it would be worth to have all such relevant information at a place to understand the process.

[8] https://www.sci.gov.in/supremecourt/2016/37233/37233_2016_Judgement_10-Aug-2018.pdf

25. Information Required:

A. Project details;

1	Name and address of Project	
2	Name of Directors	
3	Total construction completed (built-up area as per EC notification):	
4	Total construction proposed, built-up area as per EC notification	
5	Whether the project has any EC; if yes, give details including approved built up area	
6	Total cost of the project and total cost of the project already executed? Also, give total cost of the project constructed without EC.	
7	Date of commencement of project	
8	Date of violation of EC regulation (please justify with documentary evidence)	
9	Date of first submission of information of such violation to the SEIAA or SEAC, if self-notified, along with stoppage of construction work	
	1. No. of days of violation (9-8)	
10	Name and address of Environmental consultant, with date of engagement of such consultant	
11	Any other case of EC violation is reported or pending or decided earlier for projects where any of	

	the directors are involved? If yes, give details	
12	Any court case related to EC violation pending or decided against any of the directors including High Court, NGT and sessions court?	

B. What can be the attributes for environmental damages: The PP and consultant needs to describe the details of each attributes in qualitative and quantitative manner; for example;
   1. Air pollution: construction dust, noise, demolition dust
   2. Water: incremental sewage increase, extra water pumped from foundations
   3. Soil: excess foundation excavation, excess ground foot print
   4. Noise: extra time required for construction,
   5. Loss of vegetation: additional trees cut (type, age and number of trees with its significance)
   6. Transport and material handling

C. Description of activities contributing to the environmental damage and degradation;

A.	**Demolition, site preparation**	
1	Whether any demolition work was carried out prior to EC? If yes what is date of commencement of demolition and also date of completion of demolition?	
2	Whether such demolition or site had some asbestos, industrial waste or contaminated soil or hazardous waste etc and if yes, how these types of waste have been segregated and disposed?	
3	If the project is located on any industrial site, whether any due diligence or environmental	

	status of site was assessed? If yes, give details	
4	State the quantity of demolition waste disposed from the site, including quantity and disposal location along with location map and photographs	
5	Any air quality (including noise) monitoring done during demolition work? If yes, results	
6	Whether building plan and layout approved and permission from local authorities is taken to commence the work prior to demolition work	
7		
B.	**Construction stage**	
1	Date of commencement of construction and completion of construction, if any	
2	Whether the construction carried out is strictly as per the sanction plan given by concerned local authority? If yes, please provide such certification	
3	In the additional construction, how much construction material including, sand, bricks, cement etc was required to be transported? No. of trucks and its average haulage?	
4	How many labours were engaged in construction, average per day?	
5	Whether, the additional construction work, over and above valid EC, if so available, has any additional ground foot print? If yes please state, ground foot print in sqm as per EC approved	

	layout and current proposed layout?	
6	Whether the expansion was carried out simultaneously with EC approved work? If not give details of time frame? If yes, please give incremental additional time required for construction of additional area	
7	Is there any change in foundation design, i.e. depth of foundation, basement etc. that were done due to additional area? If yes, what is the additional soil quantity excavated for such incremental foundation depth? Where it is disposed?	
8	What is the quantity of top soil removed and how it is managed?	
9	Also, if water is encountered at such foundation depth, what is the volume of water pumped for such additional depth of excavation?	
10	How much additional water was required for curing and construction purpose? Source of water?	
11	Rain Water harvesting details	
12	Solar light, water heating details	
13	Use of fly ash bricks ensured? Details thereof	
14	Whether any noise or air pollution control measures taken, if so what are they?	
15	Whether any air quality and noise level monitoring done	

	during construction stage, if yes attach results	
16	Whether any third-party rights are created on the construction without EC?	
17	Whether any of the construction without EC has already been occupied? If yes, number of families given such occupation. Also give total commercial area being used presently. Also state type of commercial activity i.e. offices, shops, hotels, restaurants etc.	
18	How many flats sold which are in the area of EC violation and total sale value of such flats	
19	How much commercial area sold which is in area of EC violation and total sale value of such commercial area.	
C	**Commissioning of project**	
1	Date of when the project was made operational either by giving possession of residential or commercial areas of the project?	
2	How many families are staying in project?	
3	What is total water supply to project, source and quality	
4	Total sewage generation m3/day	
5	STP details,	
6	Treated wastewater disposal	
7	Any DG sets, are they complying the norms	

26. The notification provides for "*The Expert Appraisal Committee shall stipulate the implementation of Environmental Management Plan, comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefit derived due to violation as a condition of environmental clearance.".* It can be seen from the provision that EMP is required to have two components i.e. 1. Remediation plan and 2. Natural and community resource augmentation plan. They are required to be corresponding to the ecological damage assessed and economical profit derived due to the violation.

Considering the broad conspectus and the need to evaluate the ecological assessment which will vary from project to project, site to site and also, will be subject of very detailed relative assessment. In absence of standard protocol and guidelines for such ecological damage assessment, it is proposed to adopt an advoc approach only for construction projects within the parameters specified by the notification. It is proposed to have broadly two components i.e. environmental damages and secondly economic benefits derived. The economic benefits derived can suitably take into account the construction stage besides the role and environmental performance record of the project proponent.

And therefore, the EMP and natural resource augmentation plan shall not only cover the ecological damages but also, the track record of project proponents as an attribute of the economic benefits derived. As regards the ecological damages, a protocol which is rather based on basic environmental impacts like soil disposal, noise, air pollution, water pollution etc has been prepared by Gujarat SEAC, which is further modified to incorporate additional factors. The protocol format presented below is required to be prepared and certified by approved environmental consultants who are required to submit an undertaking certifying correctness of the data presented.

Format of Assessment of Environmental Damages

Attributes	Scope of saving on account of environmental protection measures	EMP cost	
		Recurring cost, per day (Rs.)	Non-recurring cost (Rs.)
Air Pollution	Water requirement for sprinkling (KL/day): Cost of 1 KL water (Rs):		
Water Pollution	A. Cost of water requirement: a). Construction phase: b). Operation phase: B. Cost of sewage treatment, reuse & disposal: a). Construction phase: b). Operation phase: C. Quantity of water pumped out during excavation and a lumpsum cost of Rs. 50 per cum for such unauthorized water extraction and disposal D. cost of construction& maintenance of recharge well:		
Soil environment	In case of demolition has carried out, the cost of demolition waste manage-ment plan needs to be discussed and finalized as non- recurring cost.		
	In case there is some hazardous waste like asbestos or the site is located on industrial area where hazardous chemical or waste was handled, the cost based on due diligence of the project site, as given by consultants. (the report must include soil analysis, water analysis, MPCB consent copies, manifest of HW if any). This requires critical examination from SPCB.		

	Cost of preservation of top soil & excavated earth to be considered. [Area (m2)xdepth (m)x sp. Gravity (kg/m3)x cost per ton (Rs.)]		
Noise and Vibration	For damage due to noise pollution & vibration, the cost of barricades around the project site should be considered. [perimeter (m) x height of the barricade(m) x cost of the sheet)		
Green Belt	In case of any tree cutting without EC cost of Rs. 10000/- per tree apart from any statutory action for such tree cutting if any, Cost of planting & maintaining trees (Number of trees as per the bye-laws) Cost of compensatory tree plantation (5 trees for each tree cut)		
RH/OHS	Cost of workers benefit to be considered in view of Building and Other Construction Workers' Welfare Cess Act, 1996		
	A. cost of health checkup of workers: B. cost of safety measures including PPEs:		
Total			

27. The economic benefits derived can be either on both costs saved towards not taking appropriate environmental protection measures and also, the benefits derived by going ahead with project to gain commercial gains. This aspect has also been considered by Gujarat SEAC, by apportioning 10% amount of profit which is considered to be 20% construction costs including the land value. All the standard literature including regulatory guidelines referred above incorporate such commercial economic benefits accrued from early going ahead by starting and commissioning project without obtaining EC. It is therefore necessary to incorporate such

consideration in assessing the economic benefits which can be deterrent factor in future cases. At the same time, it is necessary that there should be a consideration for such cases where the project proponent has applied for EC but for some reason or other the EC is not considered and granted without assigning any reason beyond a reasonable time frame. There could be different scenarios for such economic benefit assessment;

- The construction (residential/commercial) under violation, where the construction is stopped after some time:
- The construction (residential/commercial) under violation and where the full construction area is occupied by the third party:
- The construction area (residential/commercial) under violation where the partial construction is occupied by the third party

There could be different ways to assess the Economic benefit derived, considering various aspects like stage of construction, Ready reckoner cost, project cost, cost of the construction under violation, status of violation and also, track record of environmental compliance of the project proponent. However, the notification neither refer to any method or technique to assess the economic benefits nor provide any specific method for assessing environmental damage. There are no standard guidelines available on assessing the economic benefits proportioning above mentioned attributes. And hence, in absence of uniform and objective methodology on pan India basis, it would be prudent to adopt simplistic and uniform approach for such assessments. This will primarily avoid subjectivity and reliance on unverified and uncertain data. Another aspect which is relevant here is that the present proposals are submitted under the amnesty scheme and hence, a specific view needs to be taken while appraising the projects to avoid further complications and uncertainty. However, there is an urgent need to evolve specific guidelines and methodology for assessment of economic benefits accrued due to environmental no-compliance.

Detailed deliberations on these aspects have been held and it is noted that the economic benefit can best be realistically assessed in terms of the % of total project cost. Considering the present practice in states like Gujarat and also, Tamil Nadu etc, and keeping high cost of property in the state, it is proposed to consider 1% of project cost, including land, as

declared by the project proponent before SEAC, as the economic benefit accrued due to non-compliance, subject to maximum amount of Rs. 10 Cr. Such an approach seems more rational, consistent and objective without any subjectivity, in the absence of any specific guidelines or methods given in the notification or any specific guidance from MoEFCC on these issues. Such an approach is also consistent with the spirit of notification. It would be important to note that such methodology is not universal and is only applicable for the building and construction projects, and will be applicable till a scientific methodology is evolved at national level or any specific guidelines are issued by MoEFCC. However, it is imperative and necessary to ensure that these additional costs are required to be borne by Project proponent and cannot be and shall not be passed on to the consumers. In fact, the customers are entitled to seek any other legal remedy for any compensation etc as per prevailing laws.

28. In addition to above environmental damage costs, it is necessary to incorporate certain consideration for the environmental track record of the project proponent as a part of economic benefits accrued by the proponents and it is proposed that for each of earlier or similar other EC violation in other projects being developed by project proponents shall be accounted for Rs. 10,00,000/- (Rs. Ten lakhs) in the community action plan. This consideration directly stems from Gore's correction referred earlier. This will surely bring the frequent and habitual defaulters on a common platform which is a significant step for future compliance enforcement. The regular defaulters will find such a criterion as a 'reputation risk' which itself will trigger the compliance in future. The final amount towards remediation, and natural and community resource augmentation action plan can be summation of these aspects or the amount equivalent to the CER amount as per the MOEF&CC's office Memorandum No: F NO 22-65/2017-IA-III dated 01/05/2018, whichever is higher.

29. **Calculation of Cost of remediation plan and natural & community resource augmentation plan**

Sr	Description	Details	Amount
A	Assessment of Environment Damages		
1	Total of recurring cost	Cost arrived from above table per day X number of days in violation	
2	Non-recurring cost	Cost as arrived from above table	
	Sub Total (1+2 above)	(Subject to minimum Rs. 1 crore)	
B.	Economic benefits accrued due to violation		
1.	Economic benefits	1% of Total Project cost including land, as declared by PP before SEAC, subject to maximum Rs. 10 Cr.	
2.	Track Record of Project proponent	Incremental cost of Rs. 10 lakhs for each EC violation by PP observed at any other projects in last 3 years	
C.	Cost of remediation plan and natural & community resource augmentation plan	Sum of A and B above or amount equivalent to the CER amount as per the MOEF&CC's office Memorandum No: F NO 22-65/2017-IA-III dated 01/05/2018, whichever is higher.	

30. It is manifest from the language of the notification that the spirit of notification is twofold; firstly, there needs to a deterrent action against EC violation and secondly, there needs to be sufficient environmental restoration and restitution of the presumed environmental damages which generally occur in the surrounding due to construction projects. In the present case, most of the construction projects are located in urban areas of Mumbai and Pune and hence, in order to ensure that the local community really gets benefitted by such planned environmental restoration program, it is proposed that such environmental restoration/restitution shall preferably be carried out in the surrounding of the project location.

31. Another important aspect of the notification is that the PP needs to give a bank guarantee of equivalent amount and such bank guarantee will be returned on verification of implementation of such EMP by regional office of Ministry, and further recommended by SEAC and only thereafter, SEIAA can take a decision on return of BG. The notification contemplates inclusion of such action plan as part of EMP. However, it is required to note that the proposed remediation and community restoration program will have to be carried out ex-situ i.e. not at construction site as there would not be appropriate place to carry out remediation or restoration, and moreover, most of the environmental damage would have been in the surrounding area like; in terms of air pollution or noise pollution or the soil disposal related issues. And as such, the project proponent will not have administrative control or mechanism to carry out such complementary remedial actions in the areas which are not under his control. One of the options is conducting such activities similar to CSR. Be that as it may, it is an admitted fact that there is a significant gap in such verification of compliance through environmental regulatory authority and therefore it would be difficult for SEAC and SEIAA to take a decision in this regard.

32. In order to simplify the entire process, it is proposed that the estimated EMP cost can be attributed to overall environmental development works in a fixed approportionate percentage which will avoid ambiguity and inconsistency. Though such a scheme of restoration may not be ideal scenario for any environmental restoration program, but as in the present case, we are strictly dealing with ex-situ restoration or rather environmental improvement program, such a practice can be most appropriate and effective. However, such practice cannot be adopted for

any future on-site restoration/restitution and is not a substitute 'pay and pollute' formulae for well established legal principle of 'polluter pays'.

33. The actual cost of remediation proposed at site can be given separately, duly certified by the environmental consultant which can be considered by SEAC and SEIAA before considering the amount which can be reduced from the cost arrived at above. However, such remediation is not expected to cover mandatory requirements of compliance or EMP, and needs to cover only exclusive efforts of environmental damage remediation.

34. Based on discussions with stakeholders, following areas have been identified for resource allocation through such EMP cost, which are subject to final decision, for both activities and allocation, by SEIAA and Govt of Maharashtra;

Sr. No	Description of Activity	% allocation	Implementing agency	Remarks
1	Afforestation (can include plantation, garden development)	25	Social forestry and Local body	The afforestation can be either through social forestry or the Local body. Preferably within 50 km from project site
2	Water conservation program (Jalyukt shivar, etc)	25		Preferably within 50 km radius of project site
3	Urban environment and sanitation (can include swatccha Bharat, playground development, urban ground-water recharge schemes etc)	20	Local body	
4	Sewerage lines and STP, solid waste management,	20	Local body	

5	Urban air/noise pollution control initiatives	10	Local body	

35. Implementation strategy: The notification envisages the project proponents to carry out the remedial works. As discussed above the project proponent would not be in a position to carry out such remedial works on his own. And therefore, in order to effectively implement the restoration program, it was proposed that the PP can deposit such costs with District collector or Municipal Commissioner, who can spend such amount on identified projects and certify the work completion and/or utilisation of amount. However, such a proposal could not get concurrence from MoEFCC as the proposal is `*stricto senso'* not as per the notification, which envisages submission of bank guarantee by PP and also, carrying the works directly.

Still however, as it is finally SEAC and SEIAA, who need to verify and accept the completion of restoration program, it is necessary to streamline such process of environment restoration in order to have an objective and consistent approach for such post-implementation assessment. It is therefore proposed that the concerned Municipal commissioner (in case of Municipal corporation areas) or the District Collector (for remaining areas) where the project is located shall identify suitable projects as per broad guidelines presented in above table within 5 km from the project site, in consultation with MPCB officials, if necessary, and the project proponent can either carry out such work on his own or can contribute to civic or government funds for such ongoing projects. The PP will need to submit the equivalent BG independently as per provisions of notifications. The Municipal Commissioner or the District Collector can take any other specific project related to environmental restoration in consultation with MPCB. They are further required to take review of implementation of such projects on monthly basis and, on the utilisation of the funds contributed by PP, a utilisation certificate need to be issued for the purpose. Such a certificate can be the basis of verification by Regional office MOEFCC and SEAC for further approval of SEIAA. It is expected that such contribution would be effectively utilised within maximum 2 years.

2673

MAHARASHTRA POLLUTION CONTROL BOARD
REGIONAL OFFICE –PUNE

Phone No. 020-25816451
Fax No. 020-25811701
e-mail : ropune@mpcb.gov.in

Jog Centre, 3rd Floor, Wakdewadi,
Old Pune Mumbai Road,
Pune- 411003

Ax.H

MPCB/ROP/ 220127-FTS-0177 Date: 27.01.2022

To,
M/s. Bramha Corp Ltd.,
Exuberance, Elite,
Sr No. 13/1, 13/2, 13/3, Vill. Kondhwa – Khurd,
Tal. Haveli, Dist. Pune.

Sub: - Directions under section 33A of the Water (Prevention & Control of Pollution) Act, 1974 & under section 31A of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization / Renewal of Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016

Ref:- 1) Original Application No. 65/2019, filed before Hon'ble NGT, Pune by applicant Ajay Bhosale against you.
2) The report submitted by Joint Committee of SEIAA, GoM and MPCB in O.A. No. 65/2019 dated 07.01.2020.
3) Directions issued by the Board vide No. MPCB/ROP/PD/200104002 dated 04.01.2020
4) Proposal submitted by Sub Regional Officer, Pune – I vide no. MPCB-LEGAL_ACTIONS-180122008.

WHEREAS, Mr. Ajay Jayvantaro Bhosale has filed an Application bearing No 65/2019 against you before the Hon'ble National Green Tribunal, West Zone, Pune for carried out construction activities without obtaining prior Environment Clearance and without obtaining consent to establish and consent to operate from the Board.

AND WHEREAS, Hon'ble NGT vide order dtd. 22/10/2019 constituted a Joint Committee of SEIAA and MPCB and directed the committee to verify the facts and circumstances set out in the Original Application and submit Report.

AND WHEREAS, in compliance of the Order passed by Hon'ble NGT, the joint committee carried out the visit to your project on 15.12.2019 and noted the violations of provisions of Environmental laws.

AND WHEREAS, you have failed to comply with the provisions of the EIA Notification, 2006 and various environmental enactments.

AND WHEREAS, based on the observations of violations noted by the joint committee, Board had issued Directions on 04.01.2020 as above ref.3.

AND WHEREAS, you have failed to comply all the non compliances already mentioned in Board Directions dtd. 4.01.2020 and completed building construction without obtaining Environment Clearance and consent to establish and consent to operate from the Board.

NOW THEREFORE, in compliance of the Order passed by the Hon'ble NGT on 6.12.2021, the M.P.C. Board has assessed Environment compensation of Rs. 26,83,96,875/- (Rs. Twenty Six Crores Eighty Three Lakh Ninety Six Thousand Eight Hundred and Seventy Five only) towards the damages already caused to environment and recovery of environmental compensation as per 'Polluters Pay' Principle. In view of above non compliances, you are hereby directed to pay the compensation of Rs. 26,83,96,875/- (Rs. Twenty Six Crores Eighty Three Lakh Ninety Six Thousand Eight Hundred and Seventy Five only) in the name of Maharashtra Pollution Control Board, Mumbai, within a period of **7** days from date of receipt of these directions, failing which, the Board will have no option than to initiate further appropriate legal action against you, which please note.

This is issued with the post facto approval of the Hon'ble Member Secretary of the Board.

For and on behalf of the
Maharashtra Pollution Control Board

Nitin Shinde 27/5/22

(Nitin Shinde)
I/c. Regional Officer, Pune.

Copy submitted to:
1. Hon'ble Member Secretary, MPCB, Mumbai- for favour of information.
2. Joint Director (WPC), M. P. C. Board, Sion, Mumbai.
3. Law Officer (P& L Div.), M. P. C. Board, Sion, Mumbai.

Copy for information and necessary follow up:
Sub-Regional Officer, Pune-I M. P. C. Board, Pune.

Final Document on Revised Classification of Industrial Sectors Under

Red, Orange, Green and White Categories

(February 29, 2016)

Central Pollution Control Board

Delhi

Executive Summary

Categorization of Industrial Sectors under Red, Orange, Green and White Category

The Ministry of Environment, Forest and Climate Change (MoEFCC) had brought out notifications in 1989, with the purpose of prohibition/ restriction of operations of certain industries to protect ecologically sensitive Doon Valley. The notification introduced the concept of categorization of industries as " Red", "Orange "and "Green" with the purpose of facilitating decisions related to location of these industries. Subsequently, the application of this concept was extended in other parts of the country not only for the purpose of location of industries, but also for the purpose of Consent management and formulation of norms related to surveillance / inspection of industries.

The concept of categorization of industries continued to evolve and as different State Pollution Control Boards interpreted it differently, a need arose to bring about necessary uniformity in its application across the country. In order to harmonize the 'Criteria of categorization', Directions were issued by CPCB under Section 18(1)(b) of the Water (Prevention & Control of Pollution) , Act, 1974 to all SPCBs/PCCs to maintain uniformity in categorization of industries as red, green and orange as per list finalized by CPCB, which identified 85 types of industrial sectors as 'Red', 73 industrial sectors as 'Orange' and 86 sectors as 'Green'.

The process of categorization thus far was primarily based on the size of the industries and consumption of resources. The pollution due to discharge of emissions & effluents and its likely impact on health was not considered as primary criteria. There was demand from the SPCBs / PCCs and industrial associations for categorization of the industrial sectors in a more transparent manner. Accordingly, the issue was discussed thoroughly during the national level conference of the Environment Ministers of the States, held in New Delhi during April 06-07, 2015 and a 'Working Group' comprising of the members from CPCB, APPCB, TNPCB, WBPCB, PPCB, MPPCB and Maharashtra PCB is constituted to revisit the criteria of categorization of industries and recommend measures for making the system transparent and rational.

The Working Group has developed the criteria of categorization of industrial sectors based on the Pollution Index which is a function of the emissions (air pollutants), effluents (water pollutants), hazardous wastes generated and consumption of resources. For this purpose the references are taken from the the Water (Prevention and Control of Pollution) Cess (Amendment) Act, 2003, Standards so far prescribed for various pollutants under Environment (Protection) Act , 1986 and Doon Valley Notification, 1989 issued by MoEFCC. The Pollution Index PI of any industrial sector is a number from 0 to 100 and the increasing value of PI denotes the increasing degree of pollution load from the industrial sector. Based on the series of brain storming sessions among CPCB, SPCBs and MoEFCC , the following criteria on 'Range of Pollution Index 'for the purpose of categorization of industrial sectors is finalized.

- Industrial Sectors having Pollution Index score of 60 and above – Red category
- Industrial Sectors having Pollution Index score of 41 to 59 –Orange category
- Industrial Sectors having Pollution Index score of 21 to 40 –Green category
- Industrial Sectors having Pollution Index score incl.&upto 20 -White category

The newly introduced White category of industries pertains to those industrial sectors which are practically non-polluting such as Biscuit trays etc. from rolled PVC sheet (using automatic vacuum forming machines), Cotton and woolen hosiers making (Dry process only without any dying/washing operation), Electric lamp (bulb) and CFL manufacturing by assembling only, Scientific and mathematical instrument manufacturing, Solar power generation through photovoltaic cell, wind power and mini hydel power (less than 25 MW).

The salient features of the 'Re-categorization' Exercise are as follows :

- Due importance has been given to relative pollution potential of the industrial sectors based on scientific criteria . Further, wherever possible, splitting of the industrial sectors is also considered based on the use of raw materials, manufacturing process adopted and in-turn pollutants expected to be generated.
- The Red category of industrial sectors would be 60.
- The Orange category of industrial sectors would be 83.
- The Green category of industrial sectors would be 63.
- Newly introduced White category contains 36 industrial sectors which are practically non-polluting.
- There shall be no necessity of obtaining the Consent to Operate'' for White category of industries. An intimation to concerned SPCB / PCC shall suffice.
- No Red category of industries shall normally be permitted in the ecologically fragile area / protected area.

The purpose of categorization is to ensure that the industry is established in a manner which is consistent with the environmental objectives. The new criteria will prompt industrial sectors willing to adopt cleaner technologies, ultimately resulting in generation of fewer pollutants. Another feature of the new categorization system lies in facilitating self-assessment by industries as the subjectivity of earlier assessment has been eliminated. This 'Re-categorization' is a part of the efforts, policies and objective of present government to create a clean & transparent working environment in the country and promote the Ease of Doing Business.

Other similar efforts include installation of Continuous Online Emissions/ Effluent Monitoring Systems in the polluting industries, Revisiting of the CEPI (Comprehensive Environment Pollution Index) concept for assessment of polluted industrial clusters, Revision of existing industrial Emission/Effluent discharge standards, initiation of special drive on pollution control activities in Ganga River basin and many more in coming future.

Revised Criteria of Categorization of Industries

"Securing industrial pollution control in accordance with the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 by linking with categorization of industries, consent management and vigilance – 'In context of Red, Orange, Green and White categories of industries"

A: Genesis of Categorization:

- The Ministry of Environment, Forest and Climate Change (MoEFCC) had brought out notifications, which inter-alia refers to Prohibition/ Restriction on operation of industries to protect ecologically sensitive areas or areas of specific importance. This has for the first time brought the concept of categorization of industries to" Red", "Orange "and "Green" and restrict their operation in certain areas of importance. Therefore, it is at-once interpreted that Red, Orange and Green categorization is linked with location specific needs.
- The notification of MoEF was first brought on 2nd February,1989 in case of "Restriction on location of industries, mining operations and other developmental activities in Doon Valley in "Uttarakhand" and thereafter another notification on 24th February 1999 regarding restriction on the setting up of industries in Dahanu Taluka in Maharashtra. The categorization had been made mainly on the basis of size of the industries, man power and consumption of resources.
- However, in other parts of the country, there have been variations in context to the classification of industries under Red, Orange and Green categories. SPCBs / PCCs were following their own criteria in different States thereby creating confusion.
- In order to harmonize the 'Criteria of categorization', a 'Working Group' was formed as per resolution passed during the 57th Conference of the Chairmen & Member Secretaries of CPCB and SPCBs. Based on the recommendations of the Working Group, Directions dated 4/6/2012 under Section 18(1)(b) of the Water

(Prevention & Control of Pollution) , Act, 1974 were issued to all SPCBs/PCCs with the effects to maintain uniformity in categorization of industries as red, green and orange as per list finalized by the Working Group. This indicative list included 85 types of industrial sectors as 'Red', 73 industrial sectors as 'Orange' and 86 sectors as 'Green'. However, these identified categories have not been assigned with scores as per existing criteria/ or any new criteria

B: Categorization criteria used by SPCBs/PCCs:

SPCBs and PCCs use the criteria of Red, Orange and Green categories for consent management and vigilance purposes for carrying out inspections to verify compliance to the stipulated standards. However the above categorization do not emphasize on sector-specific plan for control of pollution in accordance with priority based on pollution index.

C: Gap in the process:

1. The categorization has been made mainly on the basis of size of the industries and consumption of resources. The pollution due to discharge of emissions & effluents and its impact on health was not considered as primary criteria.
2. Categorization was on random basis, no scoring system was adopted.

D: Resolutions made during National Level Conferences

The issue was discussed thoroughly during the following national level conferences held in New Delhi:

- Conference of the Environment Ministers of Central Government and State Governments during April 06-07, 2015
- 59th Conference of Chairmen & Member Secretaries of Pollution Control Boards / Pollution Control Committees held on April 08, 2015

Accordingly following resolutions were made during the Conferences:

1. *A 'Working Group' comprising of the members from CPCB, APPCB, TNPCB, WBPCB, PPCB, MPPCB and Maharashtra PCB is constituted.*
2. *This WG shall revisit the categorization of industries that is based on pollution index criteria & environmental issues such as generation of emission, effluent and hazardous wastes.*
3. *The categorization will be done on the basis of composite score (0-100 marks) of Pollution Index given in accordance with the following weightage.*

Air Pollution Score based on parameters namely PM, CO, NOx, SOx, HMs , Benzene, Ammonia and other toxic parameters relevant to the industry.	*40 Marks*
Water Pollution Score based on parameters namely pH, TSS, NH_3-N, BOD, Phenol and other toxic pollutants relevant to the industry.	*40 Marks*
Hazardous wastes (land fillable, incinerable, recyclable) as generated by the industry.	*20 Marks*
Note : • *Parameters to be decided on the basis of the nature of the wastes generating from the industrial sector.* • *Industries having only either water pollution or air pollution, the score will be normalized wrt 100.*	

4. *Based on the score of the Pollution Index, following categorization be made :*
   - *Type of industries, if scores 60 and above be categorized as Red*
   - *Type of industries, if scores from 30 to 59 be categorized as Orange*
   - *Type of industries, if scores from 15 to 29 be categorized as Green*
   - *Type of industries, if less than 15 be categorized as White or non-polluting industry.*
5. *SPCBs/PCCs may issue consent to the industries*
   - *Red category of industries for 5 years.*
   - *Orange category of industries for 10 years.*
   - *Green category of industries for 15 years.*
   - *No necessity of consent for non-polluting industries.*
6. *No red categories of industries will be permitted to establish in eco-sensitive areas and protected areas.*

E: Follow-up Actions made on the Resolutions :-

- Accordingly, a Committee comprising the Chairmen of CPCB, APPCB, TNPCB, MPPCB, MPCB, PPCB, WBPCB and MS, CPCB was constituted vide CPCB OM dated

23.04.2015 to review & classify industrial sectors into different categories based on criteria of respective pollution potential.

- The categorization is made on the basis of following:
    - Quality of emissions (air pollutants) generated
    - Quality of effluents (water pollutants) generated
    - Types of hazardous wastes generated
    - Consumption of resources

- Reference is taken from the following :
    - The Water (Prevention and Control of Pollution) Cess Act, 1977
    - Standards so far prescribed for various pollutants under the Environment (Protection) Act , 1986
    - Doon Valley Notification, 1989 issued by MoEF.

F : Scoring Methodology :

The details on the scoring methodology in respect of the aforesaid 3 components is presented in the following tables F-1 to F-4 .

Table F-1 : Water Pollution Scoring Methodology

Sl. No.	Activity / Types of Discharges	Score
Part A : Score W1 : Score based on types of expected criteria water-pollutants present in industrial processes waste waters. **Maximum of the following seven categories is to be taken.**		
W11	Waste-water which is polluted and the pollutants are - • not easily biodegradable (very high strength waste waters having BOD > 5000 mg/l); or • toxic; or • both toxic and not easily biodegradable. (Presence of criteria water pollutants having prescribed standard limits up-to 10 mg/l or having BOD > 5000 mg/l). For details appendix 1 may be referred)	30
W12	Non-toxic high strength polluted waste-water having BOD in the range of 1000-5000 mg/l and the pollutants are biodegradable. (Presence of criteria water pollutants having prescribed standard limits from 11 mg/l to 250 mg/l and having BOD strength in the range of 1000-5000 mg/l) . For details appendix 1 may be referred)	25
W13	Non toxic- polluted waste-water having BOD below 1000 mg/l and the pollutants are easily biodegradable. (Presence of criteria water pollutants having prescribed standard limits from 11mg/l to 250 mg/l and having BOD strength below 1000 mg/l) . For details appendix 1 may be referred)	20
W14	Waste-water generated from the chemical processes and which is polluted due to presence of high TDS (total dissolved solids) of inorganic nature. (Presence of criteria water pollutants having prescribed standard limits more than 250 mg/l. For details appendix 1 may be referred)	15
W15	Waste-water generated from the physical unit operations / processes and which is polluted due to presence of TDS (total dissolved solids) of inorganic nature and of natural origin like fresh-water RO rejects, boiler blow-downs, brine solution rejects etc. (Presence of criteria water pollutants having prescribed standard limits more than 250 mg/l. For details appendix 1 may be referred)	12
W16	Non-toxic polluted waste-water from those units which are: • Having the overall waste-water generation less than 10 KLD and • The pollutants are easily bio-degradable having BOD below 200 mg/l which can be easily treated in a single stage ASP (activated	12

	sludge process) based Effluent Treatment Plant. Note : This is a special category and is applicable to only those units having over-all liquid waste generation less than 10 KLD with low strength organic load.	
W17	Waste-water from cooling towers and cooling-re-circulation processes	10
Part B : Score W2 : Score based on huge discharges of any kind (Penalty Clause)		
W2	Industry having overall liquid waste generation of 100 KLD or more including industrial & domestic waste-water.	10
Overall Water Pollution Score W = W1+W2		

Appendix 1

- **<u>Water Pollutants covered under Group W11:</u>**

  - ✓ Free available Chlorine , Total residual chlorine, Fluoride (as F), Sulphide (as S), Free Ammonical Nitrogen, Dissolved phosphates (as P), Free ammonia (as NH3), Nitrate Nitrogen, Mercury (As Hg), Selenium (as Se), Hexa-valent chromium (as Cr + 6), Lead (as Pb), Tin , Vanadium (as V), Cadmium (as Cd), Manganese (as Mn), Total chromium (as Cr), Copper (as Cu), Iron (as Fe), Nickel (as Ni), Zinc (as Zn), Benzene, Arsenic (as As), Benzo-a-pyrene, Cyanide (as CN), Phenolic compounds (as C_6H_5OH) , Adsorbable Organic Halogens (AOX), Boron and /or
  - ✓ BOD strength of waste water > 5000 mg/l

- **<u>Water Pollutants covered under Group W12:</u>**

  - ✓ Sodium Absorption Ratio (SAR) , Biochemical oxygen demand (3 days at 27°C), Total Kjeldahl nitrogen (TKN), Ammonical nitrogen (as N), Suspended solids, Total nitrogen (as N), Chemical oxygen demand, Oils & grease and
  - ✓ BOD strength of waste water is in the range of 1000-5000 mg/l

- **<u>Water Pollutants covered under Group W13:</u>**

  - ✓ Sodium Absorption Ratio (SAR), Biochemical oxygen demand (3 days at 27°C), Total Kjeldahl nitrogen (TKN), Ammonical nitrogen (as N), Suspended solids, Total nitrogen (as N), Chemical oxygen demand and
  - ✓ BOD strength of waste water is below 1000 mg/l

- **<u>Water Pollutants covered under Group W14 and W15:</u>**

  Chlorides as Cl, Colour , Total dissolved solids (TDS - Inorganic)

- **<u>Water Pollutants covered under Group W16</u>**

  - ✓ BOD strength of waste water is below 200 mg/l and overall discharge is less than 10 KLD.

Table F-2 : Air Pollution Score

Sl. No.	Air Pollutants Group	'Range of Prescribed Standard ' of criteria pollutants	Marks
Part 1 : Score A1 = Score based on types of expected criteria Air Pollutants present in the emissions . Maximum of the following seven categories is to be taken. For details appendix 2 may be referred.			
1	Group A1A	Presence of criteria air pollutants having prescribed standard limits up-to 2 mg/Nm3	30
2	Group A1B	Presence of criteria air pollutants having prescribed standard from 3 to10 mg/Nm3	25
3	Group A1C	Presence of criteria air pollutants having prescribed standard from 11 to 50 mg/Nm3	20
4	Group A1D	Presence of criteria air pollutants having prescribed standard from 51 to 250 mg/Nm3	15
5	Group A1E	Presence of criteria air pollutants having prescribed standard from 251mg/Nm3 & above.	10
6	Group A1F	• Generation of fugitive emissions of Particulate Matters which are: o Not generated as a result of combustion of any kind of fossil-fuel. o Generated due to handling / processing of materials without involving the use of any kind of chemicals. o Which can be easily contained /controlled with simple conventional methods	10
7	Group A1G	• Generation of Odours which are : o Generated due to application of binding gums / cements /adhesives /enamels o Which can be easily contained /controlled with simple conventional methods	10
Part 2 : Score A2 = Score based on consumption of fuels and technologies required for air pollution control :			
6	Group A2F1	• All such industries in which the daily consumption of coal/fuel is more than 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled only with high level equipments / technology like ESPs, Bag House Filters, High Efficiency chemical wet scrubbers etc.	10
7	Group A2F2	• All such industries in which the daily consumption of coal/fuel is from 12 MT/day to 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled with suitable proven technology.	5
Overall Air Pollution Score –A = A1 + A2			

Appendix 2

- **<u>Air pollutants covered under Group A1A:</u>**

  Cd+Th, Dioxins & Furans, Mercury, Asbestos

- **<u>Air Pollutants covered under Group A1B:</u>**

  HF, Nickel+ Vanadium, HBr, Manganese, Lead, H_2S, P_2O_5 as H_3PO_4

- **<u>Air Pollutants covered under Group A1C:</u>**

  Chlorine, Pesticide compounds, CH_3Cl, TOC, Total Fluoride, Hydrocarbons, NH_3, HCL vapour & Mist, H_2SO_4 Mist, SO_2

- **<u>Air Pollutants covered under Group A1D:</u>**

  CO, PM, CO, NOx

- **<u>Air Pollutants covered under Group A1E:</u>**

  NOx with liquid-fuel, SO_2 with liquid-fuel

Table F-3: Hazardous Waste Generation Score

Sl.No.	**Types of Hazardous Waste Generated as** per Schedule 1 / Schedule 2 of Hazardous Waste (Management, Handling & Trans-boundary Movement) Rules , 2008 . **Maximum of the following four categories is to be taken**	**Score**
HW1	• Land disposable HW which require special care & treatment for stabilization before disposal.	20
HW2	• Incinerable HW	15
HW3	• Land disposable HW which doesn't require treatment & stabilization before disposal. • High volume low effect wastes such as fly-ash, phspho-gypsum, red-mud, slags from pyro-metallurgical operations, mine tailings and ore beneficiation rejects)	10
HW4	• Recyclable HW, which are easily recyclable with proven technologies.	10

Table F-4 : Calculation Sheet

Industrial Sector - .....

1. Water Pollution Score (W)			
Scores	Waste Water Category	Value	
Score on W1			
Score on W2			
Water Pollution Score = W1+W2			
2. Air Pollution Score (A)			
Scores	Air Pollutant Category	Value	
Score on A1			
Score on A2	-	-	
Air Pollution Score = A1+A2			
3. Hazardous Waste Score (HW)			
Score	HW Category	Value	
HW			
Grand Total = W + A + HW			

Note :

1. Any of the industrial sector having only either air pollution (A) or water pollution (W) , the score will be normalized to 100 as per the following formula –

   Normalized Score = {100 x W (or A)} / 40

2. Any of the industrial sector having air pollution (A) and water pollution (W) both but no hazardous waste generation (H) , the joint score of air & water pollution will be normalized to 100 as per the following formula –

   Normalized Score = {100 x (W+A)} / 80

3. Any of the industrial sector having air pollution (A) & hazardous waste generation (H) but no water pollution (W), the joint score of air pollution & hazardous waste generation will be normalized to 100 as per the following formula –

   Normalized Score = {100 x (A+H)} / 60

4. Any of the industrial sector having water pollution (W) and hazardous waste generation (H) but no air pollution (A), the joint score of water pollution & hazardous waste generation will be normalized to 100 as per the following formula –

   Normalized Score = {100 x (W+H)} / 60

G : Developments :

i. The existing Red (85 sectors) , Orange (73 sectors) and Green (86 sectors) i.e a total of 244 industrial sectors have been assessed as per the proposed formula by the Working Group. For this purpose, concerned Engineers / Scientists from the Member SPCBs were also involved & consulted during May 28-29, 2015.

ii. After careful examination and consideration of the suggestions of concerned stake-holders the "Draft Document on Revised Concept of Categorization of Industrial Sectors " was prepared by the Committee and circulated to all the SPCBs, PCCs and concerned Ministries for their information & comments. The ' Draft Document ' was uploaded on the website of CPCB also for information & comments of one & all.

iii. The matter was discussed during the 170th Board Meeting also and issues raised by the Board Members pertaining to some of the industrial sectors were clarified.

iv. Responses were received from various concerned Ministries, SPCBs, Industrial Associations including individuals.

v. Based on the above, final meeting was convened by the Secretary , MoEFCC with CPCB and senior officers of MoEFCC on January 06, 2016 to resolve the issues appropriately and finalize the 'Re-categorization'. Accordingly , following modifications in the 'Range of Pollution Index 'for the purpose of categorization of industrial sectors were suggested :

- Industrial Sectors having Pollution Index score of 60 and above – Red category
- Industrial Sectors having Pollution Index score of 41 to 59 –Orange category
- Industrial Sectors having Pollution Index score of 21 to 40 –Green category
- Industrial Sectors having Pollution Index score incl.& upto 20 –White category

vi. Based on the final criteria as described in v above , the final categorization is as follows :

Category of Industrial Sector	Existing Categorization	Proposed (New) categorization
Red	85	60
Orange	73	83
Green	86	63
White	---	36
Total	244	242

vii. In the proposed categorization, some of the industrial sectors have been either deleted due to duplication or merged with similar type of sectors on account of same

characteristics of pollution generation. In a similar way, some of the industrial sectors are split into more sectors on account of variation in the raw materials / manufacturing process. As a result final totals of the existing and proposed categorization are different.

viii. The industrial sector which doesn't fall under any of the above four categories (Red, Orange, Green and White) , decision with regard to its categorization will be taken at the level of concerned SPCB/PCC by a committee headed by the Member Secretary , SPCB/PCC and comprising of two senior cadre Engineers / Scientists of the SPCB / PCC in accordance with the scoring-criteria specified in this document.

ix. The summary is presented in the following Table G-1 and final lists of Red, Orange, Green and White categories of industries are presented in Tables G-2, G-3, G-4 and G-5 respectively, which are self explanatory.

Table G-1: Final Summary Table Red , Orange, Green and White Categories of Industries (16-01-16)

Sl No.	Original Categorization	Initial Nos.	Addition by Splitting into further classes	Deletion/ Shifting to foot-note due to vague term / Merger / other reasons	Re-categorization to Red	Re-categorization to Orange	Re-categorization to Green	Re-categorization to White	Check
		1	2	3	4	5	6	7	(1+2) = (3 to 7)
1	Red	85	11	7	60	26	3	Nil	96=96
2	Orange	73	2	3	Nil	51	19	2	75=75
3	Green	86	Nil	3+2=5	Nil	6	41	34	86=86
Final Categorization		244	13	15	60 (Red)	83 (Orange)	63 (Green)	36 (White)	257 =257 (Total categories including in foot-note)

Table G-2 : Final List of Red Category of Industrial Sectors

Sl No.	Orgnl Sl.No	Industry Sector	W1	W2	W	A1	A2	A	H	W+A+H	Revised Category	REMARKS
1.	38	Isolated storage of hazardous chemicals (as per schedule of manufacturing, storage of hazardous chemicals rules ,1989 as amended)									R-R	As per provisions of Rules, to be kept under Red category especially for safety purposes.
2.	4	Automobile Manufacturing (integrated facilities)	30	-	30	20	-	20	10	60	**R-R**	i. Such types of plants are having either one or combinations of polluting activities viz. washing, metal surface finishing operations, pickling, plating, electro-plating , phosphating, painting , heat treatment etc. ii. Some of such plants may outsource some /all of the polluting activities. In such cases, after thorough inspection of such units by concerned SPCB, re-categorization of the industry shall be made accordingly.
3.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Spent cleared metal catalyst containing copper,, Spent cleared metal catalyst containing zinc,,	30	-	30	20	-	20	10	60	**R-R**	All the three types of pollutants are expected.
4.	44	Manufacturing of lubricating oils ,grease and petroleum based products	20	-	20	20	-	20	20	60	**R-R**	Generates all sorts of pollution.
5.	66 E	DG Set of capacity > 5 MVA	-	-	-	20	5	25	-	62.5	**R-R**	i. Mainly air polluting. ii. DG sets consume the diesel @ 0.21 litres/hr/KVA at full load. iii. Average running is taken @ 12 hrs / day although many of the DG sets run for more than this period.
6.	31	Industrial carbon including electrodes and graphite blocks, activated carbon, carbon black	10	-	-	20	5	25	10	62.5	**R-R**	Mainly air polluting. Air pollution score is normalized to 100.

7.	39	Lead acid battery manufacturing(excluding assembling and charging of lead-acid battery in micro scale)	10	-	10	25	-	25	10	62.5	**R-R**	i. Mainly air polluting. Air pollution scores are normalized to 100. ii. Lead Acid Battery manufacturing consists of various stages which broadly involve (after producing or receiving lead oxide): Paste Mixing , Grid Casting , Grid Pasting & Curing , Hydro-setting, parting & enveloping , Stacking, grouping & inter-cell welding , Formation. iii. Exposure of workmen to lead during all or any of the processes outlined above exceeds the prescribed standards if appropriate equipment in this respect is not installed at any Battery Manufacturing Unit. iv. All of the above processes, some more than others, involve release of lead particles or fumes into the environment. Pollution from the above processes can be grouped into two possible types, viz: (a) Lead Oxide becomes airborne and there is Particulate Pollution (b) Fumes are generated and there is Gaseous Pollution
8.	62	Phosphate rock processing plant	30	-	30	20	-	20	-	62.5	**R-R**	i. The separation of phosphate rock from impurities and non-phosphate materials for use in fertilizer manufacture consists of beneficiation, drying or calcining at some operations, and grinding. Phosphate rock from the mines is first sent to beneficiation units to separate sand and day and to remove impurities. Steps used in beneficiation depend on the type of rock. ii. The water & air pollution scores are normalized to 100.

9.	66	Power generation plant [except Wind and Solar renewable power plants of all capacities and Mini Hydel power plant of capacity <25MW]	10	-	10	15	10	25		62.5	**R-R**	1. Mainly air polluting. It uses a mixture of biomass (agro based) and coal (< 10 %) as a fuel. Almost, round the year operation. 2 . In case of DG sets of 5 MVA & more and emissions of SO2 will take place due to use of liquid fuel. Air pollution score will be =20 + 10 = 30, Normalized score will be 75. 3. In case of 'Waste to Energy Plants' , water will be used for cooling and air score will be - 30+10 = 40.
10.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Spent catalyst containing nickel, cadmium, Zinc, copper, arsenic, vanadium and cobalt,	30	-	30	25	-	25	10	65	**R-R**	All the three types of pollutants are expected.
11.	67	Processes involving chlorinated hydrocarbons	30	-	30	20	-	20	15	65	**R-R**	Chlorinated hydrocarbons are used in the manufacture of insecticides, pesticides and organo chloro pesticides. Effluents & emissions are toxic in nature.
12.	74	Sugar (excluding Khandsari)	20	10	30	15	10	25	10	65	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Sugar mills generate all sorts of pollution problems.
13.	22	Fibre glass production and processing (excluding moulding)	-	-	-	20	-	20	20	67	**R-R**	i. The use of styrene in most methods of fiberglass production causes hazardous air pollution that is harmful to breathe at excessive levels. ii. It is mainly air polluting & HW generating industry. The air pollution & HW scores are normalized to 100. iii. In case of lead containing glass, the score of A1 will be 25 and final normalized score will be 75 and shall be categorized as Red.
14.	23	Fire crackers manufacturing and bulk storage facilities	-	-	-	20	-	20	20	67	**R-R**	i. This is the normalized score based on air pollution & HW generation. ii. Various hazardous chemicals are used in the manufacturing process. iii. These chemicals are namely Potassium Nitrate , Potassium per-chlorate, Barium Nitrate, Aluminium compounds, Copper Chloride etc.

												iv. These chemicals are highly hazardous and cause serious diseases among the workers. especially ability of blood to carry oxygen leading to headaches, methemoglobinemia and kidney problems , skin problems, thyroid metal fume etc.
15.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Dismantlers Recycling Plants -- Components of waste electrical and electronic assembles comprising accumulators and other batteries included on list A, mercury-switches, activated glass cullets from cathode-ray tubes and other activated glass and PCB-capacitors, or any other component contaminated with Schedule 2 constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they exhibit hazard characteristics indicated in part C of this Schedule.	-	-	-	30	0	30	10	67	R-R	Mainly air polluting and hazardous waste generating. Air & HW pollution scores are jointly normalized to 100.
16.	47	Milk processes and dairy products(integrated project)	20	10	30	20	5	25	-	68.75	**R-R**	i. Water as well as air polluting due to use of boilers. ii. Water & air pollution scores are normalized to 100.
17.	63	Phosphorous and its compounds	30	-	30	25	-	25	-	68.75	**R-R**	Water pollution & air pollution containing compounds of phosphorous are expected
18.	61	Pulp & Paper (waste paper based without bleaching process to manufacture Kraft paper)	20	10	30	15	10	25	0	68.75	**R-R**	Mainly water & air polluting . Water & air pollution scores are normalized to 100.
19.	13	Coke making , liquefaction, coal tar distillation or fuel gas making	30	-	30	20	-	20	20	70	**R-R**	It is a kind of petrochemical industry.

20.	41	Manufacturing of explosives, detonators, fuses including management and handling activities	30	-	30	20	-	20	20	70	**R-R**	i. Explosives manufacture and use contribute some measure of hazardous waste to the environment. ii. Nitroglycerin produces several toxic byproducts such as acids, caustics, and oils contaminated with heavy metals. These must be disposed of properly by neutralization or stabilization and transported to a hazardous waste landfill. iii. The use of explosives creates large amounts of dust and particulate from the explosion, and, in some cases, releases asbestos, **lead,** and other hazardous materials into the atmosphere.
21.	45	Manufacturing of paints varnishes, pigments and intermediate (excluding blending/mixing)	30	-	30	25	-	25	15	70	**R-R**	i. The process may cause considerable emissions of volatile organic compounds (VOC). VOC contribute to the creation of ozone in the lower layers of the atmosphere (photochemical air pollution) and can present danger to health. ii. Dust and odour may also be a problem. iii. Washing of vessels will contribute waste-waters. iv. Large quantity of HWs are also produced.
22.	56	Organic Chemicals manufacturing	30	-	30	20	-	50	20	70	**R-R**	Such types of industrial sectors generate all sorts of pollution.
23.	1	Airports and Commercial Air Strips	20	10	30	-	-	-	10	75	**R-R**	i. The Airports are generating mainly the waste-waters. ii. This is the water pollution normalized score for airports having discharge more than 100 KLD. iii. The airports / strips having discharge less than 100 KLD will have score of 50 and hence orange category. iv. If the score is normalized wrt water + HW both, then all the airports will come under Orange category (score - 58.33).
24.	3	Asbestos and asbestos based industries	-	-	-	30	-	30	10	75	**R-R**	i. This is mainly air polluting industry. ii. Final score is based on air pollution score only. iii. Asbestos is carcinogenic and banned in many countries.
25.	5	Basic chemicals and electro chemicals and its derivatives including manufacturing of acid	30	-	30	-	-	-	10	75	**R-R**	i. Standards prescribed for Inorganic Chemicals are adopted. ii. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable.

												iii. Water pollution score normalized to 100 is undertaken. iv. The earlier Red category industrial sector namely "Hydrocyanic acid and its derivatives " is also merged under this industrial sector.
26.	7	Cement	-	-	-	20	10	30	-	75	**R-R**	This is mainly air polluting industry & hence normalized air pollution score.
27.	9	Chlorates, per-chlorates & peroxides	30	-	30	-	-	-	-	75	**R-R**	i. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable. ii. Water pollution score normalized to 100 is undertaken.
28.	10	Chlorine, fluorine, bromine, iodine and their compounds	30	-	30	-	-	-	-	75	**R-R**	i. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable. ii. Water pollution score normalized to 100 is undertaken.
29.	16	Dyes and Dye- Intermediates	30	-	30	20	5	25	20	75	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
30.	26	Health-care Establishment (as defined in BMW Rules)	20	10	30	-	-	-	-	75	**R-R**	i. Mainly water polluting. ii. The water pollution score is normalized to 100 & valid for Hospitals having total waste-water generation > 100 KLD. iii. The hospitals with incinerator will be categorized as Red irrespective of the quantity of the waste-water generation. iv. The hospitals having total waste-water generation less than 100 KLD and without incinerator, the normalized water pollution score will be 50 and will be categorized as Orange category.
31.	29	Hotels having overall waste-water generation @ 100 KLD and more.	20	10	30	15	-	15	-	75	**R-R**	i. Mainly water polluting. Small boiler may be installed. ii. The water pollution score is normalized to 100 & valid for Hotels having waste-water generation > 100 KLD. iii. The hotels having more than 20 rooms and waste-water generation less than 100 KLD and having a coal / oil fired boiler , the pollution score will be 35/40 & are categorized as Orange. iv. The hotels having more than 20 rooms and waste-water generation less than 10 KLD and

												having no-boiler & no hazardous waste generation, the pollution score will be 20 & are categorized as Green.
32.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Lead acid battery plates and other lead scrap/ashes/residues not covered under Batteries (Management and Handling) Rules, 2001. [* Battery scrap, namely: Lead battery plates covered by ISRI, Code word "Rails" Battery lugs covered by ISRI, Code word "Rakes". Scrap drained/dry while intact, lead batteries covered by ISRI, Code word "rains".	30	-	30	25	--	25	20	75	**R-R**	All the three types of pollutants are generated.
33.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Integrated Recycling Plants -- Components of waste electrical and electronic assembles comprising accumulators and other batteries included on list A, mercury-switches, activated glass cullets from cathode-ray tubes and other activated glass and PCB-capacitors, or any other component contaminated with Schedule 2 constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they exhibit hazard characteristics indicated in part C of this Schedule.	30	-	30	25	-	25	20	75	**R-R**	All the three types of pollutants are expected.
34.	43	Manufacturing of glue and gelatin	30	10	40	20	-	20	-	75	**R-R**	Highly water polluting & obnoxious air polluting.
35.	49	Mining and ore beneficiation	30	10	40	15	5	20	-	75	**R-R**	Both air and water polluting. Score is normalized with air & water pollution.

36.	52	Nuclear power plant	10	-	10	30	-	30	15	75	**R-R**	i. Mainly air polluting due to incinerator. Others - cooling water. ii. Air pollution score is normalized to 100.
37.	58	Pesticides (technical) (excluding formulation)	30	-	30	25	-	25	20	75	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
38.	64	Photographic film and its chemicals	30	-	30	-	-	-	-	75	**R-R**	i. Silver salts and other chemicals are used in preparation. Slight quantity of effluents is generated. ii. Water pollution scores are normalized to 100.
39.	68	Railway locomotive work shop/Integrated road transport workshop/Authorized service centers	20	10	30	-	-	-	10	75	**R-R**	i. Mainly water polluting industry . Water is used in the washing of locomotives, road transport vehicles during servicing. ii. This score is valid for those Centers having discharge more than 100 KLD. iii. Service Centers having waste-water generation < 100 KLD, the normalized score will be =(100*20)/40= 50.
40.	84	Yarn / Textile processing involving any effluent/emission generating processes including bleaching, dyeing, printing and colouring	30	10	40	15	-	15	20	75	**R-R**	In this sector all sorts of pollution are generated.
41.	8	Chlor Alkali	30	10	40	20	10	30	10	80	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Chlor-alkali units are having different section like NaOH, Cl2, SBP etc which are having toxic effluents. Additionally , fuel consumption is also on higher-side.
42.	70	Ship Breaking Industries	30	-	30	30	-	30	20	80	**R-R**	i. The ship-breaking industry creates numerous hazards for the coastal and marine environment. ii. Ship-breaking releases a large number of dangerous pollutants, including toxic waste, oil, poly-chlorinated biphenyls, and heavy metals, into the waters and sea bed. iii. While most of the oil is removed before a ship is scrapped, sand used to mop up the remaining oil is thrown into the sea. High concentrations of oil and grease are then found in the coastal waters, choking marine life.

												iv. Solid waste strewn on the shore, 45 tonnes on any given day according to a study by the Central Pollution Control Board, also finds its way into the sea. v. Adding to the stress on coastal waters, the organic load from the thousands of workers living in cramped conditions with little or no sanitary facilities results in unacceptably high levels of BOD.
43.	53	Oil and gas extraction including CBM (offshore & on-shore extraction through drilling wells)	30	-	30	-	-	-	20	83	**R-R**	i. Mainly water polluting & hazardous waste generating. ii. The water pollution & HW generation scores are normalized to 100.
44.	36	Industry or process involving metal surface treatment or process such as pickling/ electroplating/paint stripping/ heat treatment using cyanide bath/ phosphating or finishing and anodizing / enamellings/ galvanizing	30	-	30	-	-	-	20	83	**R-R**	Mainly water polluting & toxic hazardous waste generating industry. Scores are normalized to 100.
45.	80	Tanneries	30	-	30	-	-	-	20	83	**R-R**	Mainly water polluting & hazardous waste generating industry. Scores are normalized to 100.
46.	65	Ports and harbour, jetties and dredging operations	30	10	40	15	10	25	20	85	**R-R**	This category contain all sorts of pollution.
47.	77	Synthetic fibers induding rayon ,tyre cord, polyester filament yarn	30	10	40	25	10	35	10	85	**R-R**	This sector generates all sorts of pollution problems.
48.	81	Thermal Power Plants	30	10	40	20	10	30	15	85	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. TPP generate all sorts of pollution problems.
49.	71	Slaughter house (as per notification S.O.270(E)dated 26.03.2001)and meat processing industries, bone mill, processing of animal horn, hoofs and other body parts	25	10	35	-	-	-	-	87.5	**R-R**	Mainly water polluting and obnoxious odour generating industry. The water pollution score is normalized to 100
50.	2	Aluminium Smelter	30	10	40	20	10	30	20	90	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. This sector is generating all sorts of pollution i.e. air, water and HW.
51.	12	Copper Smelter	30	10	40	20	10	30	20	90	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Integrated Copper Smelters contain all sorts of

												pollution.
52.	20	Fertilizer (basic) (excluding formulation)	30	10	40	20	10	30	20	90	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Generates all sorts of pollution.
53.	37	Iron & Steel (involving processing from ore/ integrated steel plants) and or Sponge Iron units	30	10	40	20	10	30	20	90	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
54.	61	Pulp & Paper (waste paper based units with bleaching process to manufacture writing & printing paper)	25	10	35	25	10	35	20	90	**R-R**	Waste paper based Pulp & Paper mills with bleaching process generate all sorts of pollution.
55.	85	Zinc Smelter	30	10	40	20	10	30	20	90	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Integrated Zinc smelter generates all sorts of pollution problems.
56.	55	Oil Refinery (mineral Oil or Petro Refineries)	30	10	40	25	10	35	20	95	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
57.	59	Petrochemicals Manufacturing (including processing of Emulsions of oil and water)	30	10	40	25	10	35	20	95	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution. iii. The earlier red category industrial sector namely "Processing of Emulsions of Oil & Water " is merged with this industrial sector.
58.	60	Pharmaceuticals	30	10	40	30	5	35	20	95	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
59.	61	Pulp & Paper (Large-Agro + wood) , Small Pulp & Paper (agro based-wheat straw/rice husk)	30	10	40	25	10	35	20	95	**R-R**	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Large /Small Agro based Pulp & Paper mills contribute all sorts of pollution problems.
60.	15	Distillery (molasses / grain / yeast based)	30	10	40	-	-	-	-	100	**R-R**	Mainly water polluting industry. Final score is the normalized water pollution score.

Note :

i. *Under the column Revised Category, the full forms of the abbreviations are as follows :*
   a. *R-R means original category was Red and revised category is also Red*
   b. *R-O means original category was Red and revised category is Orange*
   c. *O-O means original category was Orange and revised category is also Orange*
   d. *O-G means original category was Orange and revised category is Green*
   e. *O-W means original category was Orange and revised category is White*
   f. *G-O means original category was Green and revised category is Orange*
   g. *G-G means original category was Green and revised category is also Green*
   h. *G-W means original category was Green and revised category is White*

ii. *There are specific remarks in respect of some of the industrial sectors. These sectors are either merged with other relevant sectors or deleted due to duplication. The overall details are as follows :*

Sl No.	Original Sl No.	Industry Sector	Original Category	Remarks
1	14	Common treatment and disposal facilities(CETP, TSDF, E-waste recycling, CBMWTF, effluent conveyance project, incinerator, solvent/acid recovery plant, MSW sanitary land fill site)	R	i. All such facilities are classified as Red but special category projects as these are parts of pollution control facilities. ii. In case of CETP , the categorization will depend upon the category of member industries being served.
2	18	Processing of Emulsions of Oil & Water		It is a part of Petrochemical industries. Transferred and merged with the industrial sector namely 'Petrochemicals' at Sl. No. 54.
3	27	Heavy engineering including ship building (with investment on Plant & Machineries more than Rs 10 crores)	R	Most of the pollution generating processes / operations under this category are similar to the industry category namely "Automobile Manufacturing (integrated facilities)" at Sl . No. 1 and may be referred accordingly.
4	30	Hydrocyanic acid and its derivatives	R	Have been merged with the red category industrial sector namely " Basic chemicals and electro chemicals and its derivatives including manufacturing of acid " at Sl. No. 24
5	32	Industrial estates/ parks / complexes/ areas/ export processing zones/ SEZs/ Biotech parks/ leather complex	R	The classification will depend upon the category(ies) of the industries operating / proposed to be permitted in the area. In this context, guidelines prescribed in EIA Notification, 2006 shall be followed.
6	33	Industrial inorganic gases namely- a) Chemical gas- Acetylene, hydrogen, chlorine, fluorine, ammonia, sulphur dioxide, ethylene, hydrogen-sulphide, phosphine b) Hydrocarbon gases- Methane , ethane, propane	R	These gases are generally secondary products and produced alongwith other main products. To be classified as per the main parent plant.
7	69	Reprocessing of used oils & waste oils	R	i. The industry generates mainly the air pollution and oil bearing hazardous wastes. The normalized (air pollution & HW generation score is 58.33. ii. To be deleted as already covered under HW Recyclers / Re-processors (Used oils / Waste Oils) under Orange Category

Table G-3 : Final List of Orange Category of Industrial Sectors

Final Sl. No.	Orgnl S.No	Industry Sector	W1	W2	W	A1	A2	A	H	W+A+H	Revised category	Remarks
1.	20	Dismantling of rolling stocks (wagons/ coaches)	--	--	--	15	--	15	10	41.67	O-O	Emissions of dust and generation of waste oils take place during dismantling. Air pollution & HW generation scores (15+10=25) are normalized to 100.
2.	5	Bakery and confectionery units with production capacity > 1 TPD. (With ovens / furnaces)	20	--	20	15	--	15	--	43.75	O-O	
3.	10	Chanachur and ladoo from puffed and beaten rice(muri and shira) using husk fired oven	20	--	20	15	--	15	--	43.75	O-O	Normal water and air polluting.
4.	23	Coated electrode manufacturing	15	0	15	20	0	20	0	43.75	**G-O**	Preparation of core wire / rod, preparation of dry mix, preparation of wet mix, application of coating by extrusion, baking of coated electrodes
5.	24	Compact disc computer floppy and cassette manufacturing / Reel manufacturing	15	0	15	20	0	20	0	43.75	**G-O**	Generates waste-water and process emissions.
6.	24	Flakes from rejected PET bottle	20	-	20	15	-	15	-	43.75	R-O	Normal water & air pollutions are generated.
7.	30	Food and food processing including fruits and vegetable processing	20	--	20	15	--	15	--	43.75	O-O	Normal water and air polluting.
8.	40	Jute processing without dyeing	20	--	20	15	--	15	--	43.75	O-O	CPCB has notified standards for this category. Both air and water pollutions are generated.
9.	56	Manufacturing of silica gel	15	0	15	20	0	20	0	43.75	**G-O**	Waste-waters containing TDS and emissions of H_2SO_4 are generated.

10.	45	Manufacturing of tooth powder, toothpaste, talcum powder and other cosmetic items	20	--	20	15	--	15	--	43.75	O-O	Both air and water pollution are generated.
11.	55	Printing or etching of glass sheet using hydrofluoric acid	15	--	15	20	--	20	--	43.75	O-O	Both air and water pollution are generated.
12.	65	Silk screen printing, sari printing by wooden blocks	20	--	20	15	--	15	--	43.75	O-O	Wash-water and PM emissions from boilers .
13.	76	Synthetic detergents and soaps(excluding formulation)	20	-	20	15	-	15	-	43.75	R-O	i. This is the score for units having generation of waste-waters less than 100 KLD. ii. The units having waste-water generation more than 100 KLD will become mainly water polluting and accordingly normalized water pollution score will be 75 and be categorized as Red.
14.	71	Thermometer manufacturing	15	--	15	20	--	20	--	43.75	O-O	Process - making glass bulb, forming reservoir in the glass tube for fluid, inserting fluid, scale marking. Use of fuel to heat the glass tubes and hydrofluoric acid to seal the scaling. Small quantities of spent acids are generated.
15.	14	Cotton spinning and weaving (medium and large scale)	--	--	--	15	--	37.5	10	47.5	O-O	Mainly air polluting industry. Sources of air pollution (PM) are the fine particles of cotton from spinning process. Air pollution score is normalized to 100.
16.	1	Almirah, Grill Manufacturing (Dry Mechanical Process)	--	--	--	20	--	20	--	50	O-O	Air pollution due to spray painting (emissions of VOCs). Units without painting operations shall be categorized as White.

17.	2	Aluminium & copper extraction from scrap using oil fired furnace (dry process only)	--	--	--	20	--	20	10	50	O-O	i. Normalized Air pollution score. ii. Significant air pollution due to melting (emissions of SO2, PM).
18.	3	Automobile servicing, repairing and painting (excluding only fuel dispensing)	20	--	20	20	--	20	10	50	O-O	Normal water & air polluting and recyclable waste oil generating. If the waste water generation is more than 100 KLD, it will become mainly water polluting and Red category unit.
19.	4	Ayurvedic and homeopathic medicine	20	--	20	15	--	15	15	50	O-O	
20.	7	Brickfields (excluding fly ash brick manufacturing using lime process)	--	--	--	20	--	20	--	50	O-O	Significantly air polluting.
21.	8	Building and construction project more than 20,000 sq. m built up area	20	--	20	20	--	20	--	50	O-O	1. In the pre-construction stage , it is mainly air polluting due to generation of dust (PM) emissions. 2. After construction, it is mainly water polluting. If the discharge is more than 100 KLD, it will be having the normalized score of 75 and be categorized as Red.
22.	6	Ceramics and Refractories	-	-	-	20	-	20	-	50	R-O	i. Mainly air polluting industry. ii. This score is for the units having coal consumption < than 12 MT/day. iii. For the units having coal consumption > 12 MT /day, the normalized air pollution score will be 62.5 and shall be categorized as Red.

23.	11	Coal washeries	15	10	25	15	-	15	-	50	R-O	i. Wet washeries are mainly water polluting industry generating effluents which are having inorganic SS & TDS. Additionally, air pollution due to PM emissions is also generated. ii. Water & air pollution scores are jointly normalized to 100.
24.	16	Dairy and dairy products (small scale)	20	--	20	20	--	20	--	50	O-O	Water and air polluting both.
25.	18	DG set of capacity >1MVA but < 5MVA	--	--	--	20	--	20	--	50	O-O	Mainly air polluting . air pollution score is normalized to 100.
26.	17	Dry coal processing, mineral processing, industries involving ore sintering, pelletisating, grinding & pulverization	-	-	-	20	-	20	-	50	R-O	Mainly air polluting industry. Final score is the normalized air pollution score.
27.	19	Fermentation industry including manufacture of yeast, beer, distillation of alcohol (Extra Neutral Alcohol)	20	-	20	-	-	-	-	50	R-O	i. Mainly water polluting industry. This is the normalized water pollution score for units having discharge < 100 KLD. ii. For the units having discharge > 100 KLD, the normalized water pollution score will be 75 and shall be accordingly categorized as Red.
28.	21	Ferrous and Non- ferrous metal extraction involving different furnaces through melting, refining, re-processing, casting and alloy-making	-	-	-	15	5	20	10	50	R-O	i. Mainly air polluting. ii. This score is applicable to secondary production of ferrous & non-ferrous metals (excluding lead) up-to 1 MT/hour production.

												iii. For lead, the normalized air pollution score will be = (100*25)/40= 62.5 and is categorized as Red. iv. For Induction Furnace clubbed with AOD furnace – separate calculation shall be made based on the capacity of the furnaces. In such industries, the molten metal from induction furnace is transferred to AOD furnace where other metals like manganese and nickel are added to get the metal of desired constituents. The lime and silicon are also added for reduction of the metal oxides to the base metal. the normalized air pollution score will be = (100*25)/40= 62.5 and is categorized as Red.
29.	26	Fertilizer (granulation / formulation / blending only)	--	--	--	20	--	20	--	50	O-O	Air polluting.
30.	27	Fish feed, poultry feed and cattle feed	--	--	--	20	--	20	--	50	O-O	Obnoxious odour , H2S etc. AP score is normalized to 100
31.	28	Fish processing and packing (excluding chilling of fishes)	20	--	20	--	--	--	--	50	O-O	Mainly water polluting. WP score is normalized to 100.

32.	31	Forging of ferrous and non- ferrous metals (using oil and gas fired furnaces)	--	--	--	20	--	20	--	50	O-O	Heating furnace. Mainly air polluting.
33.	32	Formulation/pelletization of camphor tablets, naphthalene balls from camphor/ naphthalene powders.	--	--	--	20	--	20	--	50	O-O	Mainly air polluting. Emissions of Benzene, HC are expected.
34.	33	Glass ceramics, earthen potteries and tile manufacturing using oil and gas fired kilns, coating on glasses using cerium fluorides and magnesium fluoride etc.	--	--	--	20	--	20	--	50	O-O	Mainly air polluting. Emissions of SO2 are expected.
35.	35	Gravure printing, digital printing on flex, vinyl	20	--	20	20	--	20	10	50	O-O	Waste waters , emissions of VOCs
36.	36	Heat treatment using oil fired furnace (without cyaniding)	--	--	--	20	--	20	--	50	O-O	Mainly air polluting and noise generating. AP Score is normalized to 100.
37.	28	Hot mix plants	-	-	-	20	-	20	-	50	R-O	Mainly air polluting. Air pollution scores are normalized to 100.
38.	37	Hotels (< 3 star) or hotels having > 20 rooms and less than 100 rooms.	20	--	20	20	--	20	--	50	O-O	Mainly water polluting. WP score is normalized to 100.
39.	38	Ice cream	20	--	20	20	--	20	--	50	O-O	Wash-water and boilers / oven for pasteurization.
40.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Paint and ink Sludge/residues	-	-	-	20	0	20	0	50	R-O	Mainly air polluting. Air pollution score is normalized to 100
41.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Brass Dross „ Copper Dross„ Copper Oxide Mill Scale„ Copper Reverts, Cake & Residues„ Waste Copper and copper alloys in	10	-	10	20	-	20	10	50	R-O	Mainly air polluting.

		dispersible form,, Slags from copper processing for further processing or refining ,, Insulated Copper Wire,, Scrap/copper with PVC sheathing including ISRI-code material namely "Druid" ,, Jelly filled Copper cables ,, Zinc Dross-Hot dip Galvanizers SLAB,, Zinc Dross-Bottom Dross,, Zinc ash/Skimming arising from galvanizing and die casting operations,, Zinc ash/Skimming/other zinc bearing wastes arising from smelting and refining,, Zinc ash and residues including zinc alloy residues in dispersible from ,,										
42.	35	Industry or processes involving foundry operations	-	-	-	20	-	20	-	50	R-O	i. This score is valid for the foundries having capacity < 5 MT/hr as such units require the coal/coke @ < 500 kg/hr. ii. The units having capacity of 5 MT/hr and more, the coal/coke consumption will be more than 500 kg/hr and the normalized score will be 62.5 and classified accordingly as Red.
43.	40	Lime manufacturing (using lime kiln)	-	-	-	20	-	20	-	50	R-O	Mainly air polluting
44.	41	Liquid floor cleaner, black phenyl, liquid soap, glycerol mono-stearate manufacturing	20	--	20	20	--	20	--	50	O-O	Both air and water pollution are generated.

45.	42	Manufacturing of glass	10	-	-	20	-	20	-	50	R-O	i. Mainly air polluting (melting at 1500ºC and refining . ii. In case of lead glass , the score of A1 will be 25 and accordingly the normalized scores will be 62.5 i.e. Red .
46.	43	Manufacturing of iodized salt from crude/ raw salt	12	--	12	20	--	20	--	50	O-O	Boiling in Evaporators (multiple effect evaporators), centrifuging, iodization with KIO3 mixing . Mainly air polluting. Air pollution score is normalized to 100.
47.	42	Manufacturing of mirror from sheet glass	--	--	--	20	--	20	--	50	O-O	Evaporator & furnace for heating the metal to be applied as reflector on mirror. Mainly air polluting.
48.	44	Manufacturing of mosquito repellent coil	--	--	--	20	--	20	--	50	O-O	Mainly air polluting. Toxic fumes are expected.
49.	46	Manufacturing of Starch/Sago	25	-	25	15	-	15	-	50	R-O	i. Water and air polluting industry. Boiler is used for steam generation. ii. Water & air pollution scores are normalized to 100
50.	46	Mechanized laundry using oil fired boiler	20	--	20	20	--	20	--	50	O-O	Both air and water pollution are generated.
51.	47	Modular wooden furniture from particle board, MDF< swan timber etc, Ceiling tiles/ partition board from saw dust, wood chips etc., and other agricultural waste using synthetic adhesive resin, wooden box making (With boiler)	--	--	--	20	--	20	--	50	O-O	1. Mainly air polluting. Boiler as well as VOCs from use of adhesives. 2. Without boiler, it will be a Green category industry.
52.	50	New highway construction project	-	-	-	20	-	20	-	50	R-O	Mainly air polluting project.

53.	51	Non-alcoholic beverages(soft drink) & bottling of alcohol/non alcoholic products	20	-	20	15	5	20	-	50	R-O	i. Both air and water polluting. Score is normalized with air & water pollution. This score is valid for industries having waste-water generation < 100 KLD. ii. For the units having waste-water generation > 100 KLD the , normalized score would be 62.5 and categorized as Red.
54.	49	Paint blending and mixing (Ball mill)	20	--	20	20	--	20	10	50	O-O	Both air and water pollution are generated.
55.	62	Paints and varnishes (mixing and blending)	20	0	0	20	0	20	0	50	**G-O**	Waste-waters as well as fumes of VOCs due to solvents, pigments, varnishes.
56.	51	Ply-board manufacturing(including Veneer and laminate) with oil fired boiler/ thermic fluid heater(without resin plant)	0	--	0	20	--	20	--	50	O-O	Mainly air polluting because of use of boiler. AP score is normalized to 100
57.	52	Potable alcohol (IMFL) by blending, bottling of alcohol products	20	--	20	--	--	--	--	50	O-O	Mainly water polluting. WP score is normalized to 100.
58.	54	Printing ink manufacturing	20	--	20	20	--	20	--	50	O-O	1. Pigments, binders and solvents are used. 2. Boiler is also used. 3. Emissions of VOCs take place.
59.	70	Printing press	20	0	20	20	0	20	0	50	**G-O**	Colored waste-waters containing dyes and VOC emissions are generated.
60.	59	Reprocessing of waste plastic including PVC	20	--	20	20	--	20	--	50	O-O	Large quantities of wash-water and fugitive emissions are generated.
61.	61	Rolling mill (oil or coal fired) and cold rolling mill	10	--	10	20	--	20	--	50	O-O	Mainly air polluting. Air pollution score is normalized to 100. Others - cooling water and recyclable waste oils etc. are generated.
62.	67	Spray painting, paint baking, paint shipping	--	--	--	20	--	20	10	50	O-O	Mainly air polluting. Emissions of VOCs and HC are generated.

63.	72	Steel and steel products using various furnaces like blast furnace /open hearth furnace/induction furnace/arc furnace/submerged arc furnace / basic oxygen furnace /hot rolling reheated furnace	10	-	10	20	-	20	10	50	R-O	i. Mainly air polluting. In the emissions, oxides of manganese, nickel etc. are also present. ii. Air pollution score is normalized to 100.
64.	73	Stone crushers	-	-	-	20	-	20	-	50	R-O	Mainly air polluting. Air pollution score is normalized to 100.
65.	75	Surgical and medical products including prophylactics and latex	20	-	20	20	-	20	-	50	R-O	Both air as well as water polluting. Air and water pollution scores are normalized to 100.
66.	85	Tephlon based products	0	0	0	20	0	20	0	50	**G-O**	Due to spraying applications, emissions (HC) are generated
67.	70	Thermocol manufacturing (with boiler)	--	--	--	20	--	20	--	50	O-O	Polystyrene is heated. Mainly air polluting with boiler.
68.	82	Tobacco products including cigarettes and tobacco/opium processes	20	-	20	20	-	20	-	50	R-O	Such industries generate both air as well as water pollution. These scores are normalized to 100.
69.	72	Transformer repairing/ manufacturing (dry process only)	--	--	--	20	--	20	10	50	O-O	Mainly air polluting because of ovens, shot-blasting etc.
70.	73	Tyres and tubes vulcanization/ hot retreating	10	--	10	20	--	20	--	50	O-O	Mainly air polluting . Emissions of PM, VOCs and obnoxious odour are generated.
71.	83	Vegetable oil manufacturing including solvent extraction and refinery /hydrogenated oils	20	-	20	15	5	20	10	50	R-O	i. All sorts of pollution are generated. ii. This score is valid for plants having waste-water generation < 100 KLD. iii. If the waste-water generation is more than 100 KLD, the unit shall be classified as Red.
72.	74	Wire drawing and wire netting	20	--	20	--	--	--	--	50	O-O	Mainly water polluting. WP score is normalized to 100.

73.	21	Dry cell battery (excluding manufacturing of electrodes) and assembling & charging of acid lead battery on micro scale	30	--	30	15	--	15	10	55	O-O	Water and air polluting both.
74.	50	Pharmaceutical formulation and for R & D purpose (For sustained release/ extended release of drugs only and not for commercial purpose)	20	--	20	20	--	20	15	55	O-O	i. All sorts of pollution are generated. ii. R&D activities are to be shifted to Red category.
75.	78	Synthetic resins	20	-	20	20	-	20	15	55	R-O	All sorts of pollution are generated.
76.	79	Synthetic rubber excluding molding	20	-	20	20	-	20	15	55	R-O	i. Most synthetic rubber is created from two materials, styrene and butadiene. Both are currently obtained from petroleum. ii. Process is similar to a part of Petrochemical plants.
77.	9	Cashew nut processing	25	--	25	20	--	20	--	56	O-O	Normal water and air polluting.
78.	12	Coffee seed processing	25	--	25	20	--	20	--	56	O-O	Normal water & air polluting industry.
79.	57	Parboiled Rice Mills	25	-	25	20	-	20	-	56	R-O	i. Rice Mills are generating both air and water pollution. Waste-waters are having high strength in respect of BOD. ii. This is the normalized air & water pollution score for units having waste-water generation < 100 KLD and fuel consumption less than 12 MTD. iii. For units having waste-water generation > 100 KLD or fuel consumption > 12 MTD or both , the unit shall be classified as Red.

80.	29	Foam manufacturing	--	--	--	20	--	20	15	58	O-O	i. Raw material is polyurethane, latex etc. ii. Emissions of VOCs and HAPs. CH3Cl2 and similar compounds as blowing agents. iii. Outdated raw materials and spoiled slots are discarded as HW.
81.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Used Oil – As per specifications prescribed from time to time.	10	0	10	20	0	20	15	58.33	R-O	Mainly air polluting and hazardous waste generating industry. Air pollution & HW scores are normalized to 100
82.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Waste Oil ---As per specifications prescribed from time to time.	-	-	-	20	0	20	15	58.33	R-O	Mainly air polluting and hazardous waste generating industry. Air pollution & HW scores are normalized to 100.
83.	56	Producer gas plant using conventional up drift coal gasification (linked to rolling mills glass and ceramic industry refectories for dedicated fuel supply)	--	--	--	20	--	20	15	58.33	O-O	Mainly air polluting & tar (HW) generating. SO2, CO, NOx are generated. Tar is the by-product and utilized by other industries in co-processing.

Note :

i. Under the column Revised Category, the full forms of the abbreviations are as follows :

a. R-R means original category was Red and revised category is also Red
b. R-O means original category was Red and revised category is Orange
c. O-O means original category was Orange and revised category is also Orange
d. O-G means original category was Orange and revised category is Green
e. O-W means original category was Orange and revised category is White
f. G-O means original category was Green and revised category is Orange
g. G-G means original category was Green and revised category is also Green
h. G-W means original category was Green and revised category is White

ii. *There are specific remarks in respect of some of the industrial sectors. These sectors are either merged with other relevant sectors or deleted due to duplication / vague category. The overall details are as follows:*

Sl No.	Original Sl No.	Industry Sector	Original Category	Remarks
1	24	Excavation of sand from the river bed (excluding manual excavation)	O	Since such types of activities cause ecological disturbances, the instructions issued by the government from time to time be followed. To be categorized by MoEF&CC.
2	39	Infrastructure Development Project	O	Vast variety of such projects come under such category. This is to be decided by the concerned SPCB in line of EIA Notification , 2006.
3	53	Power press	O	Very vague term hence deleted. Such types of general engineering units have already been covered.

Table G-4 : Final List of Green Category of Industrial Sectors

Sl. No.	Orgnl Sl. No.	**Industry Sector**	W1	W2	W	A1	A2	A	H	W+A+H	Revised Category	Remarks
1.	2	Aluminium utensils from aluminium circles by pressing only (dry mechanical operation)	--	--	--	10	--	10	--	25	**G-G**	Minor air pollution due to some fugitive PM emissions from buffing operations.
2.	6	Ayurvedic and homeopathic medicines (without boiler)	10	--	10	--	--	--	--	25	**G-G**	Small quantities of waste-waters are generated from washing operations.
3.	8	Bakery /confectionery /sweets products (with production capacity <1tpd (with gas or electrical oven)	10	--	10	--	--	--	--	25	**G-G**	Small quantities of waste-waters are generated from washing operations.
4.	6	Bi-axially oriented PP film along with metalizing operations	10	--	10	--	--	--	--	25	**O-G**	Mainly extrusion process involving Cooling water recirculation
5.	10	Biomass briquettes (sun drying) without using toxic hazardous wastes	--	--	--	10	--	10	--	25	**G-G**	Minor air pollution due to some fugitive PM emissions from pulverization / mixing operations.
6.	13	Blending of melamine resins & different powder, additives by physical mixing	--	--	--	10	--	10	--	25	**G-G**	Minor air pollution due to some fugitive PM emissions from pulverization / mixing operations.
7.	15	Brass and bell metal utensils manufacturing from circles(dry mechanical operation without re-rolling facility)	--	--	--	10	--	10	--	25	**G-G**	Minor air pollution due to some fugitive PM emissions from buffing operations.
8.	16	Candy	10	--	10	10	--	10	--	25	**G-G**	Small quantities of waste-water and minor

												PM emissions are generated.
9.	17	Cardboard or corrugated box and paper products (excluding paper or pulp manufacturing and without using boilers)	--	--	--	10	--	10	--	25	**G-G**	This score is valid with Small gas / electricity operated oven / furnace for making glue.
10.	18	Carpentry & wooden furniture manufacturing (excluding saw mill) with the help of electrical (motorized) machines such as electrical wood planner, steel saw cutting circular blade, etc.	--	--	--	10	--	10	--	25	**G-G**	Minor air pollution due to some fugitive PM emissions from cutting operations.
11.	19	Cement products (without using asbestos / boiler / steam curing) like pipe ,pillar, jafri, well ring, block/tiles etc.(should be done in closed covered shed to control fugitive emissions)	--	--	--	10	--	10	--	25	**G-G**	Minor air pollution due to some fugitive PM emissions from mixing operations.
12.	20	Ceramic colour manufacturing by mixing & blending only (not using boiler and wastewater recycling process)	--	--	--	10	--	10	--	25	**G-G**	Minor air pollution due to some fugitive PM emissions.
13.	11	Chilling plant, cold storage and ice making	10	--	10	--	--	--	--	25	**O-G**	Cooling water recirculation only.
14.	13	Coke briquetting (sun drying)	--	--	--	10	--	10	--	25	**O-G**	Mainly air polluting industry. Sources of air pollution (PM) are pulverizes and mixers. Air pollution score is normalized to 100.
15.	28	Cotton spinning and weaving (small scale)	--	--	--	10	--	10	--	25	**G-G**	Minor PM emissions from spinning process.
16.	17	Dal Mills	--	--	--	10	--	10	--	25	**O-G**	Some fugitive emissions of PM.

17.	29	Decoration of ceramic cups and plates by electric furnace	--	--	--	10	--	10	--	25	**G-G**	Fumes of enamels. Minor air pollution.
18.	19	Digital printing on PVC clothes	--	--	--	10	--	10	--	25	**O-G**	Minor emissions / odour generations are expected.
19.	25	Facility of handling, storage and transportation of food grains in bulk	--	--	--	10	--	10	--	25	**O-G**	Some fugitive emissions of PM during handling of grains.
20.	36	Flour mills (dry process)	--	--	--	10	--	10	--	25	**G-G**	Fugitive dust emissions.
21.	41	Glass , ceramic, earthen potteries, tile and tile manufacturing using electrical kiln or not involving fossil fuel kiln	--	--	--	10	--	10	--	25	**G-G**	Minor fugitive emissions only.
22.	34	Glue from starch (physical mixing) with gas / electrically operated oven /boiler.	--	--	--	10	--	10	--	25	**O-G**	Some fugitive emissions of PM during mixing of raw materials.
23.	42	Gold and silver smithy (purification with acid smelting operation and sulphuric acid polishing operation) (using less or equal to 1 litre of sulphuric acid/ nitric acid per month)	--	--	--	10	--	10	--	25	**G-G**	Minor fumes from cleaning process.
24.	36	Heat treatment with any of the new technology like ultrasound probe , induction hardening , ionization beam, gas carburizing etc.	10	--	10	10	--	10	--	25	**O-G**	• Cooling waters and minor heat fumes. • Finalization of categorization subject to field verification.
25.	46	Insulation and other coated papers (excluding paper or pipe manufacturing)	--	--	--	10	--	10	--	25	**G-G**	Minor fumes due to application of poly-urethane
26.	49	Leather foot wear and leather products (excluding tanning and hide processing except cottage scale)	--	--	--	10	--	10	--	25	**G-G**	Minor fumes due to use of adhesives / gums.

27.	50	Lubricating oil, greases or petroleum based products (only blending at normal temperature)	--	--	--	10	--	10	--	25	**G-G**	Minor fumes at the time of transfers from one container to other.
28.	54	Manufacturing of pasted veneers using gas fired boiler or thermic fluid heater and by sun drying	--	--	--	10	--	10	--	25	**G-G**	1. Minor fumes due to application of gums / adhesives / pastes etc. 2. This score is valid only for gas fired boiler.3. The units having coal fired boilers shall be categorized as Orange.
29.	59	Oil mill Ghani and extraction (no hydrogenation / refining)	10	--	10	--	--	--	--	25	**G-G**	Small quantities of floor washings & equipments washings are generated.
30.	48	Packing materials manufacturing from non asbestos fibre, vegetable fibre yarn	--	--	--	10	--	10	--	25	**O-G**	Some fugitive emissions of PM are expected.
31.	65	Phenyl/toilet cleaner formulation and bottling	--	--	--	10	--	10	--	25	**G-G**	Minor fumes of VOCs in the work zone
32.	67	Polythene and plastic processed products manufacturing (virgin plastic)	10	--	10	10	--	10	--	25	**G-G**	Cooling water & emissions due to mixing of raw materials.
33.	68	Poultry, Hatchery and Piggery	--	--	--	10	--	10	--	25	**G-G**	Obnoxious odour containing H_2S, CH_4 etc. and fugitive PM emissions
34.	69	Power looms (without dye and bleaching)	--	--	--	10	--	10	--	25	**G-G**	Minor emissions of PM.
35.	71	Puffed rice (muri) (using gas or electrical heating system)	--	--	--	10	--	10	--	25	**G-G**	Minor emissions of PM.
36.	57	Pulverization of bamboo and scrap wood	--	--	--	10	--	10	--	25	**O-G**	Some fugitive emissions of PM are expected.
37.	72	Ready mix cement concrete	--	--	--	10	--	10	--	25	**G-G**	PM emissions.
38.	73	Reprocessing of waste cotton	--	--	--	10	--	10	--	25	**G-G**	PM emissions.
39.	60	Rice mill (Rice hullers only)	--	--	--	10	--	10	--	25	**O-G**	PM emissions are generated. Mainly air

												polluting. AP score is normalized to 100
40.	62	Rolling mill (gas fired) and cold rolling mill	10	--	10	10	--	10	--	25	**O-G**	Mainly air polluting. AP score is normalized to 100
41.	75	Rubber goods industry (with gas operated baby boiler)	--	--	--	10	--	10	--	25	**G-G**	Some PM emissions and obnoxious odour.
42.	63	Saw mills	--	--	--	10	--	10	--	25	**O-G**	Mainly air polluting. PM and noise are generated.
43.	77	Soap manufacturing (hand made without steam boiling / boiler)	10	--	10	--	--	--	--	25	**G-G**	Small quantities of waste-water are generated.
44.	80	Spice grinding (upto-20 HP motor)	--	--	--	10	--	10	--	25	**G-G**	Small quantities of fugitive emissions of raw materials.
45.	66	Spice grinding (>20 hp motor)	--	--	--	10	--	10	--	25	**O-G**	Mainly air polluting. Fugitive emissions of PM.
46.	81	Steel furniture without spray painting	--	--	--	10	--	10	--	25	**G-G**	Obnoxious gases from welding as well as noise pollution.
47.	82	Steeping and processing of grains	10	--	10	--	--	--	--	25	**G-G**	Washing waters are generated.
48.	86	Tyres and tube retreating (without boilers)	--	--	--	10	--	10	--	25	**G-G**	Due to applications of binding gum / adhesives / cement, some obnoxious fumes may generate.
49.	22	Chilling plant and ice making without using ammonia	12	--	12	--	--	--	--	30	**G-G**	Cooling water and brine water circuits. Spillages / blow down may take place
50.	26	CO2 recovery	12	--	12	--	--	--	--	30	**G-G**	Normal water pollution from scrubbing action
51.	32	Distilled water (without boiler) with electricity as source of heat	12	--	12	--	--	--	--	30	**G-G**	TDS as distillation residues

52.	45	Hotels (up to 20 rooms and without boilers)	12	--	12	--	--	--	--	30	**G-G**	This score is valid for hotels having overall waste-water generation less than 10 KLD.
53.	53	Manufacturing of optical lenses (using electrical furnace)	12	--	12	--	--	--	--	30	**G-G**	Small quantities of waste-waters containing TDS, SS are generated.
54.	58	Mineralized water	12	--	12	--	--	--	--	30	**G-G**	RO Rejects.
55.	68	Tamarind powder manufacturing	12	--	12	15	--	15	--	33.75	O-G	• Dried tamarind fruits - cleaned and after soaking them in water they are boiled in steam jacketed kettle for about 40-45 minutes. Then pulp is extracted in pulper and dried in drum type drier and on cooling, the final product is packed. • Generates small quantities of waste waters and air emissions. Joint score is normalized to 100.
56.	15	Cutting, sizing and polishing of marble stone	15	--	15	--	--	--	--	37.5	O-G	Mainly water polluting . Water pollution score is normalized to 100.
57.	22	Emery powder (fine dust of sand) manufacturing	--	--	--	15	--	15	--	37.5	O-G	Air polluting. PM emissions take place during various stages of grindings of naturally occurring minerals.
58.	25	Flyash export, transport & disposal facilities	-	-	-	15	-	15	-	37.5	R-G	• This is mainly air polluting activity. • This is the normalized score based on air pollution.
59.	48	Mineral stack yard / Railway sidings	15	-	15	15	-	15	-	37.5	R-G	• Mainly air pollution due to loading, unloading, storage and transportation of the minerals.

												• Waste-water generation mainly during rains only.
60.	54	Oil and gas transportation pipeline	-	-	-	10	5	15	-	37.5	R-G	• Contains small gas based power plants up-to 5 MWs. • Air pollution score is normalized to 100. • In case , if these power plants are bigger / liquid fuel / oil based, scores will be calculated accordingly.
61.	64	Seasoning of wood in steam heated chamber	--	--	--	15	--	15	--	37.5	O-G	Air pollution due to use boiler for supply of steam. Air pollution score is normalized to 100.
62.	84	Synthetic detergent formulation	--	--	--	15	--	15	--	37.5	**G-G**	• This score is valid for the industries which are not manufacturing LABSA. It is procured from outside. • Small quantities of emissions are generated from mini boiler. • Air pollution score is normalized to 100.
63.	69	Tea processing (with boiler)	--	--	--	15	--	15	--	37.5	O-G	With boiler, it is an orange category industry. Without boiler, it will be green category industry.

Note :

i. *Under the column Revised Category, the full forms of the abbreviations are as follows :*
   a. *R-R means original category was Red and revised category is also Red*
   b. *R-O means original category was Red and revised category is Orange*
   c. *O-O means original category was Orange and revised category is also Orange*
   d. *O-G means original category was Orange and revised category is Green*
   e. *O-W means original category was Orange and revised category is White*
   f. *G-O means original category was Green and revised category is Orange*
   g. *G-G means original category was Green and revised category is also Green*
   h. *G-W means original category was Green and revised category is White*

ii. *There are specific remarks in respect of some of the industrial sectors. These sectors are either merged with other relevant sectors or deleted due to duplication. The overall details are as follows :*

Sl No.	Original Sl No.	Industry Sector	Original Category	Remarks
1	47	Jobbing and Machining	G	Vague category to be deleted, as such activities have already been covered in other categories.
2	66	Reel manufacturing	G	Already covered in other categories. Hence, deleted
3	1	Assembling of acid lead batteries (up to 10 batteries per day excluding lead plate casting)	G	Already covered in Orange category. Hence, deleted
4	5	Automobile fuel outlets (only dispensing)	G	Minor air pollution due to some fugitive emissions during fuel filling operations. May be exempted from the purview of Consent management.
5	30	Diesel generator sets (15 KVA to 1 MVA)	G	• Normal operation – 12 hrs a day. • Consumption of diesel = 1680 litres for 1 MVA DG set at full load @ 0.21 litres / KVA / hr. • Stand-alone DG Sets having total capacity 1 MVA or less and equipped with acoustic enclosures alongwith adequate stack height may be exempted from the purview of Consent management. Higher capacity DG sets have already been covered under Red / Orange categories .

Table G-5: Final List of White Category of Industries

Sl. No.	Orgnl Sl. No.	**Industry Sector**	W1	W2	W	A1	A2	A	H	W+A+H	Revised Category
1.	3	Assembly of air coolers /conditioners ,repairing and servicing	--	--	--	--	--	--	--	--	**G-W**
2.	4	Assembly of bicycles ,baby carriages and other small non motorizing vehicles	--	--	--	--	--	--	--	--	**G-W**
3.	7	Bailing (hydraulic press)of waste papers	--	--	--	--	--	--	--	--	**G-W**
4.	9	Bio fertilizer and bio-pesticides without using inorganic chemicals	--	--	--	--	--	--	--	--	**G-W**
5.	11	Biscuits trays etc from rolled PVC sheet (using automatic vacuum forming machines)	--	--	--	--	--	--	--	--	**G-W**
6.	12	Blending and packing of tea	--	--	--	--	--	--	--	--	**G-W**
7.	14	Block making of printing without foundry (excluding wooden block making)	--	--	--	--	--	--	--	--	**G-W**
8.	21	Chalk making from plaster of Paris (only casting without boilers etc. (sun drying / electrical oven)	--	--	--	--	--	--	--	--	**G-W**
9.	25	Compressed oxygen gas from crude liquid oxygen (without use of any solvents and by maintaining pressure & temperature only for separation of other gases)	--	--	--	--	--	--	--	--	**G-W**
10.	27	Cotton and woolen hosiers making (Dry process only without any dying / washing operation)	--	--	--	--	--	--	--	--	**G-W**
11.	31	Diesel pump repairing and servicing (complete mechanical dry process)	--	--	--	--	--	--	--	--	**G-W**
12.	33	Electric lamp (bulb) and CFL manufacturing by assembling only	--	--	--	--	--	--	--	--	**G-W**

13.	34	Electrical and electronic item assembling (completely dry process)	--	--	--	--	--	--	--	--	**G-W**
14.	23	Engineering and fabrication units (dry process without any heat treatment / metal surface finishing operations / painting)	--	--	--	--	--	--	--	--	**O-W**
15.	35	Flavoured betel nuts production/ grinding (completely dry mechanical operations)	--	--	--	--	--	--	--	--	**G-W**
16.	37	Fly ash bricks/ block manufacturing	--	--	--	--	--	--	--	--	**G-W**
17.	38	Fountain pen manufacturing by assembling only	--	--	--	--	--	--	--	--	**G-W**
18.	39	Glass ampules and vials making from glass tubes	--	--	--	--	--	--	--	--	**G-W**
19.	40	Glass putty and sealant (by mixing with machine only)	--	--	--	--	--	--	--	--	**G-W**
20.	43	Ground nut decorticating	--	--	--	--	--	--	--	--	**G-W**
21.	44	Handloom/ carpet weaving (without dying and bleaching operation)	--	--	--	--	--	--	--	--	**G-W**
22.	48	Leather cutting and stitching (more than 10 machine and using motor)	--	--	--	--	--	--	--	--	**G-W**
23.	51	Manufacturing of coir items from coconut husks	--	--	--	--	--	--	--	--	**G-W**
24.	52	Manufacturing of metal caps containers etc	--	--	--	--	--	--	--	--	**G-W**
25.	55	Manufacturing of shoe brush and wire brush	--	--	--	--	--	--	--	--	**G-W**
26.	57	Medical oxygen	--	--	--	--	--	--	--	--	**G-W**
27.	60	Organic and inorganic nutrients (by physical mixing)	--	--	--	--	--	--	--	--	**G-W**
28.	61	Organic manure (manual mixing)	--	--	--	--	--	--	--	--	**G-W**
29.	63	Packing of powdered milk	--	--	--	--	--	--	--	--	**G-W**
30.	64	Paper pins and u clips	--	--	--	--	--	--	--	--	**G-W**
31.	58	Repairing of electric motors and generators (dry mechanical process)	--	--	--	--	--	--	--	--	**O-W**
32.	74	Rope (plastic and cotton)	--	--	--	--	--	--	--	--	**G-W**

33.	76	Scientific and mathematical instrument manufacturing	--	--	--	--	--	--	--	--	**G-W**
34.	78	Solar module non conventional energy apparatus manufacturing unit	--	--	--	--	--	--	--	--	**G-W**
35.	79	Solar power generation through solar photovoltaic cell, wind power and mini hydel power (less than 25 MW)	--	--	--	--	--	--	--	--	**G-W**
36.	83	Surgical and medical products assembling only (not involving effluent / emission generating processes)	--	--	--	--	--	--	--	--	**G-W**

Note : Under the column Revised Category, the full forms of the abbreviations are as follows :

a. *R-R means original category was Red and revised category is also Red*
b. *R-O means original category was Red and revised category is Orange*
c. *O-O means original category was Orange and revised category is also Orange*
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f. *G-O means original category was Green and revised category is Orange*
g. *G-G means original category was Green and revised category is also Green*
h. *G-W means original category was Green and revised category is White*

Annexure

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(पर्यावरण एवं वन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

No. B-29012/ESS/CPA/2015-16

19.08.2015

Sub: "Harmonization of Classification of industries under Red / Orange / Green / White Categories".

During the Conference of the Environment Ministers of States held in New Delhi during April 06-07, 2015, it was resolved to adopt pollution potential criteria for categorization of Red, Orange & Green categories of industries and that a Committee be constituted with State representatives. Further, in the 59th Conference of Chairmen & Member Secretaries of Pollution Control Boards/PCCs held in New Delhi on April 08, 2015, it was agreed to constitute a Committee to look into categorization system of industries based on their respective pollution potential index.

2. Accordingly, a Committee comprising the Chairmen of CPCB, APPCB, TNPCB, MPPCB, MPCB, PPCB, WBPCB and MS, CPCB was constituted vide CPCB OM dated 23.04.2015 to review & classify industrial sectors into different categories based on criteria of respective pollution potential indices.

3. The existing Red (85 sectors) , Orange (73 sectors) and Green (86 sectors) industrial sectors have been assessed as per the proposed formula by a group of Scientists from CPCB . For this purpose , concerned Engineers / Scientists from the Member SPCBs of the Committee were also involved & consulted during May28-29, 2015.

4. After careful examination and consideration of the suggestions of concerned stake-holders the "Draft Document on Revised Concept of Categorization of Industrial Sectors " is prepared by the Committee .

In this context, the Undersigned is directed to forward a copy of the " Draft Document on Revised Concept of Categorization of Industrial Sectors to all the SPCBs, PCCs and concerned Ministries for their comments. Accordingly, the same is enclosed herewith and all the SPCBs, PCCs and concerned Ministries are, hereby requested to provide their comments by 04.09.2015. The comments may kindly be sent through hard copy as well as soft copy at e-mail: nkgupta.cpcb@nic.in , nkgcpcb@hotmail.com .

Encl : As above

[N.K. Gupta]
Incharge - ESS

To:

1. All the State Pollution Control Boards / Pollution Control Committees
2. The Secretary, Ministry of Micro Small and Medium Enterprises, New Delhi
3. The Secretary, Ministry of Heavy Industries & Public Enterprises, New Delhi
4. The Advisor & Incharge , CP Division, MoEFCC, New Delhi
5. CPCB Website

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली–110032
'Parivesh Bhawan', East Arjun Nagar, Delhi - 110032
दूरभाष / Tel. : 43102030, फैक्स / Fax : 22305793, 22307078, 22307079, 22301932, 22304948
ई–मेल / e-mail :cpcb@nic.in वेबसाईट / Website : www.cpcb.nic.in

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(2004) 6 Supreme Court Cases 402 : 2004 SCC OnLine SC 624

(BEFORE S. RAJENDRA BABU, C.J. AND G.P. MATHUR, J.)

DEEPAK NITRITE LTD. . . Appellant;

Versus

STATE OF GUJARAT AND OTHERS . . Respondents.

Civil Appeals No. 1521 of 2001[±] with Nos. 1522-28 of 2001, decided on May 5, 2004

A. **Environment Protection and Pollution Control — Polluter-Pays Principle — Applicability — Held, compensation/damages can be awarded under, only if damage has been caused to the environment by the person concerned — To say that mere violation of the law in not observing the norms would result in damage/degradation of the environment, is not correct — There must be a finding that such damage has in fact resulted — Since, on facts, there was no such finding, High Court directed to further investigate the matter in each of the cases — Such investigation not to be as if it were in an action in tort, but as an action in public law — A broad conclusion in this regard by the High Court would be sufficient — Other directions also given — Environment (Protection) Act, 1986 — S. 3**

B. **Environment Protection and Pollution Control — Polluter-Pays Principle — Compensation — Measure of — Percentage of annual turnover of polluter as a method — If permissible — Held, compensation to be awarded must have some broad correlation not only with the magnitude and capacity of the enterprise but also with the harm caused by it — Maybe, in a given case the percentage of turnover itself may be a proper measure, because the method to be adopted in awarding damages on the basis of the said principle has got to be practical, simple and easy in application — Environment (Protection) Act, 1986 — S. 3 — Torts — Compensation — Measure of**

A petition was filed before the High Court in public interest alleging large-scale pollution caused by industries located in Gujarat Industrial Development Corporation (GIDC) Industrial Estate at Nandesari. It is alleged that effluents discharged by the said industries into the effluent-treatment project had exceeded certain parameters fixed by the Gujarat Pollution Control Board (GPCB), thereby causing damage to the environment. On 9-5-1997 the High Court passed an order directing the industries to pay 1% of the maximum annual turnover of any of the preceding three years towards compensation and betterment of environment within a stipulated time. The appeal was against this order.

Disposing of the appeals in the terms below, the Supreme Court

Held :

The fact that the industrial units in question have not conformed with the standards prescribed by GPCB, cannot be seriously disputed in these cases. But the question is whether that circumstance by itself can lead to the conclusion that such lapse has caused damage to the environment. No finding is given on that aspect which is necessary to be ascertained because compensation to be awarded

Page: 403

must have some broad correlation not only with the magnitude and capacity of the enterprise but also with the harm caused by it. Maybe, in a given case the percentage of the turnover itself may be a proper measure because the method to be adopted in awarding damages on the basis of "polluter-to-pay" principle has got to be practical, simple and easy in application. The appellants also do not contest the legal position that if there is a finding that there has been degradation of environment or any damage caused to any of the victims by the activities of the industrial units certainly damages have to be paid. However, to say that mere violation of the law in not observing the norms would result in degradation of environment would not be correct.

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(Para 6)

Therefore, the High Court is directed to further investigate in each of these cases and find out broadly whether there has been any damage caused by any of the industrial units by their activities in not observing the norms prescribed by GPCB as reported by the Modi Committee appointed by the High Court or by an expert body like NEERI and that exercise need not be undertaken by the High Court as if the present proceeding is an action in tort but an action in public law. A broad conclusion in this regard by the High Court would be sufficient. Therefore the High Court is directed to re-examine this aspect of the matter as to whether there is degradation of environment and as a result thereof any damage is caused to any victim, and what norms should be adopted in the matter of awarding compensation in that regard. In this process it is open to the High Court to consider whether 1% of the turnover itself would be an appropriate formula or not as applicable to the present cases.

(Para 7)

Pravinbhai Jashbhai Patel v. *State of Gujarat*, (1995) 36 Guj LR 1210; *M.C. Mehta* v. *Union of India*, (1987) 4 SCC 463 : AIR 1988 SC 1037; *Virender Gaur* v. *State of Haryana*, (1995) 2 SCC 577, *referred to*

Consumer Education & Research Centre v. *Union of India*, (1995) 3 SCC 42 : 1995 SCC (L&S) 604 : AIR 1995 SC 922; *Vellore Citizens' Welfare Forum* v. *Union of India*, (1996) 5 SCC 647; *M.C. Mehta* v. *Union of India*, (1987) 1 SCC 395 : 1987 SCC (L&S) 37, *cited*

D-M/30106/C

Advocates who appeared in this case:

T.R. Andhyarujina (Amicus Curiae), R.F. Nariman and R.P. Bhatt, Senior Advocates (Maulin Raval, Ashish Chugh, Srikant Doijode, Jay Savla, Ms Reena Bagga, Ms Hemantika Wahi, Ms Aruna Gupta, K.R. Sasiprabhu, Ms Manik Karanjawala, H.S. Parihar, P.H. Parekh, E.R. Kumar, Sanand Ramakrishnan, Vijay Panjwani, Aniruddha P. Mayee, Arvind Minocha, Anip Sachthey, Shriniwas R. Khalap, E. Venu Kumar, Harshad V. Hameed, E.C. Agarwala, Sunil Dogra, Ms Sayali Pathak, Chirag M. Shroff, M.N. Shroff and Ms Meenakshi Arora, Advocates) for the appearing parties.

Chronological list of cases cited ***on page(s)***

1. (1996) 5 SCC 647, *Vellore Citizens' Welfare Forum* v. *Union of India* — 405*f*, 406*a*
2. (1995) 36 Guj LR 1210, *Pravinbhai Jashbhai Patel* v. *State of Gujarat* — 404*g-h*, 405*g*, 406*d-e*, 406*f-g*, 407*b*
3. (1995) 3 SCC 42 : 1995 SCC (L&S) 604 : AIR 1995 SC 922, *Consumer Education & Research Centre* v. *Union of India* — 405*b*
4. (1995) 2 SCC 577, *Virender Gaur* v. *State of Haryana* — 405*b*
5. (1987) 4 SCC 463 : AIR 1988 SC 1037, *M.C. Mehta* v. *Union of India* — 405*b*
6. (1987) 1 SCC 395 : 1987 SCC (L&S) 37, *M.C. Mehta* v. *Union of India* — 407*d-e*

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The Judgment of the Court was delivered by

S. RAJENDRA BABU, C.J. These appeals arise out of a series of orders made by the High Court of Gujarat. A petition was filed before the High Court in public interest alleging large-scale pollution caused by industries located in Gujarat Industrial Development Corporation (GIDC) Industrial Estate at Nandesari. It is alleged that effluents discharged by the said industries into the effluent-treatment project had exceeded certain parameters fixed by the Gujarat Pollution Control Board (GPCB), thereby causing damage to the environment. Some of the industries have set up their own effluent-treatment plants in their factory premises, while some of them have not. The High Court, by an order made on 17-4-1995, directed that the chemical industries in Nandesari should be made parties to the proceedings; thereby 252 industrial units located in Nandesari Industrial Estate, Baroda were made parties to the proceedings, apart from the State of Gujarat, the Central Pollution Control Board, Gujarat Industrial Development Corporation and Nandesari Industries Association. The High Court also issued notices to financial institutions or banks in respect of these proceedings.

2. On 5-5-1995 the High Court appointed a Committee under the Chairmanship of Dr. V.V. Modi to ascertain the position with regard to the extent of pollution in Nandesari Industrial Estate. A common effluent-treatment plant (CETP) was erected by GIDC in Nandesari Industrial Estate on the contribution made by the industrial units in Nandesari Industrial Estate to the extent of about Rs 300 lakhs. Inasmuch as CETP was not achieving the required parameters laid down by GPCB, the High Court, by an order made on 7-8-1996, appointed NEERI as a consultant to assess the treatment facilities and to provide suitable rectification measures for upgrading CETP and effluent-treatment plant facilities. Dr. Modi Committee made a report on 7-9-1996. The High Court restrained several industries from removing their products from their plant without prior permission of the High Court and thereafter, by an order made on 13-9-1996, the High Court permitted them to dispatch materials by depositing a certain sum of money which was the value of the materials. NEERI submitted its report on 31-10-1996. The High Court, while granting permission to some of the industries to carry on their activities, called for turnover figures and profitability data. On 9-5-1997 the High Court passed an order directing the industries to pay 1% of the maximum annual turnover of any of the preceding three years towards compensation and betterment of environment within a stipulated time. It is against this order that the appellants are before us.

3. The High Court in its impugned order followed a decision of the High Court of Gujarat in *Pravinbhai Jashbhai Patel* v. *State of Gujarat*[1] wherein it was noticed that the industrial units though aware of the requirements of law had not complied with the same nor did they meet the GPCB parameters and they were irresponsible in not wanting or caring to set up effluent-treatment

plants but continued to manufacture, and pollute the environment and the concern shown now in meeting with the pollution-control norms is only because of the threatened court order; that pollution caused by these industrial units was adversely affecting a large number of citizens residing in the adjacent cities or villages; that in particular water and air pollution is not only continued in the immediate area in which

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the pollution is generated, but the same affects other areas as well wherever water or air went; that this Court in *M.C. Mehta* v. *Union of India*[2], *Virender Gaur* v. *State of Haryana*[3] and *Consumer Education & Research Centre* v. *Union of India*[4] invoked the provisions of Article 21 of the Constitution of India to declare that the citizens have a fundamental right to live decently, unaffected by pollution. After noticing various contentions, the High Court took the view that 1% of the turnover would be a good measure of assessing damages for the pollution caused by the industrial units and that amount should be kept apart by the Ministry of Environment and should be utilised for the works of socio-economic upliftment of the population of the aforesaid affected areas and for the betterment of educational, medical and veterinary facilities and the betterment of the agriculture and livestock in the said villages with certain additional directions in this regard.

4. It is now submitted before us by the appellants that a court has no power to either impose penalty or fine or make any levy for general betterment unless the statute authorised the same; that, however, in awarding damages it is permissible to make the same exemplary or penal; that award of damages is by way of restitution for the damage caused to victims and for restoration or restitution and for restoration of ecology by way of punishment; that, unless a finding is given by the High Court that there had been degradation of environment, question of restitution or awarding damages could not arise; that there is no finding of degradation of environment and, therefore, it is not open to the High Court to impose 1% of the turnover by way of damages. The appellants relied upon a decision of this Court in *Vellore Citizens' Welfare Forum* v. *Union of India*[5] in support of this contention. Their argument is that the principle of "polluter to pay" cannot be applied unless a finding has been given that the industrial unit concerned is the polluter. In what manner pollution has been caused should have been ascertained, particularly when a separate common effluent-treatment plant had been erected and a channel was provided through which water would flow into the river which would reach the sea thereby not causing any damage anywhere. They seek to bring about difference between *Pravinbhai Jashbhai Patel case*[1] and the present proceedings to contend that in those cases there was direct evidence of damage having taken place and by way of rule of thumb the High Court adopted the standard of 1% of turnover to be paid by way of damages and that this principle cannot always uniformly be

applied. They commend us to apply the principle set out by this Court in *Vellore Citizens' Welfare Forum case*[5] wherein the principle of "polluter to pay" has been applied and wherein it is noticed that any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country; once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity; consequently, the polluting industries are absolutely liable to compensate for the harm caused by them to villagers in the affected areas, to the soil and to the underground water and hence, they are bound to take all necessary measures to remove sludge and other pollutants lying in the affected areas; that the "polluter-pays principle" as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation; that remediation of the damaged environment is part of the process of sustainable development and as such the polluter is liable to pay the

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cost to the individual sufferers as well as the cost of reversing the damaged ecology.

5. Shri T.R. Andhyarujina, learned Senior Advocate, who assisted this Court as amicus curiae with great ability, explained to us the background in which the High Court had passed the impugned order. He submitted that the High Court had followed the earlier decision in *Pravinbhai Jashbhai Patel case*[1] wherein standard of 1% of turnover was adopted for closure of polluting units and payment of compensation by such units for polluting river and land; that the basis of this decision in that case was that the polluting industrial units were not meeting the GPCB norms and the continued violation of the law by industrial units had become a habit; that after elaborate discussion, the High Court had concluded that these industries had caused pollution and, therefore, gave certain directions, including for closure of the industrial units until they observed the GPCB norms; that the directions given by the High Court regarding closure and payment of compensation were complied with by the industrial units and this Court did not interfere with the order made by the High Court, therefore, the methodology adopted by the High Court in *Pravinbhai Jashbhai Patel case*[1] can be applied to other industrial units which are causing pollution; that, after investigation made by the Committee or by an expert body there were reports that the industrial units were causing pollution by not complying with the norms prescribed by GPCB and the High Court, in fact, noticed that a number of units have voluntarily agreed to pay 1% of the turnover of a year out of the last three years and there was consensus between all the industries and for betterment of environment, they voluntarily stated before the Court that 1% shall be paid; that one may say that even some of the units having no treatment plant or having inadequate facilities appeared before the High Court stating that they would voluntarily stop manufacturing till installation of proper treatment plant and were in a position to discharge trade effluent meeting with the GPCB norms. Thus, in these cases, the High Court

restrained firstly, several industries from removing their products from their plant without prior permission of the High Court and thereafter, such units themselves suspended operation of the polluting activities. The High Court, after having considered further reports of the Committee, NEERI and GPCB permitted to restart activities on a trial basis and at the same time, directed that "*with regard to 1% payment an order will be passed after the details furnished by the learned counsel*". The High Court thereafter adopted payment of 1% of the turnover method as indicated in *Pravinbhai Jashbhai Patel case*[1]. He submitted that in these cases the High Court has through its investigation either by the Committee appointed by itself or expert agency like NEERI found that the industrial units in question were polluting units and had not conformed with the norms prescribed by GPCB and each of the units was discharging effluents into the effluent-channel project constructed by GIDC which in turn discharged the effluents into Mahi river which ultimately reached the sea. Thus the High Court had found that there was extensive environmental degradation as a result of the pollution because of the violation of the pollution laws and on account of such damage, the High Court ordered the payment of 1% compensation as a one-time payment for pollution and damage for a number of years from 1993 to 1996. He further submitted that in no case the High Court ordered compensation without giving a finding that there was environmental degradation and damage as a result of violation or prescribed norms. He also adverted to various decisions of this Court in *M.C. Mehta* v. *Union of India*[6] to support the proposition that the measure of compensation must be correlated to the magnitude and capacity of the enterprise

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Page 6 Thursday, July 06, 2023
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because such compensation must have a deterrent effect and such damage not only extends to restitution for the harm to the environment to compensate the victims of the pollution but also cost of restoring the environment by degradation. This Court reiterated the principle of "polluter to pay" to the effect that one of the principles is to levy damages of a certain percentage of total turnover and the right to a clean and hazardless environment has been recognised as a fundamental right under Article 21 of the Constitution. The Court has innovated new methods and strategies for the purpose of securing enforcement of fundamental rights.

6. The fact that the industrial units in question have not conformed with the standards prescribed by GPCB, cannot be seriously disputed in these cases. But the question is whether that circumstance by itself can lead to the conclusion that such lapse has caused damage to environment. No finding is given on that aspect which is necessary to be ascertained because compensation to be awarded must have some broad correlation not only with the magnitude and capacity of the enterprise but also with the harm caused by it. Maybe, in a given case the percentage of the turnover itself may be a proper measure because the method to be adopted in awarding damages on the basis of "polluter-to-pay" principle has got to be practical, simple and easy in application. The appellants also do not contest the legal position that

if there is a finding that there has been degradation of environment or any damage caused to any of the victims by the activities of the industrial units certainly damages have to be paid. However, to say that mere violation of the law in not observing the norms would result in degradation of environment would not be correct.

7. Therefore, we direct the High Court to further investigate in each of these cases and find out broadly whether there has been any damage caused by any of the industrial units by their activities in not observing the norms prescribed by GPCB as reported by the Modi Committee appointed by the High Court or by an expert body like NEERI and that exercise need not be undertaken by the High Court as if the present proceeding is an action in tort but an action in public law. A broad conclusion in this regard by the High Court would be sufficient. We, therefore, direct the High Court to re-examine this aspect of the matter as to whether there is degradation of environment and as a result thereof any damage is caused to any victim, and what norms should be adopted in the matter of awarding compensation in that regard. In this process it is open to the High Court to consider whether 1% of the turnover itself would be an appropriate formula or not as applicable to the present cases.

8. We record our appreciation and gratitude to Shri T.R. Andhyarujina in assisting this Court as amicus curiae.

9. With these observations, these appeals stand disposed of.

———

† From the Judgment and Order dated 26-3-1997 and 9-5-1997 of the Gujarat High Court in C. Applns. Nos. 322, 2108 and 2949 of 1997 in SC Appln. No. 2922 of 1995 : (1997) 1 Guj LR 1062

[1] (1995) 36 Guj LR 1210

[2] (1987) 4 SCC 463 : AIR 1988 SC 1037

[3] (1995) 2 SCC 577

[4] (1995) 3 SCC 42 : 1995 SCC (L&S) 604 : AIR 1995 SC 922

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[5] (1996) 5 SCC 647

[6] (1987) 1 SCC 395 : 1987 SCC (L&S) 37

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Ax.K

BEFORE THE NATIONAL GREEN TRIBUNAL

(WESTERN ZONE) BENCH, PUNE

APPLICATION No.184/2015 (WZ)
[M.A. No.77/2016, M.A. No.194/2016, M.A. No.186/2016]

CORAM:

HON'BLE DR. JUSTICE JAWAD RAHIM
(JUDICIAL MEMBER)
HON'BLE DR. AJAY A.DESHPANDE
(EXPERT MEMBER)

In the Matter of:

Mr. Tanaji Balasaheb Gambhire
Age : Adult, Occupation : Service
R/o. Flat No.16, CTS-296, Laxmi Apartment, Near Shivaji Maratha High School, White House Lane, Shukrawar Peth, Pune – 411 002.

....**APPLICANT**

VERSUS

1. **The Union of India,**
   Through the Ministry of Environment & Forest,
   Government of India,
   Paryavaran Bhawan, CGO Complex,
   Lodhi Road, New Delhi-110 003.

2. **The Principal Secretary,**
   Environment Department,
   Government of Maharashtra,
   15th Floor, New Administrative Building,
   Mantralaya, Mumbai – 400 032.

3. **State Level Environment Impact Assessment Authority**
   Through Member Secretary
   15th Floor, New Administrative Building
   Mantralaya, Mumbai – 400 032.

4. **Maharashtra Pollution Control Board**
Through its Member Secretary,
Kalptaru Point, 3rd Floor, Near Sion Circle,
Opp. Cine Planet Cinema, Sion (E),
Mumbai.

5. **Maharashtra Pollution Control Board**
Through its Regional Officer, SRO-1
Jog Centre, 3rd Floor, Mumbai-Pune Road,
Wakadewadi, Pune – 411 003.

6. **Pune Municipal Commissioner**
PMC Building, Shivajinagar,
Pune – 411 005.

7. **City Engineer**
Pune Municipal Corporation,
PMC Building, Shivajinagar,
Pune – 411 005.

8. **District Collector – Pune**
President – District Environment Committee,
Pune.

9. **M/s. Goel Ganga Developers India Pvt. Ltd.**
3rd Floor, San Mahu Complex,
Opp. Poona Club, 5, Bund Garden,
Pune – 411 001.

.....**RESPONDENTS**

Counsel for Applicant(s):

Mr. Shriram P. Pingle, Advocate

Counsel for Respondent(s):

Mr. S.S. Sanyal, Advocate a/w Mrs. Supriya Dangare, Advocate for Respondent Nos.4 and 5
Mr. P.S. Suryavanshi, Adv. for Respondent Nos.6 & 7
Mr. S.V. Mishra, Senior Advocate a/w Mr. Sachin S. Bhalerao, Advocate for Respondent No.9

Date: 27th September, 2016

ORDER/JUDGMENT

1. This Application, numbered as 184/2015 invoking jurisdiction of this Tribunal, is under Section 14 and 15 of the National Green Tribunal Act, 2010

(for short 'NGT Act'). The Applicant Tanaji Balasaheb Gambhire has sought certain directions against the 9th Respondent – Project Proponent (PP) M/s Goel Ganga Developers India Private Limited who is said to have envisaged construction venture to construct a commercial and residential complex.

2. In the Application, the Applicant has sought following directions:

A. Direct the Respondents to demolish the illegal structures at the site in question and restore the area to its original position.

B. Direct the State Level Impact Assessment Authority and the Maharashtra State Pollution Control Board to initiate appropriate action against the project proponent for violation of the provisions of EIA notification, 2006 and other applicable laws.

C. Direct Respondent No.2 to take appropriate action against the State Level Impact Assessment Authority for granting environment clearance in violation of the provisions of EIA Notification, 2006.

D. Direct the State Level Impact Assessment Authority and the Maharashtra State Pollution Control Board to disclose all such projects which have been granted post facto clearance or have been constructed without taking prior environment clearance.

E. Having regard to the damage to the public health, property and environment, principles of sustainable development and polluter pays principles and direct the Respondent No.9 to

deposit a heavy amount of compensation to the environment relief fund.

3. In support of the reliefs so sought, he has averred factual and legal aspects to which we shall refer briefly now.

a. The 9th Respondent obtained Environmental Clearnace (for short 'EC') for its project at Survery Nos.35 to 40 in Village Vadgaon Budruk, Sinhagad Road, Pune. The project conceived and approved by said EC is to construct 12 buildings with stilt, basment plus 11 floors vertically for 552 flats, 50 shops and 34 offices. The total plot area is 79,100 sq.mts while the total built-up area is to 57,658.42 sq.mtrs.

b. The EC was obtained by the 9th Respondent-PP on 4th April, 2008 and thereafter, PP has commenced construction activity. The Applicant has not brought in question the EC dated 4th April, 2008 but has other serious grievances.

c. The Applicant would contend that after the project of 9th Respondent–PP has sufficiently progressed, the Member Secretray of Maharashtra Pollution Control Board (MPCB) caused inspection of the construction activity on 31st August, 2015 and thereafter, granted a personal hearing to the Respondent No.9-PP in respect of MPCB findings. The Minutes of the Meeting held on 31st August, 2015 show that the Regional Officer of the MPCB had reported non-compliance of the terms on which EC was granted to the 9th Respondent. In that, there is clear statement that though the EC was for construction of 12 buildings but the Respondent No.9-PP has built 15 buildings and increased

number of flats from 552 to 738 as also the number of shops was increased from 84 to 111.

d. The Minutes of the Meeting further show that the representative of PP had accepted the non-compliance to the conditions of EC in increasing the construction of number of buildings, number of flats, offices and shops.

e. The Minutes of the Meeting would also record that consent for additional building of Ground plus 30 Floor was not taken though the civil work of its construction was in progress.

4. The Applicant relies on such material information recorded in the Meeting to contend that there was clear finding on inspection by the competent authority i.e. MPCB that the Respondent No.9-PP had not complied with the conditions of the EC granted. Reference is also made to the fact that MPCB having noticed such non-compliance had directed the Respondent No.9-PP to voluntarily stop construction activity till modified EC is obtained. Consequently, having noticed deliberate violation of the conditions of EC and non-compliance of its voluntary closure directions, MPCB had issued direction not only for stopping further construction activity but directed disconnection of electricity to the project by its Order dated 30th September, 2015.

5. The Applicant further points out that despite such lapses on the part of the Respondent No.9-PP, it

managed to get the Occupancy Certificate for part of the project which is complete and has virtually occupied it. This, according to the Applicant, is in total violation of the legal mandate that mandatory consent of operate should be obtained before the project activity is undertaken.

6. Amongst other issues raised he points out to the fact that building plan for construction activity of the project was revised by Respondent No.9-PP nine times. This, according to him, illustrates the significant modification in the scale of construction in terms of area, plinth area and floor heights, besides change in lay-out scheme. Refering to condition No.5 of the EC. It is alleged that the scope of the project in terms of built up area has changed. Moreover, the project lay-out as well as number of buildings also has substantially changed. Thus, the Respondent No.9-PP was obliged to obtain modified EC before undertaking such activity which is in total deviation to the original EC. Citing numerous statistical data, the Applicant would further claim that the construction activity carried out by the Repsondent-9 PP has grossly exceeded the scope of the project as approved by EC in terms of built up area and configuration of project.

7. Based on these facts, he would contend that the project activity is not as per the proposal which

was considered and approved by Ministry of Environment and Forest while granting the original EC on 4th April, 2008 and therefore there is gross violation of EC condition.

8. The other contention urged by the Applicant is to indicate failure on the part of the Statutory Authorities like Pune Municipal Corporation (PMC), State Level Environment Impact Assessment Authority (SEIAA), Department of Environment, State of Maharashtra (DoE) in discharge of its statutory functions. In this regard, he contends that Pune Municipal Corporation (for short 'PMC') was well aware of such violations but granted Completion Certificate. Reference was made to page-36 of the Rejoinder where it is stated that violation of non-compliance of EC was well within the knowledge of the concerned officer of PMC. He then refers to the action taken by Deputy Engineer of Building Construction Department of PMC who having realised the blanket violation of EC then, had directed Respondent No.9-PP on 20.2.2015 not to continue construction activity without obtaining amended EC. It is alleged, despite such clear direction of the Deputy Engineer, the Respondent No.9-PP continued construction as per its revised approved lay-out by PMC which depended totally on the validity of the EC. Thus, he contends

that grant of revised lay-out plan by PMC itself is not tenable and consequently the construction activity being illegal needs to be restrained.

9. In this regard he would refer to the order passed by PMC imposing fine of Rs.1,57,00,000/- for illegal occupancy of part of the project building which Respondent No.9-PP without remorse has accepted and deposited on 23rd October, 2015.

10. The Applicant has further alleged total inaction on the part of SEAC and SEIAA and to substantiate his contention refers to the material on record which shows that SEAC sub-committee visited the project site on 29th February, 2014 with an object to verify compliance of the 2008 EC conditions. During such visit, it noticed non-compliance of the EC by Respondent No.9-PP but conveniently failed to record that Respondent No.9-PP had increased the project activity in terms of buildings, built-up area, etc. The report of SEAC Committee is described as cursory, casual, unscientific and against realities. It is only later that SEIAA on the basis of query/complaint of Applicant, on 3rd August, 2015 took action and in this regard proposed directions were issued under provisions of Section 5 of Environment (Protection) Act, 1986, by State Department of Environment (DOE) in August 2015 and thereafter, no follow up action

was taken in terms of the directions. SEIAA which is competent to take independent decision and action against the violators of EC conditions and Project Proponents has failed to initiate any action. What he tries to say is that SEIAA, being specialised body, should have used its conferred power to take action rather than referring or depending on the action taken by Department of Environment. Thus, he contends that SEAC, SEIAA and DOE have jointly and severally failed to discharge its statutory function in taking appropriate legal permissible action against Respondent No.9-PP restraining such illegal activity for non-compliance thereby enabling the Respondent No.9-PP to further violate the EC mandate. He would contend that by keeping the proceedings before it, SEIAA has virtually allowed the Project Proponent to proceed with the illegal construction thereby wandering DoE direction issued on 3rd August, 2015.

11. On above set of facts, he has sought certain reliefs as recorded by us in the para supra.

12. On admission of this Application, Notice was caused to all the Respondents who are total nine in numbers. Amongst them Union of India through Ministry of Environment and Forest -1st Respondent, The Principal Secretary, Environment Department – 2nd Respondent, State Level Environment Impact

Assessment Authority – 3rd Respondent, Maharashtra Pollution Control Board – 3rd Respondent, Regional Officer, Maharashtra Pollution Control Board – 5th Respondent, Pune Municipal Corporation – 6th Respondent, City Engineer, Pune Municipal Corporation – 7th Respondent, District Collector, Pune – 8th Respondent, M/s. Goel Ganga Developers India Pvt. Ltd. – 9th Respondent. Amongst all, initially the Respondent No.9-PP resisted the proceedings but we have noticed a very strange conduct of the Secretary of Department of Environment falling in line with the Respondent No.9-PP as could be seen from the conduct.

13. The record would show that all the Respondents have responded to the Notice in this Application as recorded by us on 23rd December, 2015. Certain observations made in the preamble of that Order at paragraph Nos.1 and 2, would itself show that this Tribunal had taken a note o6 the manner in which the Respondents reacted to initiation of the action by the Applicant. In para No 2-3 at page-2 of the Order and the last para on the same page, we have summarised what we noticed. Ultimately being convinced that the Applicant had made out prima facie case for grant of interim relief, lest, the Respondent No.9-PP emboldened by the inaction on

the part of Statutory Authorities as likely to proceed with the construction activity which was shown by the Applicant to be legally impermissible if restrained, orders were passed against Respondent-9 PP. We had also simultaneously directed PMC to ensure that no further construction of whatsoever nature is carried out and called for report from it regarding what is the status of construction at the site within 10 days. As is expected, Respondent No.9-PP entered contest and sought vacating the Interim Order but when confronted with certain factual aspects, made a statement that no construction activity is going on and it has stopped the construction. We feel it will be worth to record that we have taken into consideration contention urged on behalf of the Respondent No.9-PP to seek vacating of the order but we opined that let the pleadings be completed to allow all stakeholders who virtually prosecute and defend action through this Application. We also see from proceeding, considering the urgency, this Application was initially heard on merit in part. This is exactly what the Respondent No.9-PP also submitted on 16th March, 2016 persuading us to expedite the hearing.

14. We have thus heard substantially the learned Counsel for the Applicant, Respondent Nos.1 to 8 and

the learned Senior Counsel Mr. Mishra assisted by Mr. Sachin Bhalerao for the Respondent No.9-PP.

15. We have given our careful consideration to all the legal and factual contentions urged by learned Advocates. While the learned Counsel for the Applicant relies mainly on the original EC dated 4th April, 2008 and present factual aspect showing there is marked difference in the project itself and the project has virtually changed from what it was originally conceived in terms of increase of number of buildings, plinth area, shops and other commercial activities. We have summarized the contentions of the Applicant and would like to repeat it as the same is relied upon by the Applicant.

16. Now, we need to refer to contentions of Mr. Mishra, the learned Senior Counsel for Respondent No.9-PP who in his persuasive eloquence asserted that project as conceived itself was legally permissible and during construction activity they have ensured there is absolutely no violation of any statutory regulations. He would contend that present construction activity, in terms of the FSI i.e BUA, is within the legally permissible limit and thus, refers to the numerical numbers by which the extent is measured. The affidavit filed in this case by Mr. Atul Jaiprakash Goel representing Respondent No.9-PP contains a

statement in para-14 to the fact that EC dated 4th April, 2008 issued by MoEF was to allow construction activity comprising of the utilization of the F.S.I (Floor Space Index)/BUA, to the extent of 57,658.42 sq.mtrs., based on the conceptual plan prepared by Respondent No.9. He further states that granting of permission to utilize FSI to the extent of 57,658.42 sq.mtrs was will within the EC limits.

17. On the basis of such statement, Mr. Mishra would submit that at any stretch of imagination, the contention of the Applicant cannot be sustained because he is trying to allege violation when the constructed structure is well within sanctioned FSI/BUA of 57,658.42 sq.mtrs.

18. He would further rely on an order passed by Secretary, Department of Environment on 31st May, 2016 No.C.A.-2015/CR-6/TC-3 which is produced before this Tribunal after this case was reserved for judgment on 23rd May 2016. Relying on it, he would submit that SEIAA who had issued direction on 30th August, 2015 to stop construction activity had referred the matter to Department of Environment for considering explanation of Respondent No.9-PP and pass appropriate order. He submitted that such an exercise by DOE/SEIAA was in terms of the Order

passed by this Tribunal on 23rd February, 2016 in M.A. No.21/2016 to the following effect:

"Heard. Perused record.

Service of Notice is waived on behalf of MoEF&CC. Replies have been filed by Respondent Nos.2, 3, 4, 5,6, 7 & 9. Law Officer appearing on behalf of Respondent No.8 submits that reply filed by Respondent No.5 MPCB is adopted as the reply of Respondent No.8. Rejoinder dated 22nd February, 2016 to the reply of Respondent No.9 is tendered. Copies of the rejoinder have been furnished to the Respondents.

M.A. No.21/2016

This Application has been moved for a mandate not to issue ex-post facto environmental clearance to Project Proponent Respondent No.9. Learned Counsel appearing on behalf of Authorities Respondent Nos.2 and 3 makes a statement that they will be dealing with the application moved by Respondent No.9 for grant of environmental clearance strictly in accordance with law. In view of the statement made, we do not wish to interfere in the process of law.

Learned Counsel appearing for the Applicant submits that the Application be disposed of in terms of the statement made by the concerned Authorities Respondent Nos.2 and 3. Accordingly, this Applications stands disposed of with no order as to costs.

M.A. No.21/2016 thus stands disposed of.

E.A.No. 5/2016

As regards Execution Application No.5/2016, learned counsel appearing on behalf of Applicant seeks liberty to carry out amendment in the Application so as to bring into focus the violation of the interim order dated 23rd December 2015, in relation to specific building construction and remedy available under the National Green Tribunal Act, 2010, before this Tribunal. Liberty granted to the Applicant to make necessary amendment in E.A.. Amendment shall be made within a week. Copies of the amended Application shall be furnished to the learned counsel appearing on behalf of Respondents. Respondents may file replies to the amended Application within a week thereafter. Advance copies of the replies be furnished to the Applicant who may file re-joinder thereto, if any, within three (3) days thereafter.

List this case for further consideration on 16th March 2016."

19. Thus he contends that this Tribunal itself had directed the SEIAA to consider request of the Respondent No.9-PP for modification of the EC and

thus SEIAA being competent authority in that process thought fit to refer the case of the Respondent No.9-PP to Environment Department to take a decision about the violation before considering the request of the Respondent No.9-PP for modification of the EC to allow a larger construction activity.

20. He would submit that extent of 57,658.42 sq.mtrs structure cannot be described as being in excess of the permissible limit of the EC dated 4th April, 2008.

21. With reference to what transpired later, he would submit that Respondent No.9-PP having satisfied the PMC has received the Completion Certificate in respect of part of the building that itself is sufficient to establish its project is assessed as valid, permitting grant of Completion Certificate.

22. At this juncture, we would emphasise that the Applicant had seriously challenged the order passed by Secretary, Environment Department on 31st May, 2016 describing the order as a result of direct collusion between the officer concerned and Respondent No.9-PP to defeat any order that would be passed in this proceedings. He had through his Counsel sought opportunity to file an affidavit against the affidavit of the Respondent No.9-PP who wanted this Tribunal to take note of the order dated 31st May, 2016.

23. We have perused the proceedings with reference to the relevant date on which the arguments were heard on merit and date of posting of case reserved for judgment. The application was heard on merit on 23rd May, 2016 and reserved for judgment. During such period the order dated 31st May, 2016 has been passed by the Officer referred to above. Besides, the Learned Counsel Mr. Misra on behalf of project proponent requested us to take on record the order dated 31st May, 2016 before passing the Judgment. We took notice of the said order. In these circumstances the Learned Counsel for the applicant took opportunity to file counter to the affidavit filed by the project proponent producing the order dated 31st May, 2016. It is quite evident that the officer concerned who has passed the order in question is representing the respondent no. 2 in this case. Thus, he is deemed to have knowledge of all the stages which this case has passed and the fact that the case was reserved for judgment by the Tribunal. It is in this context the order dated 31st May, 2016 passed during the period case is pending final decision generates questionable circumstances. Further, it is seen that this order i.e. 31st May, 2016 has been passed several months after the DoE issued directions to the project proponent to stop constructions activity on the basis that the project

activity is contravening the conditions of EC dated 4th April, 2008. In these circumstances we have heard the case again on merit with reference to order passed by Principal Secretary, DoE dated 31st May, 2016 as desired by the project proponent himself.

24. We had allowed sufficient opportunity to Respondent No.9-PP and also Department of Environment and PMC represented by Mr. D.M.Gupte, learned Counsel respectively.

25. It is material to incorporate the relevant portion of the order dated 31st May, 2016 passed by Secretary DoE, Government of Maharashtra for clarity which reads thus:

> *" We also refer to the clarification issued by the MoEF, G.O.I. by amendment in EIA Notification 2006 dtd. 4-4-2011, wherein the BUA was defined. Prior to the amendment in EIA Notification 2006 dtd. 4-4-2011 there was an ambiguity in definition of BUA. The EC granted by the MoEF, GOI vide letter dtd. 4-4-2008 for construction of total BUA 57658.42 sq.m. at site was prior to clarification issued by the MoEF, GOI dtd. 4-4-2011 and on the basis of the conceptual plan. Therefore, the same will apply prospectively and not with the retro-prospective effect.*
>
> *Therefore, it reveals that even though you have constructed 18 buildings at site instead of 12 buildings by changing configuration of buildings, the total BUA (i.e.FSI) constructed at site is 48617.14 sq.m. which is within E.C. limit. It also reveals from the inspection report of the Pune Municipal Corporation dtd. 2-1-2016 that the actual construction carried out at site is 99416.72 sq.m. at plot No.1 and 2 (i.e. FSI-48617.14 sq.m. + Non-FSI – 50799.58 sq.m.) but the FSI constructed at site is 48617.14 sq.m. which is less than the total BUA admeasuring 57658.42 sq.m. permitted in the previous EC granted by the MoEF, GOI dtd. 4-4-2008. Hence, it is hereby concluded that there is no case of violation as prescribed in the EIA Notification, 2006 and accordingly the Proposed Directions issued vide above referred (1) is hereby withdrawn."*

26. From the extracted portion of the order it is clear that Secretary, DOE as virtually declared the activity of the Respondent No.9-PP has wholly legal, permissible and in support thereof has virtually granted a clean chit and certified the project as of now to be well within the permissible limits. It is material to note that the officer concerned has referred to FSI and BUA being same synonym of one aspect. How far this assertion in the order of the officer is legal and factually correct. Hence it needs to be dealt with in detail for the reason, the decision as to whether the construction activity of the Respondent No.9-PP is legal or contravenes any of the environment clearance depend upon clear definition of FSI and BUA in terms of its extent. We had thus called upon PMC to file a statement explaining the distinction between the extent of area covered under BUA (built-up area). We are dismayed at the fact that neither the PMC nor the Environment Department has seriously examined what is F.S.I and BUA. Thus, we gave one more opportunity to which PMC responded through its affidavit dated 17th August, 2016 to which we shall refer.

27. The Deputy Engineer, PMC report which has been relied by Principal Secretary, DOE contains the present level of construction, the comparison of the

F.S.I and Non F.S.I area gives startling factual information. It needs reference and as is extracted herein:

PMC report. Dy. Engineer (BP) dated. 19-12-2015.	PMC Report dt. 17-08-2016		
Total BUA (i.e. FSI) = 48617.14 sq.m.	Built-up Area		
	Plot	F.S.I.	Non F.S.I
	1	48424.66	46088.47
	2	630.55	4858.57

28. We shall now refer to what the term Built-up area and Floor Spacing Index (F.S.I.) would mean in the domain of assessment of permissibility of the project activity with reference to the environment clearance certificate granted. It would be therefore pertinent to refer to the provisions of Development Building Rules of PMC and the project activity approved by the EC of 2008.

29. The Environment Clearance dated 4th April 2008, has clear project description which unambiguously set the project limits.

> *The project proponent is proposing for construction of group housing project at S.No.35 to 40. Village Vadgaon Budruk, Singhad Road, Pune, Maharashtra at a cost of Rs.10,737.14 lakh. The project involves construction of 12 building with Stilt, basement plus 11 floors for 502 flats, 50 shops and 34 offices. The total plot area is 79,100.0 sq.m. Total built up area as indicated is 57,658.42 sq. m. Total water requirement will be 745 KLD and 400 KLD of waste water will be generated from the buildings which will be treated in Sewage Treatment Plant. The treated wastewater will be used for landscaping, DG set cooling and Horticulture purpose. The solid waste generated from the buildings will be 1500 kg./day and disposed as per the MSW Rules, 2000. The parking space is proposed for parking of 1072 cars. (Emphasis provided)*

30. It is manifest from the above referred EC that while granting the EC, the authority had appraised the project with certain configuration and more pertinently, the Total Built up area. There is no reference to the term FSI area i.e. floor space index area. There is no ambiguity in the contents of EC and therefore, what can be seen from the plain reading of the EC is that the EC granted is circumscribed by the project description including its configuration and the Total built up area.

31. The term built up area has been well established in the parlance of Civil Engineering and Town Planning. The MRTP Act, which regulate Regional and Town Planning in the state, authorise Municipal Corporation to have its own Rules, and PMC has notified the development control rules under the MRTP act in order to regulate the development activities in the corporation area. In order to clarify the existing position and the understanding of the terms, Built-up area and F.S.I., it would be pertinent to refer to the 'Development Control Rules of the PMC, Pune, 1982'. Undoubtedly, both Respondent No.9-PP and PMC are required to comply with the Environment Clearance Regulations in terms of the building permissions granted by PMC to Respondent No.9-PP under the powers conferred upon PMC by the above

said rules. The said Rules define 'built up area' and FAR/FSI and the relevant definitions from these rules are abstracted below :

2.1.3 : Built up area *– Area covered immediately above the plinth level by the building or external area of upper floor whichever is more accepting the areas covered by Rule 15.4.2.*

2.39 : Floor area Ratio (F.A.R.) *-- The quotient obtained by dividing the total covered area (plinth area) on all floors excluding exempted areas as given in Rule No.15.4.2 by the area of the plot.*

$$F.A.R. = \frac{\text{Total covered area on all floors.}}{\text{Plot area.}}$$

Note : The term F.A.R. is synonymous with floor Space Index (F.S.I.)

32. From these definitions it is manifestly clear that the terms "built up area" and FSI/FAR are distinct and have different interpretation altogether. This would further negate the contention of Respondent No.9-PP that the term "built up area" was not clarified until the clarification issued by MoEF on 4th April, 2011. There could be ambiguity in calculation of built up area as per earlier Environment Clearance Regulations, but this cannot be stretched under any circumstances to take a plea that the built up area and FSI are synonymous and inter-changeable terminologies. We cannot accept but reject in totality the submissions made by PMC and the Respondent No.9-PP in this regard.

33. Though, much has been claimed by Respondent No.9-PP regarding the clarificatory notification of MoEF dated 4th April 2011, wherein the term built up area has been clarified, we do not find any confusion or contradiction in definition of terms BUA and FSI. The Respondent No.9-PP is a major developer and must be well versed with these terminologies.

34. From the material referred to above, it leaves no scope for doubt that F.S.I. and BUA are two terms which apply with a distinction defining different extent of area.

35. It will shake the conscious of all concerned when we see a deliberate attempt on the part of DoE, SEAC and SEIAA to confuse the issue virtually falling in line with misleading statements of Respondent No.9-PP and Deputy Engineer, PMC. It is astonishing that both Respondent No.9-PP and Deputy Engineer, PMC refer to BUA as F.S.I. Despite such clear distinction in definitions and interpretations of BUA and FSI, they had attempted to mislead DoE, SEAC and SEIAA in believing that BUA and F.S.I are same. We expect an officer conferred with professional duty as 06 an engineer in the Department of Building Permission of PMC to be very meticulous in at least understanding the terms which make lot of difference

to the fact of construction. We least expected 06 him as to know the distinction between BUA and FSI, as administration of Corporation would depend upon his professional advice and technical expertise to take action against the erring parties who contravene the mandate of law for safeguarding the interest of citizens which the Corporation is required to protect. We are also constrained to observe that the higher authorities of Building permission department had closed their eyes even when such incorrect affidavits are filed before the Tribunal and such misleading reports are sent to state authorities like DoE, SEAC and SEIAA.

36. Therefore, un-hesitatingly we could observe that the report dated 19th December, 2015 of the Deputy Engineer is a compromised statement to paint a wrong picture of the project firstly to suppress deviation and secondly to create ambiguity in definition of the terms of F.S.I. and BUA to help Respondent No.9-PP to obtain orders from the other authorities. This is unveiled from the affidavit filed by PMC dated 17th August, 2016 in pursuance to our Order dated 2nd August, 2016. The details mentioned therein are as follows:

	Built-up Area	
Plot	F.S.I.	Non F.S.I

1 2	48424.66 630.55	46088.47 4858.57

37. We have also taken a judicial note of the fact that considering such complexity in Environment issues, MoEF had constituted Multi-disciplinary SEAC/SEIAA and had authorised it to take action against violation. SEAC and SEIAA have the necessary experience and expertise to identify violations independently by expert advice and application of mind, based on inputs from field authorities. What we observe here is that Principal Secretary of DoE just relied upon a report filed by junior most official of PMC and without any independent appraisal PS, DoE has held that construction of 18 buildings at site instead of 12 buildings, is allowed within the allowable BUA as per Environment Clearance. We do not find any environment impact appraisal or reasoning for such a finding. When openly excavation of the soil and damage to underground water is being impating the environment. No independent assessment or appraised is done.

38. We are, therefore clear in our mind that Applicant has substantiated that the original project conceived by Respondent No.9-PP had to confine to what was sanctioned under the EC dated 4th April, 2008 and any extra construction or increase in

building, plinth commercial structures, shops and flats should have support of modified EC. As of now, since no modified EC has been granted, the extent of project activity cannot increase beyond the limit circumscribed by EC dated 4th April, 2008. Any such activity or construction beyond permissible limits cannot be saved by jugglery of words, misinterpreting against the statutory definition of F.S.I. and BUA.

39. We are further satisfied that the Principal Secretary, Environment Department who has authored the order dated 31st May, 2016 has lot to explain for the reason the ultimate declaration made by him in the order declaring construction activity of Respondent No.9-PP to be in permissible limit of F.S.I. is result of his mis-interpretation of the terms F.S.I. and BUA and reflects non-application of mind.

40. The prime issue that arises for consideration in this case is as to whether the construction activity of Respondent No.9-PP, is exceeding the sanction accorded by the EC. Could the Respondent No.9-PP proceed with construction without obtaining modified EC. The answer is obviously No.

41. For the reasons aforesaid, we answer the above issue in the negative hold that the construction activity of Respondent No.9-PP to the extent it exceeds the permissible limits as per EC cannot be saved and

shall stop, subject to the grant of modified EC by competent authority.

42. From the extracted portion of the order dated 31st May, 2016 of Principal Secretary, Environment Department, it is seen that he has declared construction of 18 buildings on the site instead of 12 buildings is permissible which, according to him, only a changes on configuration of buildings. This opinion undoubtedly is based on his erroneous conclusion that total BUA which is nothing but F.S.I. consumed i.e. 48617.14 sq.mts which is within the EC limit as against the actual construction activity which has exceeded over 100000 sq.mtrs BUA. Hence we set aside that order/communication dated 31st May, 2016.

43. Besides, another issue which confronts us based on these violations is what should be the consequence of such violation. Un-hesitatingly, it can be held that the consequences of such contravention and illegal construction will be adverse on the environment and ultimately it will lead to several incidental causes of action. That will follow if the Respondent No.9-PP is allowed to continue the illegal activity as has been done by order dated 31st May, 2016. The complexity in environmental issues therefore requires a meticulous examination and dispassionately conclusion and finding.

44. Apart from the legal issues, we further notice that if not illegality in the order of PS DoE in question, it is certainly impropriety because the officer is deemed to have been informed of the fact that this Tribunal is seized of the matter and has reserved the case for judgment on 23.5.2016 after giving full opportunity to Department which the officer in question represents as Respondent No.2. Hence, he cannot plead ignorance of the fact that the case was posted for judgment in the circumstances he should have allowed adjudication by the Tribunal to take final decision on the main issue about the violation of the EC conditions based on the alleged enlarged construction activity. We also do not find merit in contention of learned Sr. counsel Shri. Mishra that such an order is line with the liberty given to SEIAA by Tribunal on 23.2.2016 to deal the application of PP for expansion of project on merit because the order in question is not related to EC but a decision of the proceedings of proposed directions under Environment (Protection) Act, 1986, which were issued by department in August 2015.

45. With these findings, it is now necessary to consider the reliefs sought by the Applicant in this Application. He has sought demolition of the illegal structures and other consequential reliefs. Learned

counsel appearing for the Applicant has strenuously argued that all these violations have been done by the repsonent-9 PP in total connivance with the authorities mainly the PMC and DoE. He has even cited a visit report of SEAC expert committee to suggest the gross inadequacy in the visit report the committee.

46. It is now a matter of record that the construction of the project in question is near completion and even the occupancy certificate is granted partially. We need to consider the fact that the project in question is primarily a residential project and many individuals have invested their money in the project for meeting need for residential accommodation by having a house in city like Pune. Any order to demolish structure would also adversely affect them. The Respondent-9 has already created 3rd party rights. Though the Respondent-9 has blatantly violated the conditions of EC, we also note the total lack of supervision and enforcement at PMC level has resulted in such illegal activity.

47. The Tribunal is expected to apart on the principles of Sustainable Development and Polluter pays principle. We are conscious of the fact that Polluter pays Principle shall not be construed as 'pay and pollute principle', and the payment has therefore

to be exemplary and deterrent in order to pass a clear message that environmental compliance is supreme and the party which is non-complying the environmental standards shall be at economic disadvantage.

48. In this regard, we would like to refer to approach taken by the Hon'ble Principal Bench of National Green Tribunal, New Delhi in Original Application No.24/2011 "Samir Mehta Vrs. Union of India & Ors." Where the Bench has noted that :

> *"The Supreme Court of India, in the case of Sterlite Industries India Ltd. V. Union of India 2013 (4) SCC 575 had held that where the industry had violated the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and had operated without obtaining consent, it was liable to pay damages of Rs.100 crores for the default period. The Court applied the Rule of Strict Liability but did not strictly compute the damages with exactitude. It only enforced the liability on general principle for awarding of damages for non-compliance to the law in force. In fact, any other approach would run contra to the Principle of Strict Liability. This judgment has been followed by the Tribunal in a large number of cases. Reference can be made to the cases of S.P. Muthuraman 2015 ALL (I) NGT Reporter (2) (Delhi) 170, Krishan Kant Singh V. National Ganga River Basin Authority (2014) ALL (I) NGT Reporter 3 (Delhi) 1 and M.C. Mehta V. Kamal Nath & Ors. AIR 2002 SC 1515. Thus, we are of the considered view that the determined damages of Rs.100 crores should be paid by and recovered from Respondents No.5, 7 and 11, jointly and severally while Respondent No.6 is held liable to pay Rs.5 crores as environmental compensation for dumping of the cargo in the sea and then failing to take any precautionary or preventive measures. The consignment of 60054 MT of coal has caused marine pollution and continues to be a cause and concern for environmental pollution. The Respondents are defaulting entities which have not complied with law and have adopted a most careless and reckless attitude in relation to protecting the marine environment."*

49. We also refer to the judgment of Hon'ble Principal Bench in the matter of Krishnlal Gera Vrs.

State of Haryana (Appeal No.22 of 2015 dated 25th August 2015) wherein the Tribunal has dealt with a matter regarding construction activities without the necessary prior environmental clearance. In para 58 and 59 of the judgment after discussing the legal framework, the Tribunal has imposed environmental compensation cost of 5 % (percent) of the total cost for restoration and restitution of the environment, in addition to payment of Rs.5 crores for violating the Law and starting and completing the project without obtaining environmental clearance, on the project proponent. These directions were issued in consonance with the dictum of Hon'ble Supreme Court.

> *"Since the Project Proponent may not be directed to demolish the structure at this stage, but, shall strictly comply with the directions that we propose to pass in the present case. The scope and ambit of such directions has to be in terms of the Act of 1986 circumscribed by the statutory jurisdiction of this Tribunal. Upon detailed discussion of the laws in force, the Tribunal in the case of S.P. Muthuraman (supra) has clearly held that such directions can be issued by the Tribunal."*

50. The Principal Bench in "*Appeal No.7/2015 in the matter of Jalbiradari and Others Vrs. MoEF*" pronounced on 31st May 2016, has also considered the legal consequences in case of quashing the environmental clearance for construction project, particularly with regard to the "*fate accompli*" situation.

16. ----------

---------- -The inevitable consequence could be the Tribunal has dealt with quashing of the Environmental Clearance and set the project at in or they be directed to maintain status quo as on the date of determination. The Tribunal has dealt with large number of cases filing under the category "fate-accompli situation". There are large numbers of projects which have started their construction activity or other activities without even complying Environmental Clearance and the projects were largely completed and then either Environmental Clearance was granted or their cases for granting Environmental Clearance were delisted. In those cases following the principle of Sustainable Development and Polluter Pays Principal, the Tribunal imposed Environmental Compensation on the project proponent for degrading/damaging the environment for starting the project without complying with the provisions of law and for violating the orders and directions. The works of those projects were stopped and a Committee was appointed to revisit for grant/consideration of the Environmental Clearance and fresh Environmental Clearance orders were issued. Even where demolition was required the same was directed. All these cases have been decided by the larger bench of the Tribunal and clearly state the binding precedent. References can be mad made to S.P. Muthuraman v. Union of India & Ors., 2015 ALL (I) NGT REPORTER (2) (DELHI) 170; Krishan Lal Gera v. State of Haryana & Ors., Appeal No. 22 of 2015 (pronounced on 25th August, 2015) & Forward Foundation & Ors. v State of Karnataka & Ors., O.A. No. 222 of 2014 (pronounced on 7th May, 2015). In these judgments, various judgments of the Hon'ble Supreme Court have been considered by the Bench. The purpose and object of the law including CRZ Notification, Environmental Clearance is to strictly regulate the development so as to prevent causing of damage of the nature and ecology. The cases are not the cases of irreparable or irreversible situations. Largely, the

> *90 per cent of the projects were has already been completed except some other parts of the project. There can be proper regulations on these projects, as otherwise it will only lead to colossal waste of public funds. It will result in dual disadvantage, firstly, wastage of public funds and secondly, and more importantly the demolition of the project itself would generate so much of waste and other materials that this will become a huge environmental hazard itself. The cases are not one, which are incapable of reprisal or re-appreciation. Damage to the environment and ecology to some extent has already been caused. It will be more useful to take remedial and restorative steps. They have acted in breach of the law and carried on with their activity in an unauthorized and illegal manner.* ----------

51. We are also inclined to adopt the approach taken by the Bench in the interest of justice and fair play and based on the facts and circumstances of the case. The construction activity is not a prohibited activity in the subject, but a regulated activity. We also take a judicial note of the fact that the demolition of structures in question would also result in further environmental damage and generation of construction waste. Other option which could have been explored is asking the government to take over the additional construction and use it for public purpose but as noted above, already third party rights have been created, may be partially.

52. The purpose and object of the law including Environmental Clearance is to strictly regulate the

development so as to prevent causing of damage of the environment and ecology. Though in the present case substantial damage has been caused to the environment and ecology, it will be more useful to take remedial and restorative steps.

53. The Respondent-9 is a defaulting entity which has not complied with law and has adopted a most careless and reckless attitude in relation to protecting the environment. The other Respondents, particularly the PMC and DoE have been the either the mute spectator or have not performed their statutory duties. However, we would note with appreciation that it is only MPCB that has acted on the complaints of the Applicants and have diligently taken legal actions besides bringing on record the non-compliances by Respondent-9 PP.

54. For the aforesaid reasons, the Applicant succeeds in his legal pursuit to challenge the non-compliance of EC conditions by the Respondent-9 and obtain certain directions. Hence the Application is allowed and we issue following directions:

1. The Respondent No.9-PP shall pay environmental compensation cost of Rs.100 crores or 5 % (Five percent) of the total cost of project to be assessed by SEAC whichever is less for restoration and restitution of environment damages and degradation caused by the project proponent by carrying out the construction activities without the necessary prior

environmental clearance within a period of one month. In addition to this, it shall also pay a sum of Rs. 5 crores for contravening mandatory provision of several Environment Laws in carrying out the construction activities in addition to and exceeding limit of the available environment clearance and for not obtaining the consent from the Board.

2. In view of our finding that there has been manifest, deliberate or otherwise suppression of facts of illegality in the project activity of Respondent No.9-PP by the officer of PMC, we impose fine of Rs.5 Lakhs upon the PMC and direct Commissioner PMC to take appropriate action against the erring officers. The amount of Rs. 5 Lakh shall be paid within one month.

3. We direct the Chief Secretary, State of Maharashtra and the competent authority to take notice of the conduct of the officers concerned who have misled the Department of Environment in the matter relating to interpretation of F.S.I. and BUA in terms of which order dated 31st May, 2016 has been issued in particular the Principal Secretary, Department of Environment who has authored the order dated 31st May, 2016

4. PMC, DoE and SEIAA are directed to pay cost of Rs. 1 lakh each to the Applicant within 4 weeks.

55. The Application alongwith connected Misc. Applications and Execution Application is therefore disposed accordingly.

.....,JM
(Dr. Justice Jawad Rahim)

.....,EM
(Dr.Ajay A. Deshpande)

PUNE.
DATE: 27th September, 2016
mk

Ax.L

BEFORE THE NATIONAL GREEN TRIBUNAL
(WESTERN ZONE) BENCH, PUNE

REVIEW APPLICATION NO. 35 OF 2016

IN

ORIGINAL APPLICATION NO. 184 OF 2015

CORAM:

HON'BLE MR. JUSTICE U.D. SALVI
(JUDICIAL MEMBER)

HON'BLE DR. NAGIN NANDA
(EXPERT MEMBER)

MR. TANAJI BALASAHEB GAMBHIRE,
Age : Adult, Occupation : Service,
R/o. Flat No.16, Cts. 296, Laxmi Apartment,
Near Shivaji Maratha High School,
White House Lane, ShukrawarPeth,
Pune 411 002.

Review Applicant

VERSUS

1. UNION OF INDIA
Through: Secretary,
Ministry of Environment and Forest
Paryavaran Bhavan, CGO Complex,
Lodhi Road, New Delhi 110 001

2. THE PRINCIPAL SECRETARY,
ENVIRONMENT DEPARTMENT,
Govt. of Maharashtra, 15th floor,
New Administrative Building,
Mantralaya, Mumbai 400 032

3. STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,

Through : Member Secretary,

15th floor, New Administrative Building,

Mantralaya, Mumbai 400 032.

4. MAHARASHTRA POLLUTION CONTROL BOARD

Through Member Secretary,

Kalpataru Point, 3rd floor, Near Sion Circle,

Opp. Cine Planet, Cinema Sion (e), Mumbai

5. MAHARASHTRA POLLUTION CONTROL BOARD,

Through Regional Officer, Sro-1

Jog Centre, 3rd floor, Mumbai-Pune Road,

Wakadewadi, Pune 411 003.

6. PUNE MUNICIPAL COMMISSIONEER,

PMC Building, Shivajinagar,

Pune 411 005.

7. CITY ENGINEER,

Pune Municipal Corporation,

PMC Building, Shivajinagar,

Pune 411 005.

8. DISTRICT COLLECTOR, PUNE

President District Environment Committee,

Pune.

9. M/S. GOEL GANGA DEVELOPERS INDIA PVT LTD.

3rd Floor, San Mahu Complex,

Opp. Poona Club, 5, Bund Garden,

Pune 411 001.

.....**RESPONDENTS**

Counsel for Applicant(s):
Mrs. Rashmi ShriramPingle, Advocate

Counsel for Respondent(s):
Mr. Milind M. Mahajan for Respondent No.1
Mr. D.M. Gupte, Mr. R.B.Mahabal, Ms. SupriyaDangare for Respondent Nos.2 and 3.
Mr. S.K. Jain, Sr. Advocate a/w Ms. S.P. Kinkar, Mr. R.N. Umarani and Mr. Rishub Mehta for Respondent No.9

Date – 8th January, 2018

JUDGMENT / ORDER

1.One Tanaji Gambhire, Applicant in Original Application No.184/2015 is seeking Review of the Judgment and Order dated 27th September 2016 passed in the said Application.

2.Original Application No.184/2015 was moved for seeking directions to the Respondents therein to demolish the illegal structures constructed by the Respondent No.9 M/s. Goel Ganga Developers India Pvt. Ltd. therein at Survey No.35 to 40 of village Wadgaon Bk. Sinhagad Road, Pune on account of several infractions of Law including Environment Clearance Regulations, 2006, and inter-alia for payment of damages/environmental compensation.

3. After hearing the parties, this Tribunal declined to demolish the structures in question but taking cognizance of its adverse impact on the environment directed the Respondent No.9- M/s. Goel Ganga

Developers India Pvt. Ltd. to pay environmental compensation of Rs.100 Crores or 5 % (five percent) of the total cost of the project to be assessed by SEAC, whichever being less, for restoration and restitution of environment damage and degradation caused by the construction activities carried out by the project proponent, and in addition to pay sum of Rs.5 Crores for contravening several environmental laws in carrying out the construction activities including exceeding the limits of available Environment Clearance without obtaining the consent from the both. It is this decision which the Review Applicant implores us to revisit and review the same for the reason of the error apparent on the face of record having crept in the said decision.

4. The Review Applicant submits that this Tribunal failed to consider:

1. Illegal Reduction in Cultural Centre Reservation Area due to encroachment of Tower Buildings A & B on Reserved Plot admeasuring 2250 sq.mts.

2. Construction of three basements without obtaining EC.

3. Utilization of excess FSI.

4. Suppression of Reservation for primary school in the lay out.

5.Violation of EC conditions dated 4th April 2008.

6. Illegal construction of shops and commercial premises.

and erroneously declined to direct demolition of the illegal constructions. The Review Applicant further submits that the Tribunal erred in imposing trivial amount of environmental compensation totally ignoring the unrebutted affidavit dated 18th May 2016 of the Applicant giving scientific basis for proper quantification of the environmental compensation due in the present case.

5.Perusal of the Judgment and order in question reveals that this Tribunal after having noticed misleading statements of Respondent No.9 M/s. Goel Ganga Developers Pvt. Ltd. and Dy. Engineer of Pune Municipal Corporation devised to paint wrong picture of the project-- firstly, to suppress deviation and secondly, to create ambiguity of FSI and BUA to help the Respondent No.9 M/s.Goel Ganga Developers to obtain convenient orders from other authorities clearly recorded its observations in following words :

> ***38.*** *We are, therefore clear in our mind that Applicant has substantiated that the original project conceived by Respondent No.9-PP had to confine to what was sanctioned under the EC dated 4th April,2008 and any extra construction or increase in building, plinth commercial structures, shops and flats should have support of modified EC. As of now, since no modified*

EC has been granted, the extent of project activity cannot increase beyond the limit circumscribed by EC dated 4th April, 2008. Any such activity or construction beyond permissible limits cannot be saved by jugglery of words, misinterpreting against the statutory definition of F.S.I. and BUA.

6. This Tribunal further held that the construction activity of Respondent No.9-project proponent to the extent it exceeds the permissible limits as per Environment Clearance cannot be saved and shall stop subject to the grant of modified EC by the Competent Authority; and the consequence of such contravention and illegal construction would be adverse on the environment and it would ultimately lead to several incidental causes of action, if the Respondent No.9 was allowed to continue the illegal activity. In this backdrop, however, this Tribunal declined to demolish the structures in question for the reasons recorded in para Nos.46 and 51 in the judgment and quoted herein below for ready reference:

"46. *It is now a matter of record that the construction of the project in question is near completion and even the occupancy certificate is granted partially. We need to consider the fact that the project in question is primarily a residential project and many individuals have invested their money in the project for meeting need for residential accommodation by having a house in city like Pune. Any order to demolish structure would also adversely*

affect them. The Respondent-9 has already created 3rd party rights. Though the Respondent-9 has blatantly violated the conditions of EC, we also note the total lack of supervision and enforcement at PMC level has resulted in such illegal activity.

51. *We are also inclined to adopt the approach taken by the Bench in the interest of justice and fair play and based on the facts and circumstances of the case. The construction activity is not a prohibited activity in the subject, but a regulated activity. We also take a judicial note of the fact that the demolition of structures in question would also result in further environmental damage and generation of construction waste. Other option which could have been explored is asking the government to take over the additional construction and use it for public purpose but as noted above, already third party rights have been created, may be partially."*

7. Mindful of the provision in Section 20 of the National Green Tribunal Act, 2010 guiding the course of decision making with the application of Principles of Sustainable Development, Precautionary Principle and Polluter Pays Principle and conscious of the care necessary to avoid misconstruction of 'Polluter Pays Principle' as 'Pay and Pollute Principle', the Tribunal found the imposition of exemplary and deterrent environmental compensation to be just and necessary to pass "a clear message that environmental compliance is supreme and the party which is non-complying the

environmental standards shall be at economic disadvantage". (para 47 of the Judgment).

8. Both the Review Applicant and the Respondent Nos.2, 3 and 9 have filed written submissions countering each other on the merits and demerits of the Review Application. Learned counsel appearing on behalf of the Respondent No.2-Environment Department, Govt. of Maharashtra and Respondent No.3 SEIAA questioned the mode of quantification of environmental compensation through computation of Carbon Foot Print on the premise that it nowhere finds place in EIA Manual, Terms Reference, Environment Clearance Regulations, 2006 and amendments thereto, Environment (Protection) Act, 1986, National Green Tribunal, 2010 or Rules framed thereunder and it is not scientifically tenable. Citing common judgment dated 2nd August, 2017 delivered by Hon'ble Supreme Court of India in ***"Writ Petition (Civil) No.114/2014; Common Cause Vrs. Union of India and Ors"., and "Writ Petition (Civil) No.194/201; Prafulla Samantra Vrs. Union of India and Ors"*** discussing the issue of damages on environment, learned counsel Mr. R.B. Mahabal, appearing on behalf of Respondent Nos.2 and 3 submitted that nowhere the concept of Carbon Foot Print has been mentioned. Learned counsel appearing on behalf of Respondent No.3 M/s. Goel Ganga Developers,

besides questioning the propriety of applying concept of Carbon Foot Print to the quantification of environmental compensation in the matter of construction carried out beyond what have been permissible under the environmental clearance on the identical grounds as those propounded by the Respondent Nos.2 and 3,reminded us of the limitations of Review jurisdiction and the procedural lapses the Review Applicant had committed in raising the plea for the application of concept of 'Carbon Foot Print' in the matter of quantification of environmental compensation in the present case.

9. Learned counsel appearing on behalf of Respondent No.9 pointed out that the Tribunal had declined to pass the directions for demolition of construction for the reasons, more particularly stated in para Nos.46 and 51 of the judgment dated 27th September 2016,after giving due consideration to all facts and application on record. Reading of the judgment dated 27th September 2016 reveals that the Tribunal took into consideration the fact situation and considered the comparative harm, both to the individuals seeking residential accommodation in the said project and to the environment in terms of multiple compounding of the environmental damage due to generation of construction waste upon the demolition of the construction in

question, and the fact that the construction activity is not prohibited activity but regulated activity. In our considered opinion, there is no mistake or error apparent on the face of the record nor any other sufficient reason to depart from the view expressed by the Bench for declining the plea for issuance of directions to demolish the structures in question. To take a view in favour of the plea for demolition, one will have to exceed the limitations of Order 47 Rule 1 of Code of Civil Procedure, 1908 read with Section 94(f) of the National Green Tribunal Act, 2010. However, as regards quantification of Environmental Compensation, the judgment dated 27th September 2016 has left enough room to raise a contention that certain material and relevant facts on record were not at all considered resulting in the mistake or error apparent on the face of the record. No wherein the Judgment under review we find mention of the affidavit dated 18th May 2016 voicing the concept of Carbon Foot Print. Straightaway, despite favourably considering the need for imposing exemplary and deterrent environmental compensation, the Tribunal without bothering to consider the concept of the 'Carbon Foot Print' proceeded to toe line of the judgment passed by the Principal Bench of this Tribunal in "***O.A. No. 24/2011, Sameer Mehta vrs. Union of India and Ors***"

giving goby to computation of damages with some amount of exactitude.

10. It appears from the reading of the said judgment delivered in 'Samir Mehta's case' and the parent judgment delivered in "***Sterlite Industries India Ltd." Case (Sterlite Industries India Ltd. Vrs. Union of India; 2013(4) SCC. 575***) generating thesis of notional damages based on 5 % of capital cost that there was no enough material on record to enable computation of environmental damages with exactitude. However, in the instant case the record does show affidavit dated 18th May 2016, which remained un-rebutted in its contents and unnoticed by the Bench, giving view of the mode of computation of environmental compensation with some exactitude on the basis of available data and upon application of the concept of Carbon Foot Print. We are, therefore, obliged to examine its worth in order to assess whether any mistake or error apparent on the face of record has crept in the judgment under Review on account of such affidavit dated 18th May 2016 having been left unnoticed.

11. One of the exception taken to the affidavit dated 18th May 2016 is that it cannot be taken into consideration as there are no substantial pleadings in the Orig. Application and there is non-compliance of Rules 8(1) and 12 of the National Green Tribunal (Practice and

Procedure) Rules 2011. These Rules have been framed by the Central Government in exercise of powers conferred by Section 4 read with Section 35 of the National Green Tribunal Act, 2010 for carrying out the provisions of the said Act enacted for effective and expeditious disposal of cases relating to Environmental Protection and Conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and properties. Rule 8(1) of the National Green Tribunal Rules, 2011, requires the Application for relief and compensation to be made in Form No.II and Rule 12 prescribes fee of equivalent to 1 (one) per cent of amount of compensation claimed subject to minimum of Rs.1000/-. Perusal of O.A. No. 184/2015 reveals that the Applicant without quoting the amount of environmental compensation simply prayed for the following directions:

> **"E.** Having regard to the damage to the public health, property and environment, principles of sustainable development and polluter pays principles and direct the Respondent No.9 to deposit a heavy amount of compensation to the environment relief fund."

and exhaustively quoted the violations of Law including the violation of enactments specified in Schedule 1 of the National Green Tribunal Act, 2010.

The unspecified claim for environmental compensation was made vis-a-vis the injury sustained by the environment on account of the various violations of Law as quoted in the Application. Substantially, therefore, we find facts needed to be pleaded in the Application as per Form II prescribed under National Green Tribunal Rules 2011 in the Application. No Court fees on the unspecified environmental compensation claimed, in our considered view, are payable, more so as the Applicant is not claiming any compensation for himself. Moreover, Section 19 of the National Green Tribunal Act, 2010 gives freedom to the Tribunal to regulate its own procedure subject, however, to the observance of the Principles of Natural Justice. In the instant case, the record reveals that the exhaustive affidavit dated 18th May 2016 was placed on record with opportunity to the contending parties to rebut it. However, the contending parties including the Respondent no.9 did not rebut it with any cogent material and through their submissions made before the Tribunal.

12. It can therefore be clearly seen that the Tribunal ignored the vital material on record and proceeded to pass the following direction:

> *"1. The Respondent No.9-PP shall pay environmental compensation cost of Rs.100 crores or 5 % (Five percent) of the total cost of project to be assessed by SEAC whichever is less for restoration and restitution of environment damages and degradation caused by the*

project proponent by carrying out the construction activities without the necessary prior environmental clearance within a period of one month. In addition to this, it shall also pay a sum of Rs. 5 crores for contravening mandatory provision of several Environment Laws in carrying out the construction activities in addition to and exceeding limit of the available environment clearance and for not obtaining the consent from the Board."

This direction, with respect, is patently erroneous for two reasons. Firstly, the Tribunal having come to the conclusion that the project proponent needs to be saddled with exemplary and deterrent compensation (paragraph No.47 of the Judgment) yet had leaned towards soft approach in imposing the compensation either amounting to Rs.100 Crores or 5% of the total cost of the project to be assessed by SEAC whichever is less. To say the least, if the amount assessed is less than Rs.100 Crores then it will amount to taking a soft approach contrary to the judicially accepted view to impose exemplary and deterrent environmental compensation which has to be more than the estimated one. Secondly, the word of the Hon'ble Supreme Court of India is Law of the Land and if 5% of the total cost of the project happens to be assessed more than Rs.100 Crores by SEAC, even then by virtue of the direction passed by the Tribunal the compensation of Rs.100 Crores being lower than the one as computed in terms of the Judgment of the Hon'ble Supreme Court of India will be payable. This is undermining the rigour of Law of the Land.

13. Commentary on the Law of Tort by Ratanlal and Dhirajlal 27th Edition classifies the damage for the wrong done in four kinds – (i) Contemptuous (ii) Nominal (iii) Ordinary and (iv) Exemplary. Page 205 of the said Commentary sheds light on the concept of "Exemplary Damages" in following terms:

> **EXEMPLARY DAMAGES** are awarded not to compensate the plaintiff but to punish the defendant and to deter him from similar conduct in future. The House of Lords has ruled that exemplary damages can be allowed in three categories of cases. The first category is oppressive, arbitrary or unconstitutional action of the Government or its servants. Cases in the second category are those in which the defendant's conduct has been calculated by him to make a profit for himself which may well exceed the compensation payable to the plaintiff. Third category consists of cases in which exemplary damages are expressly authorized by statute.

14. In this backdrop, it would have been prudent to consider the approach of quantifying the environmental compensation as suggested in the Affidavit dated 18th May, 2016 filed by the Applicant, particularly when the amount of Rs.100crs.compensation suffers from vice of arbitrariness.

15. It is true that the concept of "Carbon Foot Print" does not find place in EIA Manual, MoEF/SEIAA Guidelines for presentation of standard terms of reference, Environment (Protection) Act, 1986 and Rules framed thereunder, Environment Clearance Regulations, 2006 and amendments thereto and National Green

Tribunal Act, 2010 and Rules framed thereunder, but this does not *per se* lessen its importance in computation of environmental compensation without giving thought to its scientific merits. Admittedly it is equivalent to Carbon-di-oxide units which are added to the environment in the process of releasing the energy necessary for production of the material used in development. In the instant case, the Tribunal came to the conclusion while passing the Judgment dated 27th September, 2016 that the project proponent raised illegal construction beyond the permissible limits circumscribed by the EC dated 4th April, 2008. Evidently the energy was spent with a corresponding burden on the environment in form of CO_2 emissions for raising illegal construction beyond the permissible limits prescribed by law besides putting burden on natural resources. This, therefore, could have been a just measure for quantifying the loss sustained by the environment in terms of undue burden cast upon it due to CO_2 emissions. Scientifically, this concept therefore cannot be faulted and can be one of the measures for quantifying the environmental compensation/damages eschewing the ignorance cast upon everybody due to its absence from legal texts.

16. Affidavit dated 18th May, 2016 deals with the project in question phase-wise and makes reference to the construction on Plot Nos.1 and 2 respectively. It gives

total damages with reference to these phases in following terms:

Total Damages

Plot No.1 Damages	**149.17 Crores**
Plot No.2 Damages	**40.86 Crores**
Total Damages	**190.03 Crores**

17. Learned Counsel appearing on behalf of Respondent No.9 – Project Proponent could not point out any mathematical mistake/error either in computation of the quantities of the material used for construction for Phase-I and/or in arriving at the quantum of damages therefrom as revealed in the Affidavit dated 18th May, 2016. He contends that the Review Applicant resorted to method of computation of the damages as suggested by the Hon'ble Supreme Court of India i.e. 5% of the value of the construction/project as regards the development of Plot No.2 and did not adopt the same approach while computing the damages as regards the construction of Plot No.1.

18. Learned Counsel appearing on behalf of Review Applicant countered these submissions. He submitted that exception in application of concept of Carbon Foot Print as regards the development on Plot No.2 was made as the development of Plot No.2 is/was not complete and is/was in "intermediate stage" and, therefore the

Applicant had no sufficient data to calculate the carbon emission/footprint. The record justifies his explanation and, therefore, it does not lie in the mouth of the Respondent No.9 – Project Proponent that the Applicant has not explained the computation of damages as regards Phase-II with application of the concept of 5% of the project cost and not the concept of 'Carbon Foot Print'.

19. As observed hereinabove, nothing concrete has been put forth to demonstrate any flaw in the application of concept of 'Carbon Foot Print' for calculating the environmental compensation with reasonable amount of exactitude. If choice has to be made between notional and reasonable in order to give what is due to the environment and be just, the choice must fall in favour of reasonable and not notional.

20. Learned Counsel appearing on behalf of Respondent No.9 – M/s Goel Ganga Construction cited Judgment of the Hon'ble Supreme Court of India reported in ***AIR 1960 Supreme Court 137; Satyanarayan Vs. Mallikarjun*** and of the Hon'ble Bombay High Court reported in ***2009(4) Bom CR 653; The Executive Engineer, Lower Wana Project Division Vs Vasant Nattuji Kosare and The Member, Industrial Court*** and of our Principal Bench in ***Review Application No.32/2015 arising in O.A. No.179/2014 Social Action for Forest and Environment (SAFE) Vs. Union of India and 5 Ors.*** All

these Judgments singularly guide Reviewing Courts to limit the exercise of review powers to correct the error/mistake apparent on the face of the record and not simply to correct the erroneous judgment. There can be no two opinions about this *Rationale* expounding the law spelt out in Order XLVII Rule 1 of the Code of Civil Procedure, 1908 which governs the Tribunal like any other Civil Court in view of Section 19(4)(f) of the National Green Tribunal Act, 2010. However, the aforesaid discussion clearly reveals that the error apparent on the face of the record did creep in the judgment and there is need to correct it. We, therefore, pass the following order:

The Direction No.1in the Judgement dt.27th September 2016 passed inO.A.no.184 of 2015 is modified, other directions remaining the same, and shall be read as:

> "1. The Respondent No.9-PP shall pay environmental compensation cost of Rs.190 crores or 5 % (Five percent) of the total cost of project to be assessed by SEAC, whichever is more, for restoration and restitution of environment damage and degradation caused by the project proponent by carrying out the construction activities without the necessary prior environmental clearance within a period of one month. In addition to this, it shall also pay a sum of Rs. 5 crores for contravening mandatory provision of several Environment Laws in carrying out the construction activities in addition to and exceeding limit of the available environment clearance and for not obtaining the consent from the Board."

Review Application No.35/2016 stands disposed off accordingly.

---------- JM
(Justice U.D. Salvi)

---------- EM
(Dr. Nagin Nanda)

Date : 8th January, 2018.
ajp

सत्यमेव जयते
NATIONAL GREEN TRIBUNAL, NEW DELHI
NGT

REPORTABLE

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION

CIVIL APPEAL NO. 10854 OF 2016

M/S. GOEL GANGA DEVELOPERS
INDIA PVT. LTD. ... Appellant (s)

Versus

UNION OF INDIA THROUGH SECRETARY
MINISTRY OF ENVIRONMENT
AND FORESTS & ORS. ...Respondent(s)

With

CIVIL APPEAL NO. 10901 OF 2016

CIVIL APPEAL NO. 5157-5158 OF 2018

J U D G M E N T

Deepak Gupta, J.

Applications for intervention/impleadment are allowed. Application for amendment of grounds of appeal in Civil Appeal No.10854 of 2016 allowed.

2. These matters are being decided by one judgment since they all arise out of one original application filed by Shri Tanaji Balasaheb Gambhire (hereinafter referred to as 'the original applicant') before the National Green Tribunal ('the NGT' for short) being Application No. 184 of 2015.

3. The original applicant filed an application before the NGT claiming that the project proponent i.e. M/s. Goel Ganga Developers India Pvt. Ltd., had raised construction in violation of the Environmental Clearance ('EC' for short) granted for the project and also in violation of the various municipal laws. It was prayed that the illegal structures be demolished; the State Level Environment Impact Assessment Authority (SEIAA) and the Maharashtra State Pollution Control Board be directed to initiate appropriate action against the project proponent for violation of the Environment Impact Assessment (EIA) Notification, 2006; the Union of India be directed to take action against the SEIAA; and lastly it was prayed that the project proponent be directed to pay/deposit a heavy amount of compensation in the environment relief fund. The NGT

vide its order dated 27.09.2016 allowed the application in the following terms:

> "54. For the aforesaid reasons, the Applicant succeeds in his legal pursuit to challenge the noncompliance of EC conditions by the Respondent-9 and obtain certain directions. Hence the Application is allowed and we issue following directions:
>
> 1. The Respondent No.9-PP shall pay environmental compensation cost of Rs. 100 crores or 5% (Five percent) of the total cost of project to be assessed by SEAC whichever is less for restoration and restitution of environment damages and degradation caused by the project proponent by carrying out the construction activities without the necessary prior environmental clearance within a period of one month. In addition to this, it shall also pay a sum of Rs. 5 crores for contravening mandatory provision of several Environmental Laws in carrying out the construction activities in addition to and exceeding limit of the available environment clearance and for not obtaining the consent from the Board.
> 2. In view of our finding that there has been manifest, deliberate or otherwise suppression of facts of illegality in the project activity of Respondent No. 9-PP by the officer of PMC, we impose fine of Rs. 5 Lakhs upon the PMC and direct Commissioner PMC to take appropriate action against the erring officers. The amount of Rs. 5 Lakh shall be paid within one month.
> 3. We direct the Chief Secretary, State of Maharashtra and the competent authority to take notice of the conduct of the officers concerned who have misled the Department of Environment in the matter relating to interpretation of F.S.I and BUA in terms of which order dated 31st May, 2016 has been issued in particular the Principal Secretary, Department of Environment who has authored the order dated 31st May, 2016.
> 4. PMC, DoE and SEIAA are directed to pay cost of Rs. 1 lakh each to the Applicant within 4 weeks."

4. Aggrieved by the aforesaid order of the NGT, the project proponent filed Civil Appeal No. 10854 of 2016. The Pune Municipal Corporation ('PMC' for short) also challenged the said order in so far as it adversely affects the PMC by filing Civil Appeal No. 10901 of 2016.

5. Review application being Application No. 35 of 2016 was filed by the original applicant before the NGT. This application was partly allowed on 08.01.2018 and direction No. 1 in the original order dated 27.09.2016 was modified and substituted as under:

> "1. The Respondent No.9-PP shall pay environmental compensation cost of Rs.190 crores or 5% (Five percent) of the total cost of project to be assessed by SEAC, whichever is more, for restoration and restitution of environment damage and degradation caused by the project proponent by carrying out the construction activities without the necessary prior environmental clearance within a period of one month. In addition to this, it shall also pay a sum of Rs. 5 crores for contravening mandatory provision of several Environment Laws in carrying out the construction activities in addition to and exceeding limit of the available environment clearance and for not obtaining the consent from the Board."

6. Thereafter, the project proponent filed I.A. No. 8000 of 2018 for permission to amend its appeal permitting it to challenge the

order passed in review application dated 08.01.2018, which we have allowed.

7. Appeal being Diary No. 3911 of 2018 was filed by the original applicant challenging the original order dated 27.09.2016 as well as the order dated 08.01.2018 passed in review application praying that demolition of the illegal structures be ordered and the compensation be enhanced to Rs.500 crores.

The Factual Matrix

8. The facts briefly stated are that the project proponent purchased 79,100 sq. mtrs. or 7.91 hectare of land comprised in six Survey Nos. 35, 36, 37, 38 39 and 40 in Vadgaon, Pune. These survey numbers were amalgamated in accordance with the rules and the plot became one plot of 79,100 sq. mtrs. From the documents placed on record it is apparent that as per the Development Control Plan for the city of Pune, 3 roads of the width of 36 mtrs., 30 mtrs. and 18 mtrs. bisected this plot into two which for the sake of convenience were referred to as Plot No. 1 and Plot No. 2. As per the Development Plan, there are certain statutory

reservations in addition to the roads and some land has to be left out or reserved for schools, cultural centres, open areas etc.. The remaining area is referred to as the 'Balance Plot Area' which in this case works out to 46,993.79 sq. mtrs.. Out of this 'Balance Plot Area' 15% is to be reserved for amenity space and another 10% area is to be compulsorily left out as open space leaving 'Net Plot Area' of 41,455.21 sq. mtrs.. *Prima facie* these calculations do not appear to be correct. However, this will not impact the merits of the case. Be that as it may, the undisputed fact is that FSI has to be calculated on the 'Net Plot Area'. We may, at this stage, point out that the aforesaid figures are based on the written submissions submitted on behalf of the Union of India by the learned Additional Solicitor General and these figures have not been disputed before us.

9. On 12.03.2007, the project proponent applied for sanction of lay out and building proposal plan on an area of 15,141.70 sq. mtrs., originally depicted as Plot No. 3 and the sanctioned FSI was 15313.16 sq. mtrs.. Thereafter, on 05.09.2007, revised lay out plan was submitted for an area measuring 28,233.23 sq. mtrs. and the

sanctioned FSI was 39,526.54 sq. mtrs.. The project proponent applied for EC for the project and in the proposal dated 27.06.2007, he had shown that he would be erecting/constructing 12 buildings having 552 flats, 50 shops and 34 offices. The 12 buildings were to have stilts with basement and 11 floors. The total built up area was indicated as 57,658.42 sq. mtrs.. The EC was granted to the project proponent on 04.04.2008. Paras 2 and 3 of the communication granting EC read as under:

> "2. The project proponent is proposing for construction of group housing project at S.No.35 to 40, village Vadgaon Budruk, Singhad Road, Pune, Maharashtra at a cost of Rs. 10,737.14 lakh. The project involves construction of 12 Building with Stilt, Basement plus 11 floors for 552 flats, 50 shops and 34 offices. The total plot area is 79,100.00 sq. m. Total built up area as indicated is 57,658.42 sq. m. Total water requirement will be 745 KLD and 400 KLD of waste water will be generated from the buildings which will be treated in sewage treatment plant. The treated waste water will be used for landscaping, DG set cooling and Horticulture purpose. The solid waste generated from the buildings will be 1500 Kg/day and disposed as per the MSW Rules, 2000. The parking space is proposed for parking of 1072 cars.
>
> "3. The EAC after due consideration of the relevant documents submitted by the project proponent and additional clarifications furnished in response to its observations have recommended the grant of environmental clearance for the project mentioned above subject to compliance with the EMP and other stipulated conditions. Accordingly, the Ministry hereby accords necessary environmental clearance for the project under category 8 (a)

of EIA Notification 2006 subject to the strict compliance with the specific and general conditions mentioned below:"

10. The EC was granted subject to certain conditions. We may refer to certain relevant conditions which read as under:

"PART A- SPECIFIC CONDITIONS

I. Construction Phase

xxx xxx xxx

v. Permission to draw and use ground water for construction work shall be obtained from competent authority prior to construction/operation of the project."

"5. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry."

Concept of 'Built up Area' under the notification dated 14.09.2006:

11. It is not disputed that the EC was granted for built up area of 57,658.42 sq. mtrs.. The main dispute is with regard to the interpretation of the term 'built-up area'. The case of the project proponent is that the term 'built up area' is synonymous with 'Floor Space Index' or FSI and that the constructed area, which is exempted from FSI area or is a non-FSI area is not a part of the 'built up area'. On the other hand, the submission made by the

original applicant as well as by the learned Additional Solicitor General appearing for the Ministry of Environment, Forest and Climate Change is that the built up area will cover all constructed area and the concept of FSI area or non-FSI area is totally alien to environmental laws. Learned senior counsel for the project proponent has drawn our attention to the Development Control Rules for Pune Municipal Corporation, Pune, 1982 ('DCR' for short). Under the DCR, no building can be constructed without grant of building permission/commencement certificate by the Pune Municipal Corporation. There is a detailed procedure for obtaining the building permission/commencement certificate wherein lay out plans, building plans etc. have to be submitted. The main emphasis was on Rule 2.13 of the DCR, which defines built up area as follows:-

> "2.13 **Built-up Area** – Area covered immediately above the plinth level by the building or external area of any upper floor whichever is more excepting the areas covered by Rule No. 15.4.2."

Rule 2.39 defines Floor Area Ratio as follows:-

> "2.39 **Floor Area Ratio (F.A.R.)** – The quotient obtained by dividing the total covered area (plinth area) on all floors excluding exempted areas as given in Rule No. 15.4.2 by the area of the plot.

F.A.R. = Total covered area on all floors
Plot Area

NOTE – The term F.A.R. is synonymous with Floor Space Index (F.S.I.)"

Strong reliance is placed on Rule 15.4.2 which reads as under:-

"15.4.2 In addition to Rule No. 15.4.1.1 (a) (b) and (c) and 17.7.3 the following shall not be included in covered area or F.A.R. and Built-up Area calculations."

(a) A basement or cellar space under a building constructed on stilts and used as parking space, and air-conditioning plant rooms used as accessory to the principal use;

(b) Electric cabin or substation, watchman's booth of maximum size of 1.6 sq.m. with minimum width or diameter of 1.2 m, pump house, garage shaft, space required for location of fire hydrants, electric fittings and water tanks;

(c) Projections as specifically exempted under these rules.

(d) Stair case room and/or lift rooms above the top most storey, architectural features, chimneys, elevated tanks of dimensions as permissible under these rules.

Note: The shaft provided for lift shall be taken for covered area calculations only on one floor upto the minimum required as per these rules.

(e) One room admeasuring 2m x 3m on the ground floor of co-operative housing societies or apartment owners/co-operative societies buildings and other multistoreyed building as office-cum-letter box room.

(f) Rockery, well and well structures, plant, nursery, water-pool, swimming pool, (if uncovered) platform round a tree, tank fountain, bench, chabutra with open top and unenclosed sides by walls, ramps, compound wall, gate, slide, swing, overhead water tank on top buildings;

(g) Deleted.

(h) Sanitary block subject to provision of rules no. 15.4.1 (a) and Built-up area not more than 4 sq. m."

12. The contention of learned senior counsel appearing for the project proponent is that while calculating the built up area the constructions mentioned in Rules 15.4.1.1 (a), (b) and (c) and Rule 17.7.3 in addition to the areas specifically exempted under Rule 15.4.2 are to be excluded. He submits that if the built up area is calculated in accordance with the DCR then the project proponent has till date not constructed the built up area of 57,658.42 sq. mtrs., which it was permitted to construct under the EC granted to it on 04.04.2008. On the other hand, the stand of the Union of India and the original applicant is that built up area means all area which is covered regardless of the area being FSI or non FSI in terms of the EIA Notification of 2006. The Building/Construction projects are covered by Item No. 8 of the Schedule to the EIA Notification dated 14.09.2006. Construction of a project which is

covered under the schedule can be commenced only after obtaining EC in terms of Para 2 of the said notification. The schedule itself categorises the various projects and activities into two categories being 'Category A' and 'Category B'. 'Category A' projects require clearance by the Central Government in the Ministry of Environment, Forest and Climate Change on the recommendation of the Expert Appraisal Committee to be constituted by the Central Government whereas those activities which form 'Category B' of the schedule including modernization and expansion of such projects require EC from the State/Union Territory Environment Impact Assessment Authority (SEIAA) and such authority is required to base its decision on the recommendation of the State/Union Territory Level Expert Appraisal Committee (SEAC). There is further division of 'Category B' into B1 and B2. B1 projects require Environmental Impact Assessment (EIA) report to be prepared and scoping to be done whereas B2 projects do not require any Environmental Impact Assessment report. Item No. 8 of the Schedule, with which we are concerned, reads as follows:

(1)	(2)	(3)	(4)	(5)
8		**Building/Construction projects/Area Development projects and Townships**		

8(a)	Building and Construction projects		≥20000 sq. mtrs. And <1,50,000 sq. mtrs. Of built-up area#	#(built up area for covered construction; in the case of facilities open to the sky, it will be the activity area)
8(b)	Townships and Area Development projects		Covering an area ≥50 ha and or built up area ≥1,50,000 sq. mtrs. ++	++All projects under Item 8(b) shall be appraised as Category B1.

13. From a bare perusal of the two hash tags (#) in Column 4 and 5 of Item 8(a), it is apparent that what is shown under Column 5 is actually a continuation of Column 4 and basically it describes or defines 'built up area' to mean covered construction and if the facilities are open to the sky, it will be taken to be the activity area. This by itself clearly shows that under the notification of 2006, all constructed area, which is covered and not open to the sky has to be treated as 'built up area'. There is no exception for non-FSI area.

14. Indeed, the concept of FSI or non-FSI has no concern or connection with grant of EC. The same may be relevant for the purposes of building plans under municipal laws and regulations but it has no linkage or connectivity with the grant of EC. When EC

is to be granted, the authority which has to grant such clearance is only required to ensure that the project does not violate environmental norms. While projects and activities, as mentioned in the notification, may be allowed to go on, the authority while granting permission should ensure that the adverse impact on the environment is kept to the minimum. Therefore, the authority granting EC may lay down conditions which the project proponent must comply with. While doing so, such authority is not concerned whether the area to be constructed is FSI area or non-FSI area. Both will have an equally deleterious effect on the environment. Construction implies usage of a lot of materials like sand, gravel, steel, glass, marble etc., all of which will impact the environment. Merely because under the municipal laws some of this construction is excluded while calculating the FSI is no ground to exclude it while granting the EC. Therefore, when EC is granted for a particular construction it includes both FSI and non-FSI areas. As far as environmental laws are concerned, all covered construction, which is not open to the sky is to be treated as built up area in terms of the EIA Notification dated 14.09.2006.

Notification of 04.04.2011

15. Our attention has been drawn to the notification dated 04.04.2011 issued by the Ministry of Environment and Forests. By means of this notification, the words of Column 5 against Item 8(a) have been replaced and substituted as under:

> "The built up area for the purpose of this Notification is defined as "the built up or covered area on all the floors put together including basement(s) and other service areas, which are proposed in the building/construction projects"."

This notification clearly defines built up area as all constructed area including basement and service areas without any exception.

16. Learned senior counsel appearing for the project proponent has submitted that this notification is only prospective in nature and, therefore, will not affect the notification of 2006. On the other hand, it has been submitted by the original applicant that this is only a clarificatory notification and as such it will come into force with effect from 2006. In our opinion, it is not at all necessary to decide whether this notification is clarificatory or is in substitution of the original notification of 2006. We say this because as held by us above, there is no ambiguity with regard to the definition of 'built up area' even under the notification of 2006 and it covers all

constructed area not open to the sky. The notification of 2011 only provides that the built up area or covered area shall be the area of all floors put together including basement(s) and other service areas. We may again re-emphasize that this definition also is in consonance with the concept of grant of EC for construction as explained above and it is obvious that the concept of FSI or non-FSI area is alien to environmental laws.

Clarification dated 07.07.2017

17. Strong reliance has been placed by the project proponent on the office memorandum dated 07.07.2017 issued by Dr. Ashish Kumar, Joint Director, Ministry of Environment, Forest and Climate Change. The said office memorandum reads as follows:-

F.No. 22-35/2017-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)
******

Indira Paryavaran Bhawan
Jor Bag Road, Aliganj,
New Delhi-110 003

Dated 7th July, 2017

OFFICE MEMORANDUM

Sub: Clarification on the date of applicability of notification S.O.(E) 695 dated 04.04.2011 issued by MoEF & CC defining 'Built Up Area' of the project

The Ministry is in receipt of a reference dated 03.04.2017 from Confederation of Real Estate Developers Association of India (CREDAI) seeking clarification on above mentioned subject. The CREDAI has requested that the definition of Built Up Area (BUA) given vide notification S.O.695(E) dated 04.04.2011 should have prospective effect.

2. The matter has been examined in the Ministry. The BUA defined in the notification S.O. 1533 (E) dated 14th September, 2006 mentions at Item 8 (a) columns 4 and 5 "built up area for covered construction, in the case of facilities open to sky, it will be the activity area".

3. The Ministry has further defined BUA vide its notification S.O.695 (E) dated 04.04.2011 which reads as, "the built up or covered area on all the floors put together including its basement and other service areas, which are proposed in the building or construction project."

4. The definition provided in the Ministry's notification will have its effect from the prospective date of the notification only. The projects which are not covered in the period of above notifications should be assessed as per the definition of built up area provided in the building bye-laws or Development Control Regulation (DCR) of the local authorities in the States.

5. This issues with approval of Competent Authority.

Sd/-
(Dr. Ashish Kumar)
Joint Director
Ph:011-24695474
Email:ashish.k@nic.in

All States/UTs/SIEAAs/MoEF & CC Divisions

It is urged on the basis of the aforesaid memorandum that prior to the notification dated 04.04.2011, the built up area had to be calculated and assessed as per the building bye-laws or the Development Control Regulations of the local authorities in the States. On behalf of the original applicant it has been urged that

this memorandum is meaningless and that it has been issued when the matter was pending before the NGT, at the instance of one of the Directors of the project proponent, Shri Atul Goel, who was Joint Secretary of Confederation of Real Estate Developers Association of India (CREDAI), Pune.

18. Without going into this aspect of the matter, we are clearly of the view that such an office memorandum could not and should not have been issued. The notification dated 14.09.2006 is a statutory notification issued in terms of Rule 5(3) of the Environment (Protection) Rules, 1986 which provides that before such a notification is issued the Central Government has to give notice of its intention of issuing a notification and objections to the same are invited. No doubt the Central Government is empowered in public interest to dispense with the requirement of notice but this obviously has to be done in exceptional cases. The notification dated 14.09.2006 was issued by the Central Government and published in the gazette after inviting objections from the public. The first clarification with regard to this notification was issued on 04.04.2011 to which we have adverted above. These two decisions

of the Central Government which were notified as per the provisions of law could not have been set at naught by the Joint Director even if it was issued with the approval of a higher authority. We are of the view that since such decision has not been notified in the gazette the statutory notification dated 14.09.2006 and its subsequent clarification dated 04.04.2011 could not have been virtually set aside by this office memorandum.

19. We are also of the view that the so called office memorandum is not at all clarificatory in nature. As held by us above the notification of 2006 with regard to 'built up area' was absolutely clear and needed no clarification. We fail to understand how the concept of built up area as understood in the building bye-laws or DCR could be introduced into the notification of 2006 by this office memorandum which virtually made the notification of 2006 totally redundant. Therefore, we quash the office memorandum dated 07.07.2017.

20. This is not the first time that we have noticed such clarificatory communications being issued by the officials of the Ministry of Environment, Forest and Climate Change, which

virtually have the effect of nullifying the statutory provisions and notifications. We have adverted to some of these communications in our judgment in ***Common Cause*** vs. ***Union of India***[1]**.** We expect the officials of the Ministry of Environment, Forest and Climate Change to take a stand which prevents the environment and ecology from being damaged, rather than issuing clarifications which actually help the project proponents to flout the law and harm the environment.

21. In view of the above, we are clearly of the view that the EC granted to the project proponent on 04.04.2008 was for constructing a total built up area of 57,658.42 sq.mtrs. and this would include all covered construction not open to the sky. No artificial division on the basis of FSI and non-FSI area can be made. Therefore, the NGT was fully justified in coming to the conclusion that the construction raised by the project proponent was in total violation of the EC granted to it.

[1] (2017) 9 SCC 499

Environmental Clearance dated 20.11.2017

22. The project proponent has drawn our attention to the EC for expansion of the project in question granted to it by the State Level Environment Impact Assessment Authority (SEIAA) on 20.11.2017. We may note that this clearance indicates that the existing construction comprises of 738 flats and 115 shops which have been completed, 69 flats and 2 shops which are under construction, meaning thereby that 807 flats and 117 shops are already in existence and in addition thereto 454 more flats and cultural centre are sought to be constructed. This will take the total number of flats to 1261 and number of shops to 117. We may also notice that the SEIAA has laid down general conditions for pre-construction phase and the first condition is as follows :-

> "(1) This environmental clearance (EC) is issued for total built up area of 147219.45 m^2 as approved by local planning authority. It is noted that the total proposed construction area is 147219.45 m^2 which includes the area of previous EC (dated 04.04.2008) 57,658.42 m^2 and the proposed expansion area of 89,561.03 sq.m. However the above area of 147219.45 sq.m. is notional as the NON FSI area component of the previous EC is not included in 1,47,219.45 m^2. After considering the NON FSI area of the previous EC the total built up area becomes 1,81,230.94 m^2. SEIAA has also taken note of the clarification issued by MOEF and CC vide office memorandum dated 7th July, 2017, stating the definition of built up area will be assessed as per the building bye-laws or DCR of the local authorities in the states."

The aforementioned condition itself clearly shows that the non-FSI area constructed by the project proponent under first EC of 04.04.2008 has not been taken into consideration. The project proponent has raised construction in Plot No. 1 of an FSI area measuring 48,424.66 sq. mtrs., and non-FSI area measuring 46,088.47 sq. mtrs.. Therefore, the total construction raised in Plot No. 1 is 94,513.13 sq. mtrs.. In Plot No. 2 the construction raised on an FSI area is 630.55 sq. mtrs. and on the non-FSI area is 4,858.57 sq. mtrs. and, therefore, the total construction already raised in Plot No. 2 is 5,489.12 sq. mtrs.. The total construction raised by the project proponent is 1,00,002.25 sq. mtrs. against the built up area of 57,658.42 sq. mtrs. mentioned in the EC of 04.04.2008. This could not have been ignored by the SEIAA.

23. In case the total construction raised by the project proponent is taken as 1,00,002.25 sq. mtrs. and if the area of the proposed construction is added then the project will fall in B1 category and, therefore, the SEIAA had no authority to grant EC by treating the project as falling under Category B2. Furthermore, the EC dated

20.11.2017 is also illegal as the same has been granted on the presumption of the order dated 31.05.2016 passed by the Principal Secretary, Environment Department, State of Maharashtra holding that the construction of 18 buildings instead of 12 buildings is permissible. The EC completely lost sight of the fact that the order dated 31.05.2016 was quashed and set aside by the NGT in its order dated 27.09.2016. We may note that the official who passed the order on 31.05.2016 was the same official, who held the office of Member Secretary of SEIAA, which granted environmental clearance on 20.11.2017. Therefore, the EC dated 20.11.2017 was beyond the authority of SEIAA and was granted under a totally false assumption and the same is therefore quashed and set aside.

Allegations made by the original applicant against various officials

24. The NGT in its order dated 27.09.2016, has found that there was suppression of facts by the officers of PMC. The NGT also directed the Chief Secretary to the State of Maharashtra to take notice of the conduct of the officers who were misleading the Department of Environment. Costs were imposed on the PMC,

Department of Environment and the SEIAA. This has been challenged before us by the PMC.

25. The original applicant both in his original application filed before the NGT and in appeal filed before us as well as in other proceedings has made serious allegations against individual officers of the PMC as well as the SEIAA and specially the Principal Secretary, Environment Department, Govt. of Maharashtra. However, for reasons best known to the original applicant none of these individuals has been made a party in personal capacity in these proceedings. The law is well settled that no person can be condemned unheard. It would, therefore, not be fair on our part, to deal with allegations made against individuals who are not parties to the petition and who have had no chance to reply to the allegations levelled against them. Therefore, we refrain from commenting on the conduct of the officials in their individual capacity.

26. However, as far as their official capacity is concerned, we are of the view that the NGT was fully justified in coming to the conclusion that certain officials of PMC were going out of their way

to help the project proponent and we, therefore, uphold the directions given by the NGT in its order dated 27.09.2016 in this regard. In view of what we have discussed above, it is more than apparent that despite notifications of 2006 and 2011 being clear and unambiguous, the officials of PMC have given an interpretation which was tailor-made to suit the project proponent. This was being done even before the clarification of 07.07.2017 was issued. This clearly indicates that some officials of the PMC were espousing the case of the project proponent at the cost of the environment.

27. We may also observe that *prima facie* we are of the view that the Principal Secretary, Environment Department, Govt. of Maharashtra has not acted in a fair and transparent manner. The allegations made by the original applicant cannot be lightly brushed aside. In the original order dated 27.09.2016, the NGT held as follows :-

> "**42.** From the extracted portion of the order dated 31st May, 2016 of Principal Secretary, Environment Department, it is seen that he has declared construction of 18 buildings on the site instead of 12 buildings is permissible which, according to him, only a changes on configuration of buildings. This opinion undoubtedly is based on his erroneous conclusion that total BUA which is nothing but F.S.I. consumed i.e. 48617.14 sq.mts which is within the EC limit as against the actual construction activity which has

> exceeded over 100000 sq.mtrs BUA. Hence we set aside that order/communication dated 31st May, 2016."

The official holding the post of Principal Secretary must have been aware of these directions because he was a party to the proceedings before the NGT. Despite that, while granting fresh EC on 20.11.2017, this official noticed that reference to the Environment Department for verification of files was withdrawn vide letter dated 31.05.2016 and the matter has been considered afresh. When the letter dated 31.05.2016 had been quashed the obvious result would be that action had to be taken in accordance with the earlier directions in the 27th meeting of SEAC III (Non-MMR) held from 10th to 13th March, 2015 and the 87th meeting of SEIAA held on 10th to 12th August, 2015. This was not done. His actions need to be looked into and, therefore, we uphold the direction given by the NGT directing the Chief Secretary to the State of Maharashtra to take notice of the conduct of the concerned officers. We further direct the Chief Secretary to file detailed report in respect of the conduct of the then Principal Secretary, Department of Environment to the NGT within 3 months which will thereafter pass appropriate directions in the matter.

Challenge to the order dated 08.01.2018 passed in Review Application No.35 of 2016:

28. This order has been challenged both by the project proponent by amending the appeal and by the original applicant by filing a separate appeal.

29. Section 19(4)(f) of the National Green Tribunal Act, 2010 provides that the Tribunal shall have the same powers as are vested in Civil Courts while trying a suit in respect of matters relating to review of its decisions. Therefore, the power of review vested with the NGT is akin to the power vested with the Civil Court. As such, the principles which govern the exercise of review jurisdiction before a Civil Court will apply with equal force to the NGT.

30. Rule 22(2) of the National Green Tribunal (Practices and Procedure) Rules, 2011 provides that a review application shall ordinarily be heard by the Tribunal at the same place of sitting which has passed the order unless the Chairperson may, for reasons to be recorded in writing, direct it to be heard by the Tribunal sitting at any other place. Sub-rule(3) of Rule 22 provides

that ordinarily review application shall be disposed of by circulation.

31. Since the powers of review which the NGT exercises are akin to those of a Civil Court it would be pertinent to refer to relevant portions of ***Order XLVII of Civil Procedure Code, 1908,*** which read as follows:-

> "**1. Application for review of judgment.-** (1) Any person considering himself aggrieved—
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> (a) by a decree or order from which an appeal is allowed, but from which no appeal has been preferred,
>
> (b) by a decree or order from which no appeal is allowed, or
>
> (c) by a decision on a reference from a Court of Small Causes,
>
> and who, from the discovery of new and important matter or evidence which, after the exercise of due diligence was not within his knowledge or could not be produced by him at the time when the decree was passed or order made, or on account of some mistake or error apparent on the face of the record, or for any other sufficient reason, desires to obtain a review of the decree passed or order made against him, may apply for a review of judgment to the Court which passed the decree or made the order.
>
> (2) A party who is not appealing from a decree or order may apply for a review of judgment notwithstanding the pendency of an appeal by some other party except where the ground of such appeal is common to the applicant and the appellant, or when, being respondent, he can present to the Appellate Court the case on which he applies for the review.
>
> xxx xxx xxx

> **5. Application for review in court consisting of two or more Judges.-** Where the Judge or Judges, or any one of the Judges, who passed the decree or made the order, a review of which is applied for, continues or continue attached to the court at the time when the application for a review is presented, and is not or are not precluded by absence or other cause for a period of six months next after the application from considering the decree or order to which the application refers, such Judge or Judges or any of them shall hear the application, and no other Judge or Judges of the Court shall hear the same."

32. The project proponent has urged various grounds to challenge the order passed in the review application. The first ground is that whereas the original order was passed by a Bench comprising of Dr. Justice Jawad Rahim and Dr. Ajay A. Deshpande, the review application was heard and decided by a Bench comprising of Justice U.D. Salvi and Dr. Nagin Nanda. It has been urged that Dr. Justice Jawad Rahim continues to be a Judicial Member of the NGT and, in fact, was sitting in the Western Bench at Pune on 08.01.2018 when the impugned judgment in review was pronounced by the NGT.

33. We are clearly of the view that a review petition should normally be heard by the same Bench which originally decided the matter. A review petition should not be heard by any other Bench

unless it is impossible or totally impracticable for the earlier Bench to hear the matter. In a review petition, like in the present case, where the review petitioner contends that certain arguments raised by him have not been considered then it is only the judges who originally heard the matter who can decide whether such point was urged or not. In the present case the review application was based mainly on the contention that the affidavit dated 18.05.2016 was not taken into consideration by the Bench.

34. It is well known that parties raise various contentions in their pleadings or in their evidence. On many occasions when arguments are heard many of the pleas are not urged. Any judicial authority including the NGT which is presided over by a judicial member who may be a retired judge of this Court or of a High Court is expected to deal with all contentions raised before it. There is a presumption that judicial authorities must have dealt with all the contentions raised before them. If a party urges that some of the contentions urged by it have not been taken into consideration then it has to file a review application and it is but obvious that such review

application should be heard by the same Bench which had originally heard the matter.

35. Sub-rule (3) of Rule 22 of the National Green Tribunal (Practices and Procedure) Rules, 2011 clearly lays down that a review application shall be disposed of by circulation. If the review application is to be disposed of by circulation then there is no problem in the matter being circulated before the very same Bench which had earlier heard the matter. This can be done even at a place which may be different from the original place of hearing. It is only if the Bench decides to give oral hearing in the review application and notice is issued to the opposite party that sub-rule(2) of Rule 22 will come into operation. According to sub-rule(2) the matter should ordinarily be heard at the same place of sitting where it was originally decided. However, this is not a mandatory direction because sub-rule(2) itself contemplates that the matter shall 'ordinarily' be heard at the same place. In tribunals like the NGT where members may be transferred from one Bench to another or may be attending a Bench on circuit then problems can sometimes arise. These issues can be easily resolved by resorting to

the latest technology and if necessary the arguments in such cases can be heard by video conferencing. The normal rule that the same Bench should hear the review application should not be disturbed unless it is virtually impossible for the original Bench to hear the matter or the members of the Bench themselves opt not to hear the matter.

36. In this behalf, we must remind ourselves that the power of review is a power to be sparingly used. As pithily put by Justice V.R. Krishna Iyer, J., "A plea for review, unless the first judicial view is manifestly distorted, is like asking for the moon"[2]. The power of review is not like appellate power. It is to be exercised only when there is an error apparent on the face of the record. Therefore, judicial discipline requires that a review application should be heard by the same Bench. Otherwise, it will become an intra court appeal to another Bench before the same court or tribunal. This would totally undermine judicial discipline and judicial consistency.

[2] (1980) 2 SCC 167

37. We may refer to the judgment of this Court in ***Malthesh Gudda Pooja*** vs. ***State of Karnataka and Ors***. [3]. In that case a writ appeal was disposed of by a Division Bench comprising of Hon. V. Gopala Gowda and L. Narayana Swamy, JJ., at the Dharwad Circuit Bench of the Karnataka High Court. Thereafter, a review petition was filed before a Bench comprising of Hon. K. Sreedhar Rao and Ravi Malimath, JJ.. An objection was raised that the review petition should be heard by the same judges who had originally heard the matter but this objection was overruled and the review petition was allowed and the appeal was ordered to be listed afresh before the Division Bench. This appeal was listed before the Dharwad Circuit Bench consisting of Hon. D.V. Shailendra Kumar and N. Ananda, JJ.. This Bench held that the order of review passed was a nullity since the judges who had heard the review should not have heard the same especially when the judges of the original Bench were available. The matter came to this Court and this Court after referring to Order XLVII Rule 5 of CPC and Rule 5 of High Court of Karnataka Rules, 1959 and taking note of the fact that the Chief Justice of the Karnataka High

[3] (2011) 15 SCC 330

Court had passed an order that the review petition be listed as per roster held as follows :-

> "**18.** Order 47 Rule 5 of the Code and Chapter 3 Rule 5 of the High Court Rules require, and in fact mandate that if the Judges who made the order in regard to which review is sought continue to be the Judges of the Court, they should hear the application for review and not any other Judges unless precluded by death, retirement or absence from the Court for a period of six months from the date of the application. An application for review is not an appeal or a revision to a superior court but a request to the same court to recall or reconsider its decision on the limited grounds prescribed for review. The reason for requiring the same Judges to hear the application for review is simple. Judges who decided the matter would have heard it at length, applied their mind and would know best, the facts and legal position in the context of which the decision was rendered. They will be able to appreciate the point in issue, when the grounds for review are raised. If the matter should go before another Bench, the Judges constituting that Bench will be looking at the matter for the first time and will have to familiarise themselves about the entire case to know whether the grounds for review exist. Further, when it goes before some other Bench, there is always a chance that the members of the new Bench may be influenced by their own perspectives, which need not necessarily be that of the Bench which decided the case.
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> **19.** Benjamin Cardozo's celebrated statement in *The Nature of Judicial Process*, (pp. 12-13) is relevant in this context:
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> "There is in each of us a stream of tendency, whether you choose to call it philosophy or not, which gives coherence to thought and action. Judges cannot escape that current any more than other mortals. All their lives, forces which they do not recognise and cannot name, have been tugging at them—inherited instincts, traditional beliefs, acquired convictions; … In this mental background every problem finds its setting. We may try to see things as objectively as we please. Nonetheless, we can never see them with any eye except our own."
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> **20.** Necessarily therefore, when a Bench other than the Bench which rendered the judgment, is required to consider

> an application for review, there is every likelihood of some tendency on the part of a different Bench to look at the matter slightly differently from the manner in which the authors of the judgment looked at it. Therefore the rule of consistency and finality of decisions, makes it necessary that subject to circumstances which may make it impossible or impractical for the original Bench to hear it, the review applications should be considered by the Judge or Judges who heard and decided the matter or if one of them is not available, at least by a Bench consisting of the other Judge. It is only where both Judges are not available (due to the reasons mentioned above) the applications for review will have to be placed before some other Bench as there is no alternative. But when the Judges or at least one of them, who rendered the judgment, continues to be members or member of the court and available to perform normal duties, all efforts should be made to place it before them. The said requirement should not be routinely dispensed with."

38. A perusal of the above judgment leaves no manner of doubt that this Court has held that in terms of Order XLVII Rule 5 of CPC, a review should normally be heard by the same Bench which passed the original order. We may reiterate the reasons given by this Court. These are :-

1) The judges who heard the matter originally have applied their mind and would know best the facts and legal position;

2) They will be in the best position to appreciate the matter in issue when a review is filed;

3) If the matter goes before another Bench that Bench will have to virtually hear the matter afresh;

4) Most importantly, when the matter goes to a new Bench the members of the new Bench may go by their own perspective and philosophy which may be totally different to that of the Bench which originally heard the matter.

We may again re-emphasize that judicial discipline, judicial traditions and consistency in pronouncements require that the Bench which heard the matter originally should hear the review petition unless it is virtually impractical for the original Bench to hear the matter, or where the members of the original Bench recuse.

39. Another ground raised is that the statutory appeal was already pending in this Court against the original order when the review application was taken up for hearing. It is contended, on the basis of Order XLVII Rule 1(2) of CPC, that review application should not have been taken up for hearing because the original applicant could have before this Court taken up all the points which he had taken in his review application. It is also contended that this is not a case where there is an error apparent on record and as such the power of review could not have been exercised. As far as the facts of this

case are concerned we are clearly of the view that the original applicant could have raised all issues which he raised in review application even by filing a counter affidavit in the appeal filed by the project proponent or by challenging the original order in this Court as he has done now. In this context, once this Court was seized of the matter and all issues were being urged, the NGT should not have proceeded to hear the review application.

40. We may add that on 21.12.2016, the review application itself was listed before the Bench of Dr. Justice Jawad Rahim and Dr. Ajay A. Deshpande, which adjourned the matter to 25.01.2017 to hear it regarding maintainability of the review application in view of the statutory appeal provided under the National Green Tribunal Act, 2010. However, the matter got listed before the other Bench and on 25.07.2017, the said Bench considered this objection raised by the project proponent in terms of Order XLVII Rule 1 of the CPC and the Bench held as follows:

> "Having perused the record, we find that the Appellant is seeking quashing of the order of compensation in totality and the Review Applicant is seeking enhancement of the compensation granted by the Tribunal. We do not see any commonality in the grounds resorted to by the Applicant and Appellant in the said Appeal. Exception to Sub-clause 2 of Order 47 Rule 1 of Code of Civil Procedure, therefore, does

> not come to the help of Respondent No.9. We are, therefore, of the considered opinion that the Review Application is maintainable. Plea of non-maintainability of the Review Application is rejected."

41. We are of the view that the aforesaid finding is incorrect. The project proponent had not only challenged the original order of the NGT on the ground that he had not violated the EC but also on the ground that the damages awarded were highly excessive. Therefore, the question that what should be the extent of damages was specifically before this Court. We are therefore, clearly of the opinion that the Bench hearing the review application erred in holding that the review application was maintainable despite the appeal pending before this Court.

42. We may also note that the Bench which heard the review has rejected all other grounds of review mainly on the ground that there is no error apparent on the face of the record but has only dealt with the issue of enhancement of damages to be imposed on the basis of 'Carbon Footprint' relying on the affidavit dated 18.05.2016. The Bench noted that this affidavit had not been taken into consideration by the earlier Bench. How could the latter Bench

hearing the review application know whether any reference was made to this affidavit at the time of original hearing or not? In fact, the project proponent urges that this affidavit was never filed on 18.05.2016.

43. Here, it would be pertinent to mention that according to the original applicant he was given oral permission by the Bench to file such an affidavit on 23.02.2016. We have perused the order dated 23.02.2016 and find that it makes no mention of any such request being made. If there is no such request then the question of issuing an oral direction to file such an affidavit does not arise. We may also add that after 23.02.2016, the matter was listed on numerous occasions i.e. 16.03.2016, 05.04.2016, 18.04.2016, 22.04.2016, 02.05.2016 and 05.05.2016 before the NGT. In none of the orders there is any reference to Carbon Footprint or to any affidavit to be filed by the original applicant. If an oral permission had been given, obviously the original applicant would have either filed an application or would have made a request that he wants to file such an affidavit.

44. The affidavit in question is dated 18.05.2016 and it is alleged that it was filed on 18.05.2016. The matter was listed for hearing on 19.05.2016 on which date also there is no reference to any such affidavit. It would be pertinent to note that in between the project proponent had filed an M.A. No. 389 of 2016 before the Principal Bench stating that an interim order dated 23.12.2015 had been passed against it and the matter was not being heard and, therefore, it may be heard by a Bench presided over by Dr. Justice Jawad Rahim, who apparently was holding Court in the Pune Bench at that time and the Principal Bench allowed the same on 02.05.2016 directing that the matter be listed before the Bench presided over by Dr. Justice Jawad Rahim. On 19.05.2016, the original applicant sought time stating that he had filed review application against the order dated 02.05.2016 before the Principal Bench praying that the matter should be heard by the earlier Bench presided over by Justice U.D. Salvi and, therefore, the matter could not be heard by Dr. Justice Jawad Rahim on that day and was further adjourned to 23.05.2016. There is no reference to Carbon Footprint in the order dated 19.05.2016. On 23.05.2016, the matter was heard by the Bench presided over by Dr. Justice Jawad

Rahim and the orders reserved. In this order also there is no reference to the affidavit with regard to Carbon Footprint. If the filing of the affidavit would have been brought to the notice of the Bench, it would have recorded in the order that some fresh affidavit had been filed. Subsequently, the project proponent, who is the contesting respondent, filed an application on 20.07.2016 praying that in the meantime he had obtained permission of the Environment Department and the SEIAA to which we have adverted hereinabove.

45. The original applicant sought time to file counter affidavit. The matter was adjourned to 28.07.2016 for re-hearing deleting the same from reserved list since there were subsequent developments. On 28.07.2016 the matter was got adjourned to 02.08.2016 on which date some execution application for implementation of the interim orders was taken up and direction was issued to the PMC. The matter was again taken up on 08.08.2016, 19.08.2016 and 24.08.2016 when the hearing was closed and judgment was pronounced through video conferencing on 27.09.2016. In none of these orders any mention was made for Carbon Footprint or to the

affidavit on the basis of which the review application was filed. On 23.05.2016 the project proponent filed reply to the affidavit dated 18.05.2016 filed by the original applicant in which they raised objections that such affidavit was not filed on 18.05.2016 and the copy of the same was handed over to them on 20.05.2016 and the original applicant had no permission to file such an affidavit. All these disputed issues as to whether such an affidavit was filed with the permission of the Court or it was referred to in the first hearing or in the second hearing could only be decided by the Bench which had heard the matter on 23.05.2016 or on 24.08.2016 on which dates the original application was reserved for orders.

46. We are of the considered view that the review application should have been heard by a Bench headed by Dr. Justice Jawad Rahim who was admittedly available and in fact continues to be a member of the NGT. Therefore, we are constrained to set aside the order passed in Review Application No.35 of 2016 dated 08.01.2018

Is Demolition the only answer?:

47. The next issue which arises is that what we should do with the construction. A large number of flats are already occupied and a large number of persons have paid money for occupying these flats. Learned counsel appearing for those persons who have purchased the flats urged that the flats should not be demolished otherwise they shall be put to great monetary loss. As pointed out above now there are 807 flats and 117 shops which are either constructed or under construction. These flats are 1, 1.5 and 2 BHK flats and small shops and offices. The project proponent has already taken money from these persons and a large number of flats and shops have already been occupied and even where the remaining flats and shops are not occupied, persons belonging to the middle class have invested their life's earnings in this project. Keeping in view the interest of these third parties who were not parties before the NGT, we are of the view that in the peculiar facts and circumstances of the case, demolition is not the answer. This would put innocent people at loss. Normally, this Court is loathe to legalize illegal constructions but in the present case we have no option but to do so.

48. We hasten to clarify that the project proponent cannot be permitted to build any more flats. What we are permitting him to do is to only complete construction of 807 flats, 117 shops/offices and cultural centre including the club house. We make it clear that he shall not be allowed to build the two buildings in which he was to construct 454 tenements, and will obviously have to return the money with interest at the rate of 9% per annum to the individual(s) who have invested in the same. There is no equity in favour of these persons since the plan to raise this construction was submitted only after 2014 when the validity of the earlier EC had already ended. Therefore, though we uphold the order of the NGT dated 27.09.2016 that demolition is not the answer in the peculiar facts of the case, we also make it clear that the project proponent cannot be permitted to build nothing more than 807 flats, 117 shops/offices, cultural centre and club house.

Whether the Original Applicant is entitled to Special Damages:

49. On behalf of the original applicant various issues were raised before us which had not been raised before the NGT and find no

mention either in the original order or even in the order under review. We are not considering those issues. It was urged that the project proponent has reduced the area of Cultural Centre. This averment is not correct as pointed by senior counsel appearing for the Union of India. The development plan is not only for the area under the project but covers a much larger area where more than one builder and projects may be involved. It is not the responsibility of only one builder to provide the entire community services and these have to be provided pro rata by all developers of projects in the area. It was also alleged that the builder had built 3 basements which are illegal. On the other hand it was contended by the learned senior counsel for the project proponent that one of the basements has already been blocked and the other two basements shall also not be put in use and would be completely blocked off. We make it clear that PMC and SEIAA will ensure that the project proponent blocks the basements in such a manner that they can never be put to any use. Another argument raised by the original applicant was that the project proponent had stated that though he would not use any ground water, however it has utilized the ground water and violated the condition of the EC. Reliance is

placed on certain photographs showing water being pumped. On the other hand on behalf of the project proponent it has been urged that this water was being pumped out from the excavated area when the building was built and the water level had risen. We cannot decide this disputed question of fact in these proceedings.

50. We may also point out that in this case the original applicant has tried to project the case as if he is filing the case in the public interest and has prayed for certain general directions. He has also claimed special damages for himself. The main grievance of the original applicant is with regard to the violation of the EC and according to him these violations started in the year 2009. The original applicant had applied for a flat in the project in question and had issued notice to the project proponent on 21.10.2011 about deficiency in service. This notice was replied to on 17.11.2011. Thereafter, the original applicant filed Consumer Complaint No. 95 of 2012 on 22.02.2012. This complaint was decided on 20.11.2014. Thereafter, the order of the District Consumer Disputes Redressal Forum was challenged before the State Consumer Redressal Commission both by the project

proponent and original applicant in February, 2015. It appears that thereafter there were complaints and counter complaints filed by the parties against each other and the project proponent filed a civil suit for defamation against the original applicant on 02.12.2015 and it was only thereafter on 07.12.2015 an application was filed in the NGT by the original applicant. We are highlighting these facts only to emphasize the fact that this litigation is obviously not a Public Interest Litigation. Therefore, the claim of the original applicant to award him special damages cannot be accepted.

Quantification of damages:

51. We need to decide and re-assess the issue of damages since the original applicant has also challenged the original order of the NGT. While assessing the damages we may note certain facts:-

1) The EC was granted on 04.04.2008 but construction commenced after issuance of consent to establish dated 20.06.2009 and the EC would be valid for a period of 5 years from the date of such consent, i.e. upto 19.06.2014;

2) The EC dated 04.04.2008 was granted for construction of built up area 57,658.42 sq.mtrs., whereas admittedly, as of now the constructed built up area is 1,00,002.25 sq. mtrs.. Therefore, there is clear-cut violation of the terms of the EC;

3) Any construction raised after 19.06.2014 is without any EC especially since we have held that EC granted on 20.11.2017 is invalid.

Carbon Footprint:

52. The main case of the original applicant is that the damages should be assessed on a scientific basis by calculating the damage caused to the environment by the project proponent on the basis of 'Carbon Footprint'. In the absence of detailed submissions, we find ourselves totally unequipped to go into this aspect of the matter.

53. In the original application filed by the original applicant before the NGT, there is no reference to Carbon Footprint. Even when evidence was initially led, no reference was made to the same. The concept of Carbon Footprint was introduced by the original

applicant only in his affidavit dated 18.05.2016. In fact, according to the project proponent this affidavit was not even filed on 18.05.2016. It appears to us that there is no order of the NGT specifically permitting the original applicant to file such an affidavit. The submission of original applicant is that he was orally permitted to file the same. These disputed questions would have been only decided by the Original Bench and, therefore, we have already set aside the order passed in the review application dated 08.01.2018.

54. Courts cannot introduce a new concept of assessing and levying damages unless expert evidence in this behalf is led or there are some well established principles. We find that no such principles have been accepted or established in the present case. When there are no pleadings in this regard we fail to understand how the concept of Carbon Footprint can be introduced after evidence has been closed, at the stage of arguments. We cannot assess the impact in actual terms and, therefore, we can only impose damages or costs on principles which have been well settled by law.

55. We may also note that the method to which the original applicant referred to is not part of any law, rule or executive instructions. This method is no doubt used to compensate and impose damages on nations but we cannot apply this method while imposing damages on a person who violates the EC. We may also add that the calculation made by the original applicant in his affidavit dated 18.05.2016 filed before the NGT are based on assumptions some of which we have not found to be correct namely – (1) use of ground water; (2) reduction of Cultural Centre space; (3) construction of basements etc..

56. We may make it clear that we are not laying down the law that damages cannot be assessed on the basis of Carbon Footprint. In a case where expert evidence in this behalf is led or on the basis of empirical data it is established that by applying the principles of Carbon Footprint damages can be assessed, the Court may, in the facts and circumstances of the case, rely upon such data but, in the present case, there is no such reliable material.

57. Having held so we are definitely of the view that the project proponent who has violated law with impunity cannot be allowed to go scot-free. This Court has in a number of cases awarded 5% of the project cost as damages. This is the general law. However, in the present case we feel that damages should be higher keeping in view the totally intransigent and unapologetic behaviour of the project proponent. He has maneuvered and manipulated officials and authorities. Instead of 12 buildings, he has constructed 18; from 552 flats the number of flats has gone upto 807 and now two more buildings having 454 flats are proposed. The project proponent contends that he has made smaller flats and, therefore, the number of flats has increased. He could not have done this without getting fresh EC. With the increase in the number of flats the number of persons, residing therein is bound to increase. This will impact the amount of water requirement, the amount of parking space, the amount of open area etc.. Therefore, in the present case, we are clearly of the view that the project proponent should be and is directed to pay damages of Rs.100 crores or 10% of the project cost whichever is more. We also make it clear that while calculating the project cost the entire cost of the land based

on the circle rate of the area in the year 2014 shall be added. The cost of construction shall be calculated on the basis of the schedule of rates approved by the Public Works Department (PWD) of the State of Maharashtra for the year 2014. In case the PWD of Maharashtra has not approved any such rates then the Central Public Works Department rates for similar construction shall be applicable. We have fixed the base year as 2014 since the original EC expired in 2014 and most of the illegal construction took place after 2014. In addition thereto, if the project proponent has taken advantage of Transfer of Development Rights (for short 'TDR') with reference to this project or is entitled to any TDR, the benefit of the same shall be forfeited and if he has already taken the benefit then the same shall either be recovered from him or be adjusted against its future projects. The project proponent shall also pay a sum of Rs. 5 crores as damages, in addition to the above for contravening mandatory provisions of environmental laws.

58. Normally, this Court is not inclined to grant *ex post facto* EC. However, in the peculiar facts of this case we direct that once the project proponent deposits the amount of damages as directed by

us then the project proponent may approach the appropriate authority for grant of EC. The authority may impose such conditions for grant of EC as it deems necessary.

Findings and Directions:

59. We summarise our findings and directions as follows:

(i) That built up area under the notification of 14.09.2006 means all constructed area which is not open to the sky;

(ii) Built up area under the notification of 04.04.2011 means all covered area including basement and service areas;

(iii) The communication dated 07.07.2017 is totally illegal and accordingly quashed;

(iv) The original application cannot be treated as a public interest litigation;

(v) We are not taking note of the allegations levelled against the individuals who have not been arrayed as parties;

(vi) That the order dated 27.09.2016 of the NGT is upheld except in so far as Direction No. 1 is concerned;

(vii) The order in review application passed by the NGT on 08.01.2018 is held to be totally illegal and is accordingly set aside;

(viii) We uphold the original order dated 27.09.2016 holding that the construction raised by the project proponent was in violation of the environmental clearance granted to it on 04.04.2008. We uphold the fine imposed upon the PMC and the direction given to the PMC to take appropriate action against the erring officials. We also uphold the direction given to the Chief Secretary to the State of Maharashtra and in addition, direct that the Chief Secretary to the State of Maharashtra shall look into the conduct of the official holding the post of Principal Secretary (Environment) to the Government of Maharashtra on 27.09.2016 and will submit his report to the NGT within three months from today;

(ix) We impose damages of Rs.100 crores or 10% of the project cost, whichever is higher on the project proponent and in addition thereto, project proponent will pay Rs.5 crores as levied by the NGT in its order dated 27.09.2016;

(x) Project proponent shall not be permitted to raise construction of two buildings having 454 tenements;

(xi) We direct that the project proponent shall only be permitted to complete construction of a total 807 flats, 117 shops/offices and cultural centre including club house;

(xii) The project proponent will only be permitted to seek environmental clearance for completion of the project subject to payment of costs in the aforesaid terms and it may be granted *ex post facto* environmental clearance in the peculiar facts of the case, on such terms and conditions as the environmental authority deems fit and proper;

(xiii) The project proponent is granted six months' time to deposit the amount of damages imposed in terms of

direction no. (ix) *supra* in the Registry of this Court. In case the project proponent does not deposit the amount within six months then all the assets of the project proponent i.e. M/s. Goel Ganga Developers India Pvt. Ltd. as well as its Directors shall be attached and the amount of damages shall be recovered by sale of those assets. It is further directed that in case this amount is not deposited within the period of six months then the licence/registration/permission granted to M/s. Goel Ganga Developers India Pvt. Ltd. to develop any "real estate project" within the meaning of the Real Estate (Regulation and Development) Act, 2016 shall be cancelled and the project proponent i.e. M/s. Goel Ganga Developers India Pvt. Ltd. and its Directors shall not be granted permission to develop any "real estate project" under the Real Estate (Regulation and Development) Act, 2016 without permission of this Court.

(xiv) The matter be listed on 22.10.2018 for issuing appropriate directions as to how the amount of damages are to be utilised;

60. All the appeals are disposed of in the aforesaid terms. Pending application(s) if any, shall also stand disposed of.

.....**J.**
(Madan B. Lokur)

.....**J.**
(Deepak Gupta)

New Delhi
August 10, 2018

Ax.N 2016

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 9th December, 2016

S.O. 3999(E).—Whereas, by notification of the Government of India in the erstwhile Ministry of Environment and Forests number S.O.1533 (E), dated the 14th September, 2006 issued under sub-section (1) read with clause (v) of sub-section (2) of section (3) of the Environment (Protection) Act, 1986 and clause (d) of the sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government directed that on and from the date of its publication, the required construction of new projects or activities or the expansion or modernisation of existing projects or activities listed in the Schedule to the said notification entailing the capacity addition with change in process or technology and or product mix shall be undertaken in any part of India only after prior environmental clearance from the Central Government or as the case may be, by the State Level Environment Impact Assessment Authority, duly constituted by the Central Government under sub-section (3) of section 3 of the said Act, in accordance with the procedure specified therein;

And whereas, the said Ministry has received suggestions for ensuring Ease of Doing Responsible Business; and streamlining the permissions for buildings and construction sector which is important for providing houses and for this purpose the scheme of Housing for all by 2022 with an objective of making available affordable housing to weaker sections in urban area has ambitious target;

And whereas clause (a) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 provides that, whenever the Central Government considers that prohibition or restrictions of any industry or carrying on any processes or operation in any area should be imposed, it shall give notice of its intention to do so;

And whereas, a draft notification for making amendments in the Environment Impact Assessment Notification, 2006 issued in exercise of the powers conferred under sub-section (1) and clause (v) of sub-section (2) of section (3) of the Environment (Protection) Act, 1986 read with clause (d) of the sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 was published, vide number S.O.1595 (E) dated the 29th April 2016, inviting objections and suggestions from all the persons likely to be affected thereby, within a period of sixty days from the date of publication of said notification in the Gazette of India;

And whereas, all objections and suggestions received in response to the above mentioned draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following further amendments in the Environment Impact Assessment Notification, 2006 namely:-

In the said Notification,-

(I) after paragraph 13, the following paragraph shall be inserted, namely:-

"14 . Integration of environmental condition in building bye-laws.-

(1) The integrated environmental conditions with the building permission being granted by the local authorities and the construction of buildings as per the size shall adhere to the objectives and monitorable environmental conditions as given at Appendix-XIV.

(2) The States adopting the objectives and monitorable environmental conditions referred to in sub-paragraph (1), in the building bye-laws and relevant State laws and incorporating these conditions in the approvals given for building construction making it legally enforceable shall not require a separate environmental clearance from the Ministry of Environment, Forest and Climate Change for individual buildings.

(3) The States may forward the proposed changes in their bye-laws and rules to the Ministry of Environment, Forest and Climate Change, who in turn will examine the said draft bye-laws and rules and convey the concurrence to the State Governments.

(4) When the State Governments notifies the bye-laws and rules concurred by the Ministry of Environment, Forest and Climate Change, the Central Government may issue an order stating that no separate environmental clearance is required for buildings to be constructed in the States or local authority areas.

(5) The local authorities like Development Authorities, Municipal Corporations, may certify the compliance of the environmental conditions prior to issuance of Completion Certificate, as applicable as per the requirements stipulated for such buildings based on the recommendation of the Environmental Cell constituted in the local authority.

(6) The State Governments where bye-laws or rules are not framed may continue to follow the existing procedure of appraisal for individual projects and grant of Environmental Clearance for buildings and constructions as per the provisions laid down in this notification.

(7) For the purpose of certification regarding incorporation of environmental conditions in buildings, the Ministry of Environment, Forest and Climate Change may empanel through competent agencies, the Qualified Building Environment Auditors (QBEAs) to assess and certify the building projects, as per the requirements of this notification and the procedure for accreditation of Qualified Building Auditors and their role as given at Appendix-XV.

(8) In order to implement the integration of environmental condition in building bye-laws, the State Governments or Local Authorities may constitute the Environment Cell (herein after called as Cell), for compliance and monitoring and to ensure environmental planning within their jurisdiction.

(9) The Cell shall monitor the implementation of the bye-laws and rules framed for Integration of environmental conditions for construction of building and the Cell may also allow the third part auditing process for oversight, if any.

(10) The Cell shall function under the administrative control of the Local Authorities.

(11) The composition and functions of the Cell are given at Appendix-XVI.

(12) The Local Authorities while integrating the environmental concerns in the building bye-laws, as per their size of the project, shall follow the procedure, as given below:

BUILDINGS CATEGORY '1' (5,000 to < 20,000 Square meters)

A Self declaration Form to comply with the environmental conditions (Appendix XIV) along with Form 1A and certification by the Qualified Building Environment Auditor to be submitted online by the project proponent besides application for building permission to the local authority along with the specified fee in separate accounts. Thereafter, the local authority may issue the building permission incorporating the environmental conditions in it and allow the project to start based on the self declaration and certification along with the application. After completion of the construction of the building, the project proponent may update Form 1A online based on audit done by the Qualified Building Environment Auditor and shall furnish the revised compliance undertaking to the local authority. Any non-compliance issues in buildings less than 20,000 square meters shall be dealt at the level of local body and the State through existing mechanism.

OTHER BUILDINGS CATEGORIES (≥ 20,000 Square meters)

The project proponent may submit online application in Form 1 A alongwith specified fee for environmental appraisal and additional fee for building permission. The fee for environmental appraisal will be deposited in a separate account. The Environment Cell will process the application and present it in the meeting of the Committee headed by the authority competent to give building permission in that local authority. The Committee will appraise the project and stipulate the environmental conditions to be integrated in the building permission. After recommendations of the Committee, the building permission and environmental clearance will be issued in an integrated format by the local authority.

The project proponent shall submit Performance Data and Certificate of Continued Compliance of the project for the environmental conditions parameters applicable after completion of construction from Qualified Building Environment Auditors every five years to the Environment Cell with special focus on the following parameters:-

(a) Energy Use (including all energy sources).

(b) Energy generated on site from onsite Renewable energy sources.

(c) Water use and waste water generated, treated and reused on site.

(d) Waste Segregated and Treated on site.

(e) Tree plantation and maintenance.

After completion of the project, the Cell shall randomly check the projects compliance status including the five years audit report. The State Governments may enact the suitable law for imposing penalties for non-compliances of the

environmental conditions and parameters. The Cell shall recommend financial penalty, as applicable under relevant State laws for non-compliance of conditions or parameters to the local authority. On the basis of the recommendation of the Cell, the local authority may impose the penalty under relevant State laws. The cases of false declaration or certification shall be reported to the accreditation body and to the local body for blacklisting of Qualified Building Environment Auditors and financial penalty on the owner and Qualified Building Environment Auditors.

No Consent to Establish and Operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 will be required from the State Pollution Control Boards for residential buildings up to 1,50,000 square meters.";

(II) In the Schedule, for item 8 and the entries relating thereto, the following item and entries shall be substituted, namely:-

(1)	(2)	(3)	(4)	(5)
"8		Building / Construction projects / Area Development projects and Townships		
8 (a)	Building and Construction projects		≥ 20,000 sq. mtrs and < 1,50,000 sq. mtrs of built up area	The term "built up area" for the purpose of this notification is the built up or covered area on all floors put together including its basement and other service areas, which are proposed in the buildings and construction projects. Note 1. The projects or activities shall not include industrial shed, universities, college, hostel for educational institutions, but such buildings shall ensure sustainable environmental management, solid and liquid and implement environmental conditions given at Appendix-XIV. Note 2.-General Condition shall not apply. Note 3.-The exemptions granted at Note 1 will be available only for industrial shed after integration of environmental norms with building permissions at the level of local authority.
8 (b)	Townships and Area Development projects	≥ 3,00,000 sq. mtrs of built up area or Covering an area ≥ 150 ha	≥1,50,000 sq. mtrs and < 3,00,000 sq. mtrs built up area or covering an area ≥ 50 ha and < 150 ha	Note.- General Condition shall not apply".

[F. No. 19-2/2013-IA-III (Pt.)]

MANOJ KUMAR SINGH, Jt. Secy.

Note: The principal notification was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section(ii) vide number S.O. 1533(E), dated the 14th September, 2006 and subsequently amended vide numbers S.O.1737(E) dated the 11th October, 2007, S.O. 3067(E), dated the 1st December, 2009, S.O.695(E), dated the 4th April, 2011, S.O.2896(E), dated the 13th December, 2012 , S.O.674(E), dated the 13th March, 2013, S.O.2559(E), dated the 22nd August, 2013, S.O. 2731(E), dated the 9th September, 2013, S.O. 562(E), dated the 26th February, 2014, S.O.637(E), dated the 28th February, 2014, S.O.1599(E), dated the 25th June, 2014, S.O. 2601 (E), dated 7th October, 2014, S.O. 2600(E) dated 9th October, 2014, S.O. 3252(E) dated 22nd December, 2014, S.O. 382 (E), dated 3rd February, 2015, and S.O. 811(E), dated 23rd March, 2015, S.O. 996 (E) dated 10th April, 2015, S.O. 1142 (E) dated 17th April, 2015, S.O. 1141 (E) dated 29th April, 2015, S.O. 1834(E) dated 6th July, 2015 and S.O. 2572(E) dated 14th September, 2015, S.O. 141(E) dated 15th January, 2016, S.O. 190(E) dated 20th January, 2016, S.O. 648(E) dated 3rd March, 2016 and S.O. 2269(E) dated 1st July, 2016.

APPENDIX –XIV

ENVIRONMENTAL CONDITIONS FOR BUILDINGS AND CONSTRUCTIONS

(CATEGORY '1': 5,000 to less than 20,000 Square meters)

MEDIUM	S.N.	ENVIRONMENTAL CONDITIONS
Topography and Natural Drainage	1	The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site. No construction is allowed on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
Water Conservation, Rain Water Harvesting, and Ground Water Recharge	2	Use of water efficient appliances shall be promoted. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Bye-Laws, 2016. A rain water harvesting plan needs to be designed where the recharge bores (minimum one recharge bore per 5,000 square meters of built up area) is recommended. Storage and reuse of the rain water harvested should be promoted. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority. All recharge should be limited to shallow aquifer.
	2(a)	At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.
Waste Management	3	Solid waste: Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Sewage: In areas where there is no municipal sewage network, onsite treatment systems should be installed. Natural treatment systems which integrate with the landscape shall be promoted. As far as possible treated effluent should be reused. The excess treated effluent shall be discharged following the CPCB norms. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organisation (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013. The provisions of the Solid Waste (Management) Rules 2016 and the e-waste (Management) Rules 2016, and the Plastics Waste (Management) Rules 2016 shall be followed.
Energy	4	Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be Light Emitting Diode (LED). Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

Air Quality and Noise	5	Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask. For indoor air quality the ventilation provisions as per National Building Code of India shall be made.
	5 (a)	The location of the DG set and exhaust pipe height shall be as per the provisions of the CPCB norms.
Green Cover	6	A minimum of 1 tree for every 80 square meters of land should be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species.
	6 (a)	Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e. planting of 3 trees for every 1 tree that is cut) shall be done and maintained.

(Category '2': 20,000 to less than 50,000 Square meters)

MEDIUM	S.N.	ENVIRONMENTAL CONDITIONS
Topography and Natural Drainage	1	The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site. No construction is allowed on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
Water Conservation, Rain Water Harvesting, and Ground Water Recharge	2	A complete plan for rain water harvesting, water efficiency and conservation should be prepared. Use of water efficient appliances should be promoted with low flow fixtures or sensors. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Bye-laws, 2016. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority. All recharge should be limited to shallow aquifer
	2(a)	At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

Waste Management	3	Solid waste: Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Sewage: Onsite sewage treatment of capacity of treating 100% waste water to be installed. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per CPCB norms. Natural treatment systems shall be promoted. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organisation (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013. The provisions of the Solid Waste (Management) Rules 2016 and the e-waste (Management) Rules 2016, and the Plastics Waste (Management) Rules 2016 shall be followed.
	3 (a)	All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
	3(b)	Organic waste compost/ Vermiculture pit with a minimum capacity of 0.3 kg /person/day must be installed.
Energy	4	Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
	4 (a)	Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
	4 (b)	Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.
	4 (c)	Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include flyash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provisions of the Fly Ash Notification of September, 1999 as amended from time to time.
Air Quality and Noise	5	Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with

		dust pollution shall be provided with dust mask. For indoor air quality the ventilation provisions as per National Building Code of India.
	5 (a)	The location of the DG set and exhaust pipe height shall be as per the provisions of the CPCB norms.
Green Cover	6	A minimum of 1 tree for every 80 sq.mt. of land should be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species.
	6 (a)	Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e. planting of 3 trees for every 1 tree that is cut) shall be done and maintained.
Top Soil preservation and reuse	7	Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.
Transport	8	A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria. 1. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic. 2. Traffic calming measures. 3. Proper design of entry and exit points. 4. Parking norms as per local regulation.

(Category '3': 50000 to 150000 m^2)

MEDIUM	S.N.	ENVIRONMENTAL CONDITIONS
Topography and Natural Drainage	1	The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site. No construction is allowed on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
Water conservation - Rain Water Harvesting, and Ground Water Recharge	2	A complete plan for rain water harvesting, water efficiency and conservation should be prepared. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provisions are not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Bye-laws, 2016. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority. All recharge should be limited to shallow aquifer.
	2(a)	At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.
	2 (b)	Use of water efficient appliances should be promoted. Low flow fixtures or sensors be used to promote water conservation.

	2 (c)	Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
Solid Waste Management	3	Solid waste: Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. The provisions of the Solid Waste (Management) Rules 2016 and the e-waste (Management) Rules 2016, and the Plastics Waste (Management) Rules 2016 shall be followed.
	3 (a)	All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
	3(b)	Organic waste composter/Vermiculture pit with a minimum capacity of 0.3 kg /person/day must be installed.
Sewage Treatment Plant	4	Onsite sewage treatment of capacity of treating 100% waste water to be installed. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per CPCB norms. Natural treatment systems shall be promoted. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organisation (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
Energy	5	Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
	5 (a)	Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
	5 (b)	Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.
	5 (c)	Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include flyash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provisions of the Fly Ash Notification of September, 1999 as amended from time to time.
Air Quality and Noise	6	Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Wheel washing for the vehicles used be done. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction

		and Demolition Waste Rules 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask. For indoor air quality the ventilation provisions as per National Building Code of India.
	6 (a)	The location of the DG set and exhaust pipe height shall be as per the provisions of the CPCB norms.
Green Cover	7	A minimum of 1 tree for every 80 sq.mt. of land should be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species.
	7 (a)	Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e. planting of 3 trees for every 1 tree that is cut) shall be done and maintained.
Top Soil Preservation and Reuse	8	Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.
Transport	9	A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria. 1. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic. 2. Traffic calming measures. 3. Proper design of entry and exit points. 4. Parking norms as per local regulation.
Environment Management Plan	10	An environmental management plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified in item number 1 to 9 above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

APPENDIX-XV

Accreditation of Environmental Auditors (Qualified Building Auditors)

The Ministry of Environment, Forest and Climate Change (MoEFCC), through qualified agencies shall accredit the Qualified Building Environment Auditors (QBEAs). The Qualified Building Environment Auditors could be a firm / organization or an individual expert, who fulfils the requirements. The Ministry will implement this process of accreditation through Quality Council of India (QCI), National Productivity Council or any other organization identified by the Government. The organizations like Indian Green Building Council, Bureau of Energy Efficiency etc. can also be associated in the process of accreditation, training, and renewal. The environmental consultants accredited by the QCI for building sector will be qualified as QBEAs. The QBEAs will meet the following criteria. The accrediting agency can improvise on these criteria.

Qualifications of the Auditor:

a. Education: Architect (Degree or Diploma), Town Planners (Degree), Civil Engineer / Mechanical Engineer (Degree or Diploma), PG in Environmental Science or any other qualification as per the scheme of the accreditation.

Training:

b. Mandatory training to be given by the accreditation body or their approved training providers. This will be as per the scheme of the accreditation.

Experience:

c. At least 3 years of work experience in the related field or building sector Environment Impact Assessment consultants accredited by QCI or any other experience criteria as per the scheme of the accreditation.

Infrastructure and equipment:

d. As per the scheme of the accreditation

Renewal:

e. The accreditation will be valid for 5 years and will be renewed as per the process developed under the accreditation scheme.

Accountability/Complaint redressal mechanism: Any complaints regarding the quality of the work of QBEAs shall be made to the accreditation body. The accreditation body shall evaluate the complaint and take appropriate action including black listing or cancellation of the accreditation with wide public notice. This will be in addition to the action at the level of local authority for penalty and blacklisting. The Ministry can also take such action in case of specific complaint or feedback.

APPENDIX-XVI

Environmental Cell at the level of Local Authority:

An Environmental Cell shall be setup at the local authority level to support compliance and monitoring of environmental conditions in buildings. The Cell shall also provide assistance in environmental planning and capacity building within their jurisdiction. The responsibility of this cell would be monitoring the implementation of this notification and providing an oversight to the Third-Party Auditing process. The cell will operate under the local authority.

Constitution of the cell:

The cell will comprise of at least 3 dedicated experts in following fields:

a. Waste management (solid and liquid)

b. Water conservation and management

c. Resource efficiency including Building materials

d. Energy Efficiency and renewable energy

e. Environmental planning including air quality management.

f. Transport planning and management.

The Cell shall induct at least two outside experts as per the requirements and background of dedicated experts. Existing environmental cells at the level of local authority can be co-opted and trained for this Cell.

Financial Support:

An additional fee may be charged along with processing fee for building permission for integrating environmental conditions and it's monitoring. The local authority can fix and revise this additional fee from time to time. The amount of this fee shall be deposited in a separate bank account, and used for meeting the requirement of salary / emoluments of experts and running the system of online application, verifications and the Environmental Cell.

Functions of the Cell:

1. The cell shall be responsible for assessing and appraising the environmental concerns of the area under their jurisdiction where building activities are proposed. The Cell can evolve and propose additional environmental conditions as per requirements. These conditions may be area specific and shall be notified in advance from time to time. These additional conditions shall be approved following a due consultation process. These environmental conditions will be integrated in building permissions by the sanctioning authority.

2. Develop and maintain an online system for application and payment of fees. The Cell shall maintain an online database of all applications received, projects approved, the compliance audit report, random inspections made. The Cell shall maintain a portal for public disclosure of project details including self certification and compliance audit reports filed by the Qualified Building Environment Auditors for public scrutiny of compliance of environmental conditions by the project.

3. Monitoring the work of Environmental Audit process carried by the Qualified Building Auditors.

4. The Cell shall review the applications; finalize the additional environmental conditions if required within 30 days of the submission of the application to the local authority.

5. The Cell shall adopt risk based random selection of projects for verifying on site for certification of QBA, compliance of environmental conditions and five yearly audit report.

6. The Cell shall recommend to the local authority for financial penalty for non-compliance of environmental conditions by the project proponent.

7. The Cell shall recommend to the accrediting body and the local authority against any Qualified Building Environment Auditor, if any lapse is found in their work.

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ALOK KUMAR
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Date: 2016.12.14 10:36:45 +05'30'

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH
NEW DELHI
.....

ORIGINAL APPLICATION NO. 677 OF 2016
(M.A. NO. 148/2017)

IN THE MATTER OF:

Society for Protection of Environment
& Biodiversity
Through the Convener
R-7/17, Raj Nagar
Ghaziabad (UP)-201001

.....Applicant

Versus

1. Union of India
   Through Secretary, Govt. of India
   Ministry of Environment, Forest and Climate Change
   Indira Paryavaran Bhavan, Jorbagh Road,
   New Delhi-110003

2. Ministry of Urban Development
   Through Secretary, Govt. of India
   Maulana Azad Road
   Rajpath Area, Central Secretariat
   New Delhi

3. Central Pollution Control Board
   Through Member Secretary
   CBD-Cum-Office Complex
   East Arjun Nagar
   New Delhi

.....Respondents

AND

ORIGINAL APPLICATION NO. 01 OF 2017
(M.A. NO. 03/2017 & M.A. NO. 445/2017)

IN THE MATTER OF:

Pushp Jain
S/o Shri Dhanpat Rai Jain
R/o I A/2C Phase-I
Ashok Vihar
New Delhi-110052

.....Applicant

Versus

1. Union of India
   Through the Secretary
   Ministry of Environment, Forest and Climate Change
   Indira Paryavaran Bhavan
   Jorbagh Road,
   New Delhi-110003

2. Ministry of Urban Development
   Through the Secretary
   Maulana Azad Road
   Nirman Bhawan
   New Delhi 110 011

.....Respondents

AND

ORIGINAL APPLICATION NO. 7 OF 2017
(M.A. NO. 879/2017)

IN THE MATTER OF:

Ajay Kumar Singh
236, Lawyers Chambers
M.C. Sitalwad Block
Supreme Court of India
New Delhi

.....Applicant

Versus

1. Ministry of Environment, Forest and Climate Change
   Govt. of India
   Through the Secretary
   Indira Paryavaran Bhavan
   Jorbagh Road,
   New Delhi-110003

2. Ministry of Urban Development
   Govt. of India
   Through the Secretary
   Nirman Bhawan
   New Delhi 110 011

3. Delhi Development Authority
   Through its Vice Chairman
   Vikas Sadan, INA
   New Delhi

4. Central Pollution Control Board
   Through Member Secretary
   Parivesh Bhawan, East Arjun Nagar
   New Delhi

5. Central Ground Water Authority
   Through its Member Secretary
   Faridabad

6. Delhi Pollution Control Committee
   Through Member Secretary
   4th Floor, ISBT Building Kashmeri Gate
   New Delhi

7. North Delhi Municipal Corporation
   New Delhi

8. South Delhi Municipal Corporation
   New Delhi

9. East Delhi Municipal Corporation
   New Delhi

10. State Level Environment Impact Assessment
    Authority, Delhi Govt. Secretariat
    Delhi

.....Respondents

AND

ORIGINAL APPLICATION NO. 55 OF 2017

IN THE MATTER OF:

Mahendra Pandey
S/o Sh. H.C. Pandey
R/o Flat No. 18, Kanishka Apartment
C&D Block, Shalimar Bagh
Delhi

.....Applicant

Versus

1. Union of India
   Through Secretary
   Ministry of Environment, Forest and Climate Change
   Paryavaran Bhavan, Jorbagh Road,
   New Delhi-110003

2. Ministry of Urban Development
   Through its Secretary
   Maulana Azad Road
   Rajpat Area, Central Secretariat
   New Delhi

3. Central Pollution Control Board
Through its Member Secretary
CBD cut Office Complex
East Arjun Nagar
New Delhi

.....Respondents

AND

ORIGINAL APPLICATION NO. 67 OF 2017
(M.A. NO. 620/2017)

IN THE MATTER OF:

R. Sreedhar
R/o A-1/39, 2nd Floor
Freedom Fighter Colony
IGNOU Road, Gate No. 1
Neb Sarhai, New Delhi

.....Applicant

Versus

Union of India
Through the Secretary
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhavan
Jorbagh Road,
New Delhi-110003

.....Respondent

COUNSEL FOR APPLICANTS:

Mr. Raj Panjwani, Sr. Advocate
Mr. Ritwick Dutta, Mr. Rahul Choudhary, Ms. Meera Gopal and Mr. Utkarsh Jain, Advocates
Mr. I. K. Kapila & Ms. Disha Singh, Advocates
Mr. Sanjay Upadhyay, Ms. Upama Bhattacharjee and Mr. Salik Shafique, Advocates
Mr. Gaurav Kumar Bansal, Mr. Ompal Shukin and Ms. Nandit Bansal, Advocates

COUNSEL FOR RESPONDENTS:

Mr. B.V. Niren with Mr. Vinayak Gupta, Advocates
Mr. Abhimanyu Garg and Ms. Preety Makkar, Advocates for Government of Puducherry
Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar and Mr. Sandeep Mishra, Advocates and Mr. Dinesh Jindal L.O. for DPCC
Mr. Bairaja Mahapatra, Advocate and Mr. Dinesh Jindal, L.O.
Mr. Rajkumar, Advocate with Mr. Bhupender, LA for Central Pollution Control Board
Mr. D. Rajeshwar Rao, Advocate
Mr. Atma Ram N.S. Naadkarni, Ld. ASG for MoEF&CC
Mr. Divya Prakash Pandey, Advocate

Mr. Utkarsh Sharma, Advocate for State of Uttar Pradesh
Mr. Ravindra Kumar, Advocate for NOIDA Authority
Mr. Krishna Kumar Singh and Mr. Anurag Kumar, Advocates
Mr. Rahul Pratap, Advocate
Ms. Puja Kalra, Advocate

JUDGMENT

PRESENT:
HON'BLE MR. JUSTICE SWATANTER KUMAR (CHAIRPERSON)
HON'BLE DR. JUSTICE JAWAD RAHIM (JUDICIAL MEMBER)
HON'BLE MR. BIKRAM SINGH SAJWAN (EXPERT MEMBER)

Reserved on: 8th November, 2017
Pronounced on: 8th December, 2017

1. Whether the judgment is allowed to be published on the net?
2. Whether the judgment is allowed to be published in the NGT Reporter?

JUSTICE SWATANTER KUMAR (CHAIRPERSON)

By this judgement, we shall dispose of all the five cases connected with Original Application No. 677 of 2016 as a common question of law and fact arises for consideration before the Tribunal in all these cases. However, it is not necessary for us to notice the facts of each case in greater detail and it would be sufficient to refer to the factual matrix of the lead application only, i.e., Original Application No. 677 of 2016, *Society for Protection of Environment & Biodiversity vs. Union of India and ors.*

2. The Applicant-Society claims that it works in the area of environmental conservation and aims at protection of the environment, ecology, natural resources, wildlife and bio-diversity existing on earth. It has filed various cases raising several environmental issues and concerns before the Courts as well as before this Tribunal. According to the Applicant, there is pathetic condition

of urban local bodies in the area under their jurisdiction more particularly in Ghaziabad. The exemption granted from Environmental Clearance for building and construction projects would be a huge retrograde step in the area of environment conservation. It would take us back to a pre- 2004 scenario, i.e., prior to issuance of EIA framework pursuant to specific orders of the Hon'ble Supreme Court. The Applicant believes that such a step will have a disastrous effect on the environment and would cause irreversible damage to the environment. The magnitude of the environmental footprint would be immense and unregulated building and construction activity would cause immense environmental damage. The Ministry of Environment, Forest & Climate Change (for short, "MoEF&CC"), Respondent No. 1 had issued a draft notification dated 29th April, 2016 with regard to amendment of the Notification of 2006 providing exemption to various construction projects all over the country. At that stage, the Applicant had filed an application bearing Original Application No. 168 of 2016 expressing its apprehension and raising serious objections to the draft Notification. The principal contention raised at that time was that the proposed Notification intends to dilute and exempt prior Environmental Clearance for buildings and construction projects through Model Building Bye Laws, 2016, as issued by the Town & Country Planning Organizing, Ministry of Urban Development and the subsequent Notification by Delhi Development Authority of the Unified Building Bye Laws for Delhi, 2016 which were notified vide Notification dated 22nd March, 2016 in pursuance to Chapter-XIV of the Model Building Bye Laws, 2016 and in concurrence with the impugned Notification of MoEF&CC. These amendments and Bye

Laws sought to defeat and do away with the substantive provisions of EIA Notification, 2006 that require prior Environmental Clearance by building and construction projects under item no. 8(a) of the Schedule to EIA Notification, 2006. Original Application No. 168 of 2016 was disposed of by the Tribunal vide its order dated 30th September, 2016 directing MoEF&CC to consider the objections filed by the Applicant prior to issuance of the final Notification. The order dated 30th September, 2016 of the Tribunal reads as under:

> "Learned Counsel appearing for the Ministry of Environment, Forests and Climate Change submits that they are in the process of amending the EIA Notification, 2006. According to her the draft Notification has already been published and objections/suggestions have been invited and after expiry of the Statutory period they would issue the final Notification after considering the objections filed.
>
> Learned Counsel appearing for the DDA on instruction from Director of Planning submits that DDA has already notified the unified building bye laws, however, the chapter on environment conditions for sanctioning building plans would not be put into practice/implemented till Ministry of Environment, Forests and Climate Change give its approval/concurrence.
>
> The Learned Counsel appearing for the applicant has raised an issue with regard to the unified bye laws being in conflict with the Notification of EIA, 2006. According to the applicant these objections should be considered.
>
> In view of the statement made by the Learned Counsel appearing for the respective parties, we are of the considered view that nothing survives in this application. The respective authorities will abide by their statements. We also direct the Ministry of Environment, Forests and Climate Change to consider the objections of the applicant before issuing final Notification so that the unified building bye laws are not in conflict with EIA Notification, 2006.
>
> In view of the above, the Original Application No.168 of 2016 stands disposed of with no order as to cost."

3. After passing of the above order, Respondent no. 1 issued the final Notification on 9th December, 2016. Though, the objections to the draft Notification was filed by the Applicant on 23rd November, 2016 but no intimation for hearing was given to the Applicant except when the Applicant was invited through Counsel for meeting with Shri Manoj Kumar Singh, Joint Secretary, MoEF&CC, Government of India on 8th December, 2016 to discuss and make presentation on behalf of the Applicant. The discussion went on for about an hour or so and the Applicant was assured that the objections would be considered objectively by the Ministry. However, the final Notification was issued on 9th December, 2016 making substantial changes even in the draft Notification dated 29th April, 2016 which were in total derogation to the environmental laws in force.

4. The Applicant, thus, in the present case prays that the Notification dated 9th December, 2016 should be quashed and set-aside, inter-alia, but primarily on the following grounds:

I. The Impugned Notification not only dilutes but also renders otiose the substantive provisions of Environmental Impact Assessment Notification, 2006 and even that of Environment (Protection) Act, 1986 (for short, "Act of 1986"). The provisions of the impugned Notification, if implemented would potentially destroy the environment and ecology due to unregulated building and construction activities and will have disastrous effect on environment and would cause irreversible damage to the environment. The magnitude of Environmental footprint would be immense. The objections filed by the Applicant and

others have not been considered objectively and appropriately by the Ministry. The impugned Notification, thus suffers, from the element of non-application of mind as well as is violative of Principle of Natural Justice.

II. The Impugned final Notification is not only at variance with the draft Notification but even introduces new provisions which are diametrically opposite, beyond the scope and purview of the Draft Notification and even had destructive essence to the draft Notification. In this regard, the following significant variance can be noticed:

(a). Draft Notification did not contain any provision with regard to grant of exemption to the construction building projects from the provisions of Air (Prevention and Control of Pollution) Act, 1981 (for short, "Air Act, 1981) and Water (Prevention and Control of Pollution) Act, 1974 (for short, "Water Act, 1974) in relation to Consent to Establish and Consent to Operate.

(b). The composition of the Environmental Cells to monitor the conditions particularly in reference to Environmental Clearance is entirely at variance to the draft Notification.

(c). Accreditation of Environmental auditors in terms of Appendix XV to the impugned Notification is also at variance from the one proposed in the Draft Notification.

III. In exercise of subordinate legislative power, a delegatee cannot affect the application of another legislation enacted by the Parliament. In other words, while amending the Notification of 2006 in exercise of subordinate legislation, the delegated authority cannot render the provisions of Water Act, 1974 and Air Act, 1981 as inapplicable and also take away the powers of the Pollution Control Boards under the said Acts, to grant/refuse consent to establish and/or operate to a project.

IV. Neither any comprehensive study was carried out nor any data collected to support the drastic changes being made by the impugned Notification and also ignored the Precautionary Principle, the fundamental cannon of environmental jurisprudence.

V. The impugned Notification has several deficiencies which are against the basic letter and spirit of the Act of 1986 and the Notification of 2006.

VI. 'Ease of doing responsible business' cannot be in fact and in law the ground for making amendment to the environmental laws, as it primarily falls beyond the scope of the object and purposes of the environmental laws in force. It is only a ploy to circumvent the provisions of the environmental assessment. The comprehensive process for evaluating the impact on environment due to various projects has been negated by the said amendment.

VII. Under the impugned Notification, local authority is responsible for development and passing the development

plan vested through the environment cell with the power to impose conditions relating to environmental protection and ensure their compliance. The local authorities which are the sanctioning authorities would also become adjudicatory authorities under the impugned Notification. This dual functioning by the same authority make them judge in their own cause in contravention with the Principle of Natural Justice, *nemo judex in sua causa*, as well as give rise to the plea of conflicting interest.

VIII. Exemption granted under the amended Notification has no nexus to the object sought to be achieved, i.e., the environmental protection.

IX. The impugned Notification is in derogation of India's international commitment and obligation under the Rio Declaration (1992), particularly Principle 15 to 17 and the Paris Agreement, 2015.

X. The impugned Notification, if given effect to, as framed would result in wiping out the effect of environmental laws in force and hence would not be in consonance with the doctrine of non-regression.

XI. In addition to above, Applicant has also contended that the impugned Notification has an impact of disturbing the federal structure as provided in the Constitution of India. The Central Government cannot exercise power, authority and control in relation to subject matter of the Notification over the local authorities. The Environmental Cell, constituted under the amended Notification, would be under control of the local

authority or the State Government, as the case may be and, therefore, it will have apparent conflict with the Central Regulating Authority.

XII. In terms of the Notification, the violations of environmental conditions would be punishable and action would be taken under local laws, thus, divesting the CPCB or the State Regulatory Authority from taking punitive action against the defaulters and, therefore, would not be in consonance with the scheme of 1986 Act. The Notification is a manifest ploy for ousting of the application of the Environmental Acts and even the jurisdiction of the Tribunal. Furthermore, power under Section 3(1) of the Act of 1986 can be exercised in harmony and consonance with other provisions of the Act. The power under Section 3 is to be exercised for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. The measures contemplated under Section 3 can only be taken in that behalf. Thus, power cannot be exercised for purposes beyond Section 3(1) and the provisions of the Act of 1986.

XIII. It is also contended by Applicant that MoEF has not provided any appropriate answer to the questions formulated by the Tribunal in its order dated 21st December, 2016 and 28th July, 2017.

XIV. There is no power with the Central Government to transfer its responsibility to the local authorities. The impugned

Notification does not provide power of refusal or rejection of the application seeking Environmental Clearance. The impugned Notification which introduces Paragraph no. 14 to the Notification of 2006, would be in apparent conflict with Para 1 to 13 of the Notification 2006. The Environmental Cell would not be able to function independently, fairly and in a transparent manner.

XV. The impugned Notification is unsustainable as on one hand it is not based on any study and on the other it ignores the recommendations made in the various studies conducted by the Ministry itself including Dr. Kasturirangan's reports. The positive suggestions and recommendations made in these reports have been ignored**.** The Notification attempts to hide behind the poor for the benefit of the builders. It also lacks in providing for requisite expertise of the members constituting the environmental cell in the interest of environment. No, criteria or qualifications have been fixed for the Member of environmental cell unlike the law in existence, which certainly would have adverse impacts as there will be massive construction activity causing serious environmental degradation.

5. From the above grounds, the applicants in all these applications pray that the impugned Notification dated 9th December, 2016 should be declared as *ultra vires* and be quashed. The challenge to the Notification is on legal grounds as well as on other reasons that it will have an adverse impact on environment, ecology and natural resources. In fact, it is contended that it will also have serious

repercussion on climate change. The Notification though claims to serve social cause of providing housing for the poor but, in fact, result of its enforcement would be contrary. It would permit construction of huge buildings and apartments without strictly complying with the environmental norms.

6. It will be appropriate to commonly state the response of various respondents together to the applications filed by the applicants. The preliminary objection has been raised as to the maintainability of the applications. It is contended that the validity of the Notification dated 9th December, 2016, has been challenged which is amending the EIA Notification, 2006 in exercise of the power conferred under Section 3 of the Environment (Protection) Act, 1986 (for short, the 'act of 1986') on the ground that it is violative of Articles 21 and 14 of the Constitution of India, which is beyond the ambit of Section 14 read with Section 18 of the NGT Act and the Tribunal has no jurisdiction to examine the validity of the subordinate legislations. The object of Notification is to delegate the power to Urban Local Bodies to grant Environmental Clearance. The scope of the Environmental Clearance has been widened as, now, Environmental Clearance is required even for building size having a built-up area 5000 sq. mtr. to 20,000 sq. mtr. While under the earlier Notification the built-up area of 20,000 sq. mtr. and above was covered. Urban Local Bodies and Urban Development Authorities are involved in the building plan approval and while granting approval, the process of granting Environmental Clearance can very well be integrated and can be given online. This will hasten the grant of clearances and there would not be any adverse impact on the construction projects. The Notification attempts to

decentralize the clearance process and has also attempted to integrate the environmental conditions along with building permissions. The local authorities would be conferred with the responsibility with support from expert bodies to discharge the important function. It is proposed to have a system of Qualified Building Environment Auditors (QBEA) providing for Third Party Auditing of environmental plans and its implementation. The QBEA will undertake certification that whether the environmental conditions have been adequately planned in the building design or not, it will thoroughly check its implementation during construction and regularly monitor its performance every five years. The setting up of an Environmental Cell at the level of Local Authority has been directed after taking into consideration lack of capacity at the level of Local Authorities. The Environmental Cell will comprise of three dedicated experts in the field of Waste Management (Solid and Liquid), Water Conservation and Management, Resource Efficiency including Building Materials, Energy Efficiency and Renewal Energy, Environmental Planning including Air Quality Management, Transport Planning and Management. The environment cell will also perform various other functions. The Local Authorities will prescribe the fee for environmental appraisal along with the fee for building permissions. Relying upon the judgement of the High Court of Delhi in the case of *Delhi Pollution Control Committee vs. Splendor Landbase Ltd.* in LPA 1/2011 and C.M. No. 6781/2011, the Notification has been issued to grant exemption to the residential complexes from the operation of Air and Water Act, respectively. The High Court expressed the view that residential complexes do not require any permission to establish or

operate under the said Acts. The QBEA is to be accredited by the MoEF&CC through qualified agency which would assess and certify building projects. The project proponent shall submit performance data and certificate of continued compliance of the project for the environmental conditions and parameters applicable after completion of construction from QBEA every five years to the environment cell focusing on different issues. If, there were violations committed by the builders who failed to take prior Environment Clearance in terms of the EIA Notification, 2006 and to deal with the violation in excess, the Ministry had issued certain Office Memorandums granting one time exemption which came to be set aside by the Tribunal *vide* its judgement dated 7th July, 2015 in the case of *S.P. Muthuraman v. Union of India and Ors.* (2015) ALL(I) NGT REPORTER (2) (DELHI) 170. 400 cases were kept on hold at different stages and in order to deal with the same, the present Notification had been issued. The purpose is to bring the entities under Environmental Compliance Regime at the earliest. The Notification provides various stages to be followed for granting prior Environmental Clearance which protects the environment in all respects. The Notification dated 9th December, 2016, provides that the States adopting the environmental conditions prescribed in appendix XIV of the Notification and incorporating it in the building bye laws and relevant state laws and incorporating the said conditions in the approvals given for building construction and making it legally enforceable, shall not require a separate Environmental Clearance from the MoEF&CC. The proposed changes by the State Government in its bylaws are to be examined by MoEF&CC and only after the concurrence of MoEF&CC to the changes

made by the State Government, that the requirement of separate environmental Clearance by the Central government for buildings to be constructed in the State or Local Authority areas, is dispensed with. Appendix XVI provides setting up of Environmental Cell in terms thereof the cell shall be responsible for assessing and appraising the environmental concerns for the area under its jurisdiction where building activities are proposed. The environmental cell can evolve and propose additional environmental conditions as per requirement. The procedure for seeking building permission incorporating environmental conditions has been made more stringent in comparison to the earlier provisions. The burden lies on the project proponent for furnishing requisite information and the Local Authorities are expected to take greater caution and care in assessing them. The comparative analysis of the Notification dated 14th September, 2006 and 9th December, 2016 shows that the later is more comprehensive in terms of prescription of environmental protection standards and conditions. The Notification dated 9th December, 2016 was issued in view of the policy decision taken by the Government of India to provide affordable housing to weaker sections in Urban areas in terms of scheme of 'Housing for All by 2022'. The general conditions that were provided under the Notification of 14th September, 2006 in substance continue but only change that has been brought about is that instead of obtaining prior Environmental Clearance from the Central Government the same shall be obtained from the State/Union Territory Environmental Impact Assessment Authority. The requirement of obtaining prior Environmental Clearance has not been dispensed with. The Draft Notification was

also challenged by the applicant which was disposed of *vide* order dated 30th September, 2016. The suggestions and objections were invited and after considering the same the final Notification was issued. The reliance placed by the applicants on the judgement of *Dr. Avinash Ramkrishna Kashiwar vs. State of Maharashtra;* (2015) 5 Mh. L.J. is of no consequence as on facts that judgement has no applicability in relation to the examination of the present Notification.

JURISDICTION OF THE TRIBUNAL:

7. According to the respondents, reliance placed by the applicant on the judgement in the case of *Dr. Avinash Ramkrishna Kashiwar vs. State of Maharashtra* (supra) is misplaced as that judgement has no application to the facts of the present case and particularly, for examining the validity of the impugned Notification. The respondents, therefore, prayed that the application requires to be dismissed on merits as well as on the preliminary objections taken by them.

8. In light of the above factual matrix of the case, we have to examine the merit or otherwise of the preliminary objections taken by the respondents in regard to the jurisdiction of this Tribunal to examine the validity of the impugned Notification. To examine this issue, we do not have to refer to the facts in any detail suffices it to notice that challenge in the present case is to the legality and validity of the Notification dated 9th December, 2016. The contentions of the respondents are that this Tribunal has been constituted under the provisions of the National Green Tribunal Act, 2010 (for short, Act of 2010') and it being a statutory Tribunal is not vested with the powers to examine the validity or constitutionality of a subordinate

legislation, i.e., Notification dated 9th December, 2016. Such aspects can only be examined by a constitutional Court, i.e., the Hon'ble Supreme Court of India or Hon'ble High Court. Reliance in this regard has been placed by them upon the judgement of the Division Bench of the Bombay High Court in the case of *Central India Ayush Drugs Manufacturers Association, Nagpur & Ors. v. State of Maharashtra,* AIR 2016 BOM 261. The respondents also relied upon the judgement of Hon'ble Supreme Court of India in the case of *Alpha Chem & Anr. v. State of Uttar Pradesh & Ors.,* 1991 Supp (1) SCC 518, wherein it was held that challenge to the constitutionality of a statute is maintainable in proceedings initiated under Articles 226 and 32 of the Constitution of India and not in appeal or revision before High Court or in proceedings initiated under a statute before an authority constituted under the said statute itself. Contrary to this, the contention of the applicant is that the Tribunal is competent and is vested with the jurisdiction and power of judicial review. In exercise of such powers it can examine the constitutionality, validity and legality of a subordinate legislation, particularly, when the Notification issued in exercise of the subordinate legislation is for the implementation of the enactments specified in Schedule I of the Act of 2010. Under the provision of the Act of 2010, such power of the Tribunal is neither expressly nor impliedly barred. On the contrary, the scheme of the Act clearly demonstrates that the Tribunal is competent to examine the correctness of a Notification issued under any of the Scheduled Acts in so far as the Notification implement or impliedly implement the provisions, object and purpose of the scheduled Act under which it is issued. In support of their contention, the applicants rely upon

the judgements of the Hon'ble Supreme Court of India in the case of *L. Chandra Kumar v. Union of India & Ors.,* 1997 (2) SCR 1186, *SP Sampath Kumar v. Union of India & Ors.,* (1987) 1 SCC 124, *State of West Bengal v. Ashish Kumar Roy & Ors.,* (2005) 10 SCC 110 and judgements of this Tribunal in the case of *Wilfred J. v. Union of India* 204 ALL (I) NGT REPORTER 2013, *SP Muthuraman v. Union of India,* 2015 ALL (I) NGT REPORTER (2) DELHI 170 and *Himmat Singh Shekhawat v. State of Rajasthan & Ors.,* ALL (I) NGT REPORTER (1) DELHI 44.

9. As far as this bench of the Tribunal is concerned the question of jurisdiction is no longer *res integra*. It has been conclusively decided by larger bench of the Tribunal in the case of *Wilfred J.* (supra), where the Tribunal held as under:

> "39. Having dealt with the constitution of the Tribunal and having established its independence, now let us proceed to examine the scope of power of the Tribunal, with particular reference to examining a subordinate or delegated legislation as being ultra vires, unconstitutional or illegal. Judicial review is the power of the court to review statutes or administrative acts or determine their constitutionality or validity according to a written constitution. In a wider sense, judicial review is not only concerned with the merits of the decision but also the decision making process. It tends to protect individuals against the misuse or abuse of power by a wide range of authorities. Judicial review is a protection to the individual and not a weapon. It is the doctrine under which legislative and/or executive actions are subject to review (and possible invalidation) by the judiciary. A specific court with the power of judicial review may annul the acts of the State, when it finds them incompatible with a higher authority (such as the terms of a written constitution). Judicial review is an example of checks and balances in a modern governmental system, where the judiciary checks the other branches of government. This principle is interpreted differently in different jurisdictions, which also have differing views on the different hierarchy of

governmental norms. As a result, the procedure and scope of judicial review may differ from country to country and State to State. Unlike in England, where the judiciary has no power to review the statutes/Acts made by the Parliament, the United States Supreme Court in terms of Article III and Article VI exercises the power of judicial review of the Acts passed by the Congress and has struck down several statutes as unconstitutional. In India, the Supreme Court and the High Courts have frequently exercised the power of judicial review keeping intact the 'doctrine of separation of power'. Challenge to legislation before the Courts in India has primarily been permitted on a very limited ground. The legislation in question should either be unconstitutional, or should lack legislative competence. Challenge to such legislation as being unreasonable has also been permitted, if it violates or unreasonably restricts the fundamental rights, particularly under Article 14 and 19 adumbrated in our Constitution.

40. The Courts are vested with the power of judicial review in relation to legislative acts and even in relation to judgments of the Courts. The power of judicial review has been exercised by the Courts in India sparingly and within the prescribed constitutional limitations. The Courts have also taken a view that functions of the Tribunal being judicial in nature, the public have a major stake in its functioning, for effective and orderly administration of justice. A Tribunal should have judicial autonomy and its administration relating to dispensation of justice should be free of opinions. (Ajay Gandhi v. B. Singh, (2004) 2 SCC 120). The National Green Tribunal has complete control over its functioning and all the administrative powers, including transfer of cases, constitution of benches and other administrative control over the functioning of the Tribunal, are vested in the Chairperson of the NGT under the provisions of the NGT Act".

10. The Tribunal in the case of *S.P. Muthuraman* (supra) also held that:

"This Tribunal has been vested with Original, Appellate and Special jurisdiction in regard to directing payment of compensation for damage to and for restitution and restoration of the environment. The legislature in its wisdom worded the provisions relating to the jurisdiction of the Tribunal (Sections 14 to 17 of the Act

> of 2010) very widely, and with a clear intent to provide this Tribunal with jurisdiction of a very wide magnitude. Upon reading the various provisions of the Act of 112 2010 cumulatively and in light of the underlying scheme of the Act of 2010, including the definition of 'environment' in terms of Section 2(c) of the Act of 2010, it is quite clear that this Tribunal is having all the trappings of a Court and is conferred with the twin powers of judicial as well as merit review. There is no provision in the Act of 2010 which curtails the jurisdiction of the Tribunal to examine the validity and correctness of a delegated legislation and/or administrative or executive order passed by the Government including any of its instrumentalities or authorities. The fundamental principle for invoking the jurisdiction of this Tribunal is that, the question raised should be a substantial question relating to environment and should arise out of the implementation of the enactments specified in Schedule I of the Act of 2010. It could even relate to enforcement of any legal right relating to environment with regard to these enactments. Delegated or subordinate legislation, executive orders and/or administrative orders in so far as they relate to the implementation of the Scheduled Acts would be open to challenge before the Tribunal and hardly any argument can be raised that the documents like Office Memoranda would not be subject to judicial scrutiny before the Tribunal".

11. The parties to the *lis* had preferred statutory appeal against the above cited judgement of the Tribunal before the Hon'ble Supreme Court of India. The Hon'ble Supreme Court of India had issued notice on the appeals and *vide* its order dated 21st January, 2015 in Civil Appeal No. 7884-7885 of 2014 had directed that further proceedings qua the appellants shall remain stay till further orders. However, in the same order the Hon'ble Supreme Court also directed that this Tribunal shall continue to exercise its powers in terms of Section 14, 16 and 18 of the NGT Act, 2010 in other cases. *Vide* order dated 3rd

February, 2016, passed by the Hon'ble Supreme Court of India in another set of appeals being Appeals No. 8550-8551 of 2014 passed an order by modifying order dated 21st January, 2015. The order dated 3rd February, 2016 reads as under:

> ".....By our Order dated 21.01.2015, we had stayed further proceedings in Appeals No. 14 of 2014, 17 of 2014 and 88 of 2014 and Original Application No. 74 of 2014 pending before the National Green Tribunal, Principal Bench at Delhi.
> Having heard learned counsel for the parties at some length, we are inclined to modify the said order so as to permit the Tribunal to proceed with the hearing of the Appeals and the Original Application for an expeditious disposal of the same. Learned counsel for the parties also agree that the appeals and the original application could be finally heard and that neither party shall pray for any interim direction in the said matters nor seek any adjournment which may unnecessarily procrastinate the entire controversy.
> In the circumstances, therefore, we modify our Order dated 21.01.2015 and permit the National Green Tribunal, Principal Bench at Delhi to proceed with the hearing of the appeals and Original Application and make an endeavour to dispose of the same as far as possible within a period of six weeks from the date a copy of this 3 order is placed before it. We make it clear that hearing of the Appeals and O.A. on merits pending before the Tribunal shall be without prejudice to the contentions open to the parties in these appeals which shall await the final hearing and disposal of the matter by the Tribunal. These appeals shall accordingly stand over for being listed after the disposal of the matters by the Tribunal. Liberty is given to the parties to mention the matter once the Tribunal passes final orders in the case before it."

In terms of the above order, the matters were finally heard by the Tribunal and disposed of *vide* order dated 2nd September, 2016. The parties had approached the Hon'ble Supreme Court after the final judgement by the Tribunal. The matter was heard by the Hon'ble Supreme Court and the Appeals were disposed of *vide* order dated 3rd

July, 2017. The order dated 3rd July, 2017 while leaving the question of law open, reads as under:

> "……Pursuant to the order dated 3rd February, 2016, the National Green Tribunal has delivered judgment and order dated 2nd September, 2016. A review petition filed against that decision was disposed of on 30th November, 2016.
> We are told by the learned Attorney General that the project has been upheld by the National Green Tribunal. Under the circumstances, we dispose of these appeals leaving open the question decided by the National Green Tribunal on its jurisdiction to set aside subordinate legislation.
> In the event any of the aggrieved parties raises a dispute against the final order passed by the National Green Tribunal, it will be open to the appellant as well as the State of Kerala to agitate the issue of a 2 challenge to the subordinate legislation.
> Pending applications, if any, are disposed of."

In terms of the above order, it is clear that the law stated by the Tribunal in its judgement in the case of *Wilfred J. (*supra) was not disturbed by the Hon'ble Supreme Court either at the interim stage or while finally disposing of the appeals. Interim stay granted by the Hon'ble Supreme Court was limited to the appeals with a specific dictum that the Tribunal could decide other cases in terms of the provisions of the Act thereby clearly stating that the judgement in the case of *Wilfred J.* (supra) on the question of law was neither interfered nor stayed. Thus the law stated by the larger bench of the Tribunal attains finality and is binding on this bench. In any case, we have no reason not to accept the mandate of the larger bench and apply to the present case. The reliance placed by the respondents upon the judgement of the High Court of Bombay in the case of *Central India Ayush* (supra) will not be of any benefit to the respondents. Firstly,

the judgement of the High Court of Bombay does not consider the larger bench of the Tribunal in the case of *Wilfred J.* (supra). It also does not refer to the judgements of the Hon'ble Supreme Court in *L. Chandra Kumar* (supra) wherein Hon'ble Supreme Court had clearly stated that the Tribunals are competent to hear matters challenging *vires* of the statutory provisions or *vires* of the subordinate legislation. Of course such jurisdiction falls in a limited compass. In the case of *SP Sampat Kumar* (supra), the Hon'ble Supreme Court clearly stated that the Tribunal has power of the judicial review and even vested with the powers of the Civil Courts so it has wide jurisdiction including the power of judicial review. There are other judgements from other High Courts which have taken entirely a different view than the view taken by the High Court of Bombay. These High Courts have specifically referred to the Tribunal for adjudication of cases involving challenge to the Notifications issued in exercise of subordinate legislation with regard to noise pollution, plastic bags and other such matters. In this regard, we may refer to the judgement of the High Court of Delhi in the case of *All India Plastic Industries Association & Anr. v. Govt. of NCT of Delhi and Ors,* Writ Petition No. 7012 of 2012 decided on 5th December, 2016. The Division Bench of the High Court while relying upon the judgement of *L Chandra Kumar* (supra) of the Hon'ble Supreme Court of India and the provisions of the Schedule I to the Act of 2010, held that the matter before it challenging the Notification issued under Section 5 of the Environment (Protection) Act, 1986 (for short, 'act of 1986') imposing a ban on manufacture, import, store, sale or transport of any kind of plastic, carrying bags etc be transferred to this Tribunal for deciding

the same on merits including the question, validity of the Notification. It may be noticed that High Court of Delhi would be the jurisdictional High Court for the Principal Bench, National Green Tribunal.

12. The Punjab & Haryana High Court, Tripura High Court and Jharkhand High Court has also transferred the cases of *Goodwill Plastic Industries & Ors. v. Union Territory of Chandigarh & Ors., All India Plastic Industries Association v. Tripura* and *RDS Bricks v. State of Jharkhand,* respectively to the Tribunal. In all these cases, *vires* to the Notifications dated 30th July, 2008 and 3rd July, 2013 both relating to banning of plastic and Notification dated 29th March, 2012 relating to eco-sensitive zone were challenged. To put it simply all these High Courts have taken a view that the Tribunal can examine the validity of a Notification issued for implementation of a subordinate legislation.

In the another judgment of the Tribunal in the case of *SP Muthuraman v. Union of India & Anr.* (supra), wherein the office memorandums issued by the MoEF&CC dated 12th December, 2012 and 27th June, 2013 were quashed. The Tribunal took the view that it had the limited power of judicial review and it can examine the office memorandums issued in furtherance to the rules framed by MoEF&CC. A review application was filed by the different project proponents in that case, which was also dismissed *vide* order dated 1st September, 2015. The orders of the Tribunal were challenged before the Hon'ble Supreme Court of India and the Hon'ble Supreme Court *vide* its order dated 24th September, 2015, stayed the order of the Tribunal. *Vide* order dated 23rd November, 2015 and upon application

of MoEF&CC the Hon'ble Supreme Court of India clarified its order and stated that stay was applicable only to the appellant's before it. During the pendency of the appeals, some directions were passed by the Hon'ble Supreme court in relation to deposit of the environmental compensation imposed by the Tribunal. The Hon'ble Supreme Court *vide* order dated 4th July, 2016 made it clear that the Tribunal could proceed by passing of directions as contained in para 163(13) of its order dated 7th July, 2015 and parties were granted liberty to raise all submissions open to them on fact and law before the Tribunal. Even the judgement of the Tribunal on the question of jurisdiction has not been stayed by the Hon'ble Supreme Court. However, the parties have been granted liberty to raise all pleas of facts and law. The Tribunal had also passed similar judgments in the case of *Himmat Singh Shekhawat v. State of Rajasthan* (supra) and *Kalpvriksha & Ors. v. Union of India*, in OA No. 116 of 2013 (T_{HC}) decided on 17th July, 2014. All these orders have attained finality and remain undisturbed.

13. Another aspect that needs specific mentioning by us is that this Tribunal is a special and unique Tribunal constituted under the legislation enacted by the Parliament in exercise of its powers under Article 253 of the Constitution of India. It needs to be distinguished from other Tribunals enacted under Article 323(A) and 323(B) of the Constitution. This Tribunal has been constituted for the purpose of implementing the decisions at the United Nations Conference on the Human Environment held at Stockholm in June 1972, where India also participated. 186th Law Commission Report also noticed that the environmental Tribunal constituted under Article 253 could be traced

as an act of implementation of the decisions taken at the International Conference with reference to Rio-declaration of 1992. The purpose of implementing the decisions at Rio conference & Stockholm Conference and constituting the Tribunal was to provide speedy adjudicatory body in respect of the disputes arising in environmental matters. In the case of *Braj Foundation vs. State Government of UP & Ors.,* Application No. 278 of 2013 decided on 5th August, 2014, the bench of the Tribunal held that one is to remember that the Tribunal is created in furtherance to the enactment of the Parliament to give effect to the true spirit of the terms of Article 253 of the Constitution of India and, therefore, there is no iota of doubt in our mind that the Tribunal has inherent power of not only enforcing its orders but also dealing with any person who either disobeys or violates its orders. The inherent power would co-exist with the Tribunal examining the correctness of any office order or subordinate legislation whether it is in consonance or not with the provisions of the environmental laws in force particularly when it is issued under those very legislations.

In light of the above position of law and the fact that the judgments of the Tribunal in the case of *Wilfred J.* (supra) and *S.P. Muthuraman* (supra) are binding upon this bench. We have no hesitation in rejecting the objection raised by the respondents as without merit.

DISCUSISON ON MERITS OF THE CONTENTIONS RELATING TO VALIDITY OF THE NOTIFICATION

14. The draft Notification dated 29th April, 2016 was published by the Respondent inviting objections and suggestions thereto. After

considering the objections/suggestions received by the MoEF&CC, it had issued the final Notification dated 9th December, 2016. According to the Applicant, not only the Notification dated 9th December, 2016 but also the entire process of finalizing the Notification suffers from factual and legal infirmities. It is also the contention that it defeats the very object and purpose of the Act of 1986, EIA Notification of 2006 and is also opposed to the federal scheme under the Constitution of India. The detailed objections raised by the Applicant has already been noticed by us in paragraph no. 4 of the judgment (supra). According to the respondent, the notification does not suffer from any error much less legal infirmity or validity. The contentions of the respondents have also been noticed above. And within the ambit of the contentions raised before us, now, we will proceed to deliberate on these issues. First and foremost, we may refer to the comparative study of the existing and proposed regime in terms of the Notifications dated 14th September, 2006 and 9th December, 2016. The useful reference can be made to the following chart:

Sl. No.	Particulars	EIA Notification dated 14 September,2006	EIA Notification dated 09 December, 2016
1.	Consent to Establish & Operate	• Prior to the actual construction activities, the project proponent has to obtain Consent to Establish from the Board under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981for all construction projects having BUA above 20,000 m^2 • After completion of the construction activity, the proponent has to obtain Consent to Operate from the Board under the Water	• No Consent to Establish and Operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 will be required from the State Pollution Control Boards for residential buildings up to 1,50,000 square meters

		(Prevention No Consent to Establish and Operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 will be required from the State Pollution Control Boards for residential buildings up to 1,50,000 square meters and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981for all construction projects having BUA above 20,000 m^2.	
2.	Construction projects having built up area below 20,000 m^2	• Projects having built up area below 20,000 m2 not require prior environmental clearance from MoEF	• BUILDINGS CATEGORY '1' (5,000 to < 20,000 Square meters) ¬ A Self declaration Form to comply with the environmental conditions (Appendix XIV– attached below) along with Form 1A and certification by the Qualified Building Environment Auditor to be submitted online by the project proponent besides application for building permission to the local authority along with the specified fee in separate accounts ¬ Thereafter, the local authority shall issue the building permission incorporating the environmental conditions in it and allow the project to start based on the self declaration and certification along with the application ¬ After completion of the construction of the building, the project proponent may update Form 1A online based on audit done by the Qualified Building Environment Auditor and shall furnish the revised compliance undertaking to the local authority. ¬ Any non-compliance issues in buildings less than

			20,000 square meters shall be dealt at the level of local body and the State through existing mechanism
3.	Construction Projects having built up area above 20,000 m^2	• An application seeking prior environmental clearance in all cases shall be made in the prescribed Form 1 annexed herewith and ¬The project proponent to submit online application in Form 1 A along with specified fee for environmental appraisal and additional fee for building permission ¬The fee for environmental appraisal will be deposited in a separate account Supplementary Form 1A, if applicable, as given in Appendix II, after the identification of prospective site(s) for the project and/or activities to which the application relates, before commencing any construction activity, or preparation of land, at the site by the applicant.	• The project proponent to submit online application in Form 1 A along with specified fee for environmental appraisal and additional fee for building permission ¬the fee for environmental appraisal will be deposited in a separate account. • The Environment Cell will process the application and present it in the meeting of the Committee headed by the authority competent to give building permission in that local authority ¬The Committee will appraise the project and stipulate the environmental conditions to be integrated in the building permission ¬After recommendations of the Committee, the building permission and environmental clearance will be issued in an integrated format by the local authority ¬The project proponent to submit Performance Data and Certificate of Continued Compliance of the project for the environmental conditions parameters applicable after completion of construction from Qualified Building Environment Auditors every five years to the Environment Cell with special focus on the following parameters; 1.Energy Use (including all energy sources) 2.Energy generated on site from onsite Renewable energy sources 3.Water use and waste water generated,

			treated and reused on site 4.Waste Segregated and Treated on site 5.Tree plantation and maintenance ¬After completion of the project, the Cell shall randomly check the projects compliance status including the five years audit report ¬The State Governments may enact the suitable law for imposing penalties for non-compliances of the environmental conditions and parameters ¬The Cell shall recommend financial penalty, as applicable under relevant State laws for noncompliance of conditions or parameters to the local authority. • On the basis of the recommendation of the Cell, the local authority may impose the penalty under relevant State laws ¬The cases of false declaration or certification shall be reported to the accreditation body and to the local body for blacklisting of Qualified Building Environment Auditors and financial penalty on the owner and Qualified Building Environment Auditors
4.	Built up Area considered for EC	• Built up area for covered construction; in the case of facilities open to the sky, it will be the activity area	• The term "built up area" for the purpose of this notification is the built up or covered area on all floors put together including its basement and other service areas, which are proposed in the buildings and construction projects
5.	Monitoring of environmental compliances	• Earlier, it was mandatory for the project proponent to submit compliance report every six months.	• Project proponent shall submit performance data & certificate of continued compliance of the project for the environmental conditions after completion of construction every five years.

6.	Process of granting permission for construction and building projects	• Under 2006 notification prior Environment clearance from SEIAA was mandatorily required even before <u>starting of the construction work or preparation of land.</u> SEIAA was to screen scope and appraise projects before granting of environment clearance. • The environmental clearance process before SEIAA comprises of four stages, all of which may not apply to particular cases as set forth. These four stages in sequential order are:- • Stage (1) Screening (Only for Category 'B' projects and activities) • Stage (2) Scoping •Stage (3) Public Consultation • Stage (4) Appraisal	• Under 2016 notification Environmental conditions are to be imposed by Environmental cell at the level of local authority. The cell will then process the application and place it before the committee headed by the authority competent to give building permissions. The committee will then appraise the project and stipulate environmental conditions without any provisions of public consultation which is an integral part of 2006 notification. • Therefore, the environmental cells work under the building permit issuing authority therefore not a independent authority to impose environmental conditions. Moreover building permit authority is not a scientifically sound body as SEIAA or SEAC.
7.	Environment Clearance Authority concerning Building and Construction projects	• Clearance was given after screening and appraising of the projects by government constituted bodies' i.e. SEIAA or SEAC who are independent bodies.	• Imposition of environmental conditions by local authority on the basis of assessment and certification by Qualified Building Environment Auditors (QBEAs) which could be a firm /Organization or an individual expert accredited by the accreditation authority.
8.	Violation of environmental conditions	• Violation of environmental conditions and parameters are dealt under section 15 and section 19 of EPA, Act 1986.	• The state Government may enact suitable laws for imposing penalties for non compliance. The local Authorities shall impose penalties based on the recommendation of environmental cell of local body.
9.	Qualification of Experts	• Multi sectoral / Multi disciplinary experts in SEAC. • Qualification as per the Schedule 6 of the	• Experts of limited sectors like Water, Air, Solid Waste, Energy and transport in environmental cell.

		current EIA notification.	

From the above comparative study of the two regimes, it is clear that the regime in terms of the Notification dated 9th December, 2016 would considerably dilute the environmental safeguards provided not only under the Regulation of 2006 but even under the Act of 1986. The Applicants have rightly placed reliance on the Principle of Non-regression. Under the International law, the doctrine of Non-regression is an accepted norm. It is founded on the idea that environmental law should not be modified to the detriment of environmental protection. This principle needs to be brought into play because today environmental law is facing a number of threats such as deregulation, a movement to simplify and at the same time diminish, environmental legislation perceived as too complex and an economic climate which favours development at the expense of protection of environment. The draft amendment of the existing environmental laws should be done with least impact on environment protection that was available under the existing law or regime. The present amendment in the Notification particularly few clauses that we will refer hereinafter can lead to severe environmental impacts.

15. The Precautionary Principle as propounded by the Hon'ble Apex Court is a cornerstone of environmental jurisprudence in the country as the environmental conditions imposed are not comprehensive enough and are only a tick-box exercise taken by the project proponent without any prior environment assessment process especially its impact on ecologically sensitive area and other environmental vulnerable area.

The impugned notification, takes away the power of the Pollution Control Boards and Committee to grant/refuse Consent to Establish and Consent to Operate for building and construction projects up to an area of 1,50,000 sq meter. It further dilutes the entire environmental assessment framework under the EIA notification 2006, which has been periodically strengthened and amended by the numerous orders of this Hon'ble Tribunal.

The impugned notification has several deficiencies that go against the basic letter and spirit of EPA Act, 1986 and the EIA notification issued there under. Power under Section 3 read with Rule 5 of Environment (Protection) Act, 1986 can only be exercised by the central government or the authorities constituted by it. Whereas the impugned notification gives power to the State Government for constitution of an authority to exercise and perform such of the powers and functions as provide under Environment Protection Act, 1986, which Includes assessment and granting of environment clearance to the projects. This would be apparently in conflict with the provisions of the Act of 1986. In this regard reference can also be made to the judgement of the constitutional bench of the Hon'ble Supreme Court in the case of *LIC v. Escorts Ltd.,* (1986) 1 SCC 264, where the Hon'ble Supreme Court held that it may be open to a subordinate legislating body to make appropriate rules and regulations to regulate the exercise of a power which the Parliament has vested in it, or as to carry out the purposes of the legislation, but it cannot divest itself of the power.

It is further stated that these conditions fall substantially below the prior environmental assessment procedure which was much detailed and brought within EIA framework after the direction of the Hon'ble Supreme Court in the *Maily Yamuna Case* (W.P.C No. 725 of 1994).

16. The impugned notification provides that the local authorities such as the development authorities and Municipal Corporation may certify compliance of Environmental Conditions prior to issuance of completion certificate based on recommendations of the Environmental Cell to be constituted in the local authority. Further, the purpose of notification regarding integration of environmental conditions, the MoEF&CC through competent agencies would accredit Qualified Building Environmental Auditor (QBEA's) to assess and certify the building projects. It is clear from the above that the entire assessment procedure has been replaced over which the MoEF&CC has no control.

17. The MoEF&CC has failed to produce any study, literature, evaluation of the reason for taking such a retrograde decision to go back to a pre-2004 situation wherein the failure of the local bodies was considered to be the primary reason for bringing building and constructions activity within the EIA framework. In pre-2004 the position was that the construction sector projects were only regulated through Bye Laws and no Environmental Clearance was required.

18. The proposal for exemption of Environmental Clearance for construction and building project with built-up area to 1,50,000 Sq mtrs. is baseless as there is no study that indicates any improvement

in environment quality with regard to all environmental facets/ availability of natural resources, following which there can be a consideration for relaxation of current norms.

The said amendment notification is only a ploy to circumvent the provisions of environmental assessment under the EIA Notification, 2006 in the name of 'ease of doing responsible business' and there is no mechanism laid down under the amendment notification for evaluation, assessment or monitoring of the environment impact of the building and construction activity. The construction industry consumes enormous resources and has a significant energy footprint; the sector emits 22 per cent of India's total annual carbon-dioxide emission. The Hon'ble Tribunal in the matter of *S.P. Muthuraman vs. Union of India & Anr.* (supra) Observed:

> *"In recent past, building construction activities in our country have been carried out without much attention to environmental issues and this has caused tremendous pressure on various finite natural resources. The green cover, water bodies and ground water resources have been forced to give way to the rapid construction activities. Modern buildings generally have high levels of energy consumption because of requirements of air-conditioning and lighting in addition to water consumption. In this scenario, it is necessary to critically assess the utilization of natural resources in these activities."*

19. The very purpose of including the construction projects in the EIA Notification was the failure of the local bodies to ensure compliance with environmental norms. The ULB's/DA's have always had specific stipulation on environmental concerns. However, such conditions were never adhered to or made a pre-requisite to such sanction. It was therefore the case of MoEF&CC that the local body have been approving new construction projects without adhering to

environmental norms. Now, the MoEF&CC itself is taking a step in backward direction without there being any changes brought about in the capacity and technical competence of the local body to assess, evaluate and monitor the environmental norms or to ensure compliance.

20. The EIA Notification, 2006, has a comprehensive process for evaluating the impact on environment which will not be the case after the said notification. For instance, the EIA Notification, 2006 provides Expert Appraisal Committee at the Centre and the State Expert Appraisal Committee at the State level. The composition of these committees comprises as per Appendix-VI to EIA Notification, 2006 of independent experts, such as, Environment Quality Expert, Sectoral Expert in Project Management etc. But as per the amendment notification the same local body which is responsible for the stipulation of the condition would be responsible for ensuring the compliance of the same with the help of Environmental cell and QBEAs. This is in contravention of the principle of *nemo judex in sua causa,* which is a principle of natural justice, meaning that a person cannot be judge of his own cause. Also, there is no technical expertise or competence within the local bodies to either evaluate impact or to ensure compliance of environmental conditions.

As per the EIA Notification 2006, clause 1.3 states "*what are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities).* But as per the amended notification of 2016, no such provision is laid down.

21. This Hon'ble Tribunal in O.A. No. 171 of 2013 (*NGT Bar Association vs. MoEF*) vide Order dated 13.01.2015 stated *"We direct Secretary, MoEF along with such experts and the States Afore referred will also consider the possibility of constituting the branches of SEIAA at the district or at least, division levels to ensure easy accessibility to encourage the mine holders to take EC".* Similarly, the O.M. dated 19.06.2013 states that "*In case of a large pendency case the concerned state Government feels that there is need for another SEAC, the State Government may accordingly send the proposal to MoEF&CC for setting up/notifying another SEAC and MoEF may consider the same".* However instead of adhering to their own O.M.'s and the categorical judgement of the this Tribunal, they have chosen to completely dilute EC process and violate the EIA Notification, 2006 and thereby Act of 1986.

22. A bare perusal of amendment notification would show that there is complete dilution of the norms as provided under the EIA Notification, 2006. For instance, totality of issues related to conservation of water is completely ignored for building of built-up area up to 5000 sq.mtr. There is no sewage treatment or municipal solid waste processing facilities stipulated within the premises for building up to 5000 sq. mtr. of built up area.

23. The MoEF&CC has failed to fulfil its statutory responsibilities. By transferring the powers to ULBs/ Development Authority, it has created a situation of conflict of interest as all the powers have been vested with the same authority. National documents (CAG Report, 2016) also discourage such an integration of environment condition to

the sanctioning authority under the urban local bodies instead of independent assessment by environmental experts of building and construction projects. Thus for example, the report by Comptroller and Auditor General of India (CAG Report, 2016) clearly states that urban local bodies have not been performing on environmental parameters. In most compliance audit, the environmental parameters including MSW, Waste minimisation, e-waste etc have been grossly violated.

It is submitted that on para wise comparison of the draft notification and final notification are entirely different. The main addition which were not part of draft notification but found place in the final notification are as follows:

- *Consent to establish and Consent to Operate under Water Pollution Act, 1974 and Air Pollution Act, 1981 will not be required from SPCB for residential buildings up to 1,50,000 sq.m.*
- *Stripping of building construction projects of built up area of 20,000 sq.m upto 1,50,000 sq.m. from the purview of EPA Act, 1986 and bringing under the concerned State Laws.*
- *The draft Notification specifically mentions that the exclusion/amendments mentioned in the draft notification are not intended for hospitals whereas the final notification clearly excludes hospitals also from the purview of EIA Notification and EPA Act, 1986.*
- *Addition of Appendix-XV, Accreditation of Environmental Auditors. (qualified Building Auditors).*
- *Addition of Appendix-XVI, Environmental Cell at the level of Local Authority.*

When the residential building construction projects of built up area more than 20,000 sq.m up to 1,50,000 sq.m are excluded from

the requirement of "Consent to Establish" or "Consent to Operate" then these building construction projects will be out of the purview of these statutes, what will be the relevance of CPCB norms and this will encourage indiscriminate discharge of untreated sewage into river and drains.

24. In the said notification, there is no definition of "Area". In the absence of such a definition, the "Area" can be for the whole of the State or District or Region. In this connection, attention is brought to the EIA Notification, 2006 wherein the word "built-up area" was introduced. There was no definition of "built up area" in the impugned Notification and which leads to confusion in the building construction sector.

The said notification is contrary to the recommendations of the report of the committee constituted by MoEF&CC on 11.12.2012 (The Kasturirangan report) to review the provisions of EIA Notification, 2006 relating to buildings, etc which was then accepted by MoEF&CC. The MoEF&CC vide OM dated 10.11.2015, reiterated and vetted the recommendations of Kasturirangan Committee among other things. If the MoEF&CC is now changing its stand, it is duty bound to produce back-up study or research material to prove that the local bodies have concern towards environment.

25. Besides noticing the above mentioned deficiencies in and dilutions of the existing laws by the impugned Notification, we must also notice a very strong legal infirmity in it. Admittedly, the notification has been issued by the MoEF&CC in exercise of its powers under sub-section (1) read with clause (V) of sub-section (2) of Section

(3) of the Act of 1986 and clause (d) of sub-rule (3) of Rule (5) of the Environment (Protection) Rules, 1986. By the impugned Notification, paragraph 14 is sought to be inserted after paragraph 13 of the existing Notification/Regulations of 2006. The powers under these provisions can be exercised under Section 3(2)(5) of the Act of 1986 which empowers the Central Government to take measures to protect and improvement of the quality of environment in regard to restrictions of areas in which any industry/operations or process or class of industries operations or processes shall not be carried out or shall be carried out subject to certain safeguards. In terms of section 3 (1)of the Act, this power of taking measures is to be exercised by the Central Government when it deems necessary and expedient for the purpose of protecting and improving the quality of environment and preventing, controlling and abating environmental pollution (emphasis supplied). Rule 5 deals with the prohibition and restriction on the locations of industries and the carrying on process and operations in different areas. It gives power to the Central Government to take into consideration the factors while prohibiting or restricting the locations of industries and carrying on of process/operations in different areas. Sub-rule 3 of this Rule contemplates the procedure to be followed by the Central Government while issuing the notification for imposing prohibition or restriction as stated in Sub-rule (1) of Rule 5.

Thus, both the sections and the rule gives power for issuing of any notification and placing prohibition / restriction in their terms, subject to the conditions, i.e., while issuing notification the procedure under Rule 5 (3) should be followed and more importantly it should be

exercised only for the purpose of protecting and improving the quality of the environment and preventing pollution. Once any of these essential statutory features are missing the notification issued would be liable to be interfered with. The major part of the Notification does not satisfy these ingredients.

26. The amended clause 14 while dealing with the other building category more than 20000 sq. meter also provides that no Consent to Establish and Operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 will be required from the State Pollution Control Boards for residential buildings upto 150000 sq. meter. This amendment is *ex-facie* opposed to the above objects and in fact lacks legislative competence. While exercising powers under a subordinate legislation in furtherance to Section 3 and Rule 5, the authority cannot in exercise of its subordinate legislation exclude the operation of a substantive law that is Water Act, 1974 and Air Act, 1981 enacted by the Parliament. This would suffer from the *vires* of excessive legislation. It is strange that the MoEF&CC, a delegatee under the said provision could venture upon excluding the application and enforcing of a Parliament Act without even making any amendment under that act or the rules framed under that act. This action of the MoEF&CC cannot stand the scrutiny of law.

27. The Environmental Cell is to be constituted by the local authority or the State Government, whereas the implementation of the environmental law is vested with the Central Government. The Environmental Clearance is expected to be issued by the authorities

in an integrated format. Any offence or violation thereto which is punishable under the Act of the Parliament, i.e., the Act of 1986 thus subordinate legislative amendment takes away that power and requires a local authority to take precedence in relation to providing punishment for such violation or offence. There is clear ambiguity and uncertainty in the Constitution of the Environmental Cell and its functions. There is no clarity as to the qualification which the Member of the Environmental Cell should possess. A Cell, primary duty of which is to protect the environment would have to work in subordination to a local authority whose primary object is to permit development. Thus, the possibility of conflicting interest arising in the functioning of the local authority and the Environmental Cell cannot be ruled out. It may arise even then thus defeating the very purpose of the amendment.

28. Another serious objection raised to the Notification is that the final Notification has been issued without considering the objections filed to the draft Notification. Of course, in terms of the procedure prescribed under Rule 5(3) of the Rules of 1986 the procedure must be strictly adhered to. The MoEF&CC had invited objections which were filed and even the Applicant was heard. There cannot be a doubt that requirement of considering objections effectively is not a mere formality. It should be done objectively and in accordance with law as held in the case of *Dr. Avinash Ramkrishna Kashiwar vs. the State of Maharashtra (supra):*

> 17."*It could thus be seen that it appears to be settled position of law that the requirement of previous publication inviting objections and suggestions is not*

an empty formality. It is with an intention to enable persons likely to be affected , to be informed, so that they may take steps as may be open to them and the objections/ suggestions made would be required to be taken into consideration by the authorities before issuing a final notification".

26. *"In the result, we hold that the impugned notification dated 26.07.2013 is not sustainable in law and, therefore, quashed and set aside. Rule is, therefore, made absolute in the aforesaid terms with no orders as to costs."*

The Applicant had filed objections which were duly considered by the MoEF&CC and even the Applicant was heard. There is nothing on record before us that would show that there is no application of mind and that the objections were not considered objectively by the MoEF&CC. In light of this, we are unable to accept this contention raised on behalf of the Applicants.

29. The other argument of the Applicant which deserves to be considered with some merit is that the final impugned Notification is at substantial variance to the draft Notification. This has not only resulted in prejudice to the environment but has also defeated the purpose of Rule 5(3) of the Environment (Protection) Rules, 1986. Following are few examples of such variance and which have significant effect on the environmental laws:

(a). The exclusion of application of the Water Act and the Air Act was never proposed or stated in the draft Notification, while it has been introduced in the final Notification.

(b). Role of the State Pollution Control Boards to monitor and verify the environmental conditions is eliminated in the final notification. The construction of built up area upto area of 20,000 sq. meter upto 1,50,000 sq. meter which were

otherwise covered under the Act of 1986 now have been brought under the State Laws without specifying them in the draft notification. The draft Notification specifically mentions that the exclusion/amendment benefits mentioned in the draft Notification are not intended for hospitals whereas the final notification clearly excludes hospitals from the purview of the EIA Notification, 2006 and Environment (Protection) Act, 1986. It is at substantial variance as the hospitals fall under red category under the Central Pollution Control Board categorization dated 7th March, 2016. So, provision of dealing with the environmental conditions of hospitals falling under the environmental norms.

(C). Addition of Appendix XV, accreditation of environmental auditor (Qualified Building Environment Auditor).

(D). Addition of Appendix XVI, Environmental Cell at the level of local authority.

On the above premises, it is contended that on the one hand, there is substantial difference between the draft and the final notifications while on the other hand Applicants were deprived of the right to file objections on these aspects. Reliance is placed on the judgement of the Hon'ble Supreme Court of India in the case of *State of Punjab vs. Tehal Singh & Ors,* AIR 2002 SC 533 wherein the Supreme Court held that Principle of Natural Justice to subordinate legislation may be applied but where the legislature provides an

opportunity of hearing and filing objections then it must be adhered to *senso stricto*.

30. From the records before the Tribunal, it is clear that there are variations even of substantial nature between the draft and the final Notification dated 9th December, 2016 issued by the respondent. One of the significant failures of the same is that the applicants or public at large has lost substantive right to file objections on these aspects to the draft Notification. They have also lost the right to be heard in terms of Rule 5(3) of the Rules of 1986. Incorporation of such provisions from the draft Notification into the final Notification would not be permissible.

31. Some of the portions of the impugned Notification; particularly, relating to granting of exemption from the application of Water and Air Acts; Rendering the provisions of the central law for taking action, penalizing defaulters and offenders of the environmental law being rendered ineffective; ambiguity and deficiencies in constitution of the Environmental Cell are some of the patent features of the impugned Notification which dilutes the environmental impacts on the one hand, while on the other, they are in derogation to India's international commitments to the Rio Declaration, 1992 and Paris Agreement, 2015. If principle 15 to 17 of the Rio Declaration is read along with clauses of the Paris Agreement, 2015, particularly, in face of precautionary approach, preventing irreparable damage forming definite environmental impact assessment to examine adverse impact on the environment, reduction on the growth of is carbon emission and to adopt best practices and achieve the ambitious targets between

the stipulated time then the adopting cumulative effect of the Notification dated 9th December, 2016 would have some element of derogation. The Notification also ignores some essential features like source of water, source of raw material, urban ecology, provision of no development zone and construction face impacts. These aspects have a direct bearing on protection of environment and keeping in line with the Principle of Sustainable Development. It is important that there should be development and particularly, when the development is guided by the social cause but that development should not be permitted to cause irreparable loss to the environment and ecology. Sustainable development has to be the ultimate criteria. The Hon'ble Supreme Court in the case of *N.D. Dayal v. Union of India,* (2004) 9 SCC 362 deliberated upon the Doctrine of Sustainable Development and while comparing with the economic growth and well being held as under:

> "24.The right to development cannot be treated as a mere right to economic betterment or cannot be limited to as a misnomer to simple construction activities. The right to development encompasses much more than economic well being, and includes within its definition the guarantee of fundamental human rights. The 'development' is not related only to the growth of GNP. In the classic work - *'Development As Freedom'* the Nobel prize winner Amartya Sen pointed out that 'the issue of development cannot be separated from the conceptual framework of human right'. This idea is also part of the UN Declaration on the Right to Development. The right to development includes the whole spectrum of civil, cultural, economic, political and social process, for the improvement of peoples' well being and realization of their full potential. It is an integral part of human right. Of course, construction of a dam or a mega project is definitely an attempt to achieve the goal of wholesome development. Such works could very well be treated as integral component for development.

25. Therefore, the adherence of sustainable development principle is a sine qua non for the maintenance of the symbiotic balance between the rights to environment and development. Right to environment is a fundamental right. On the other hand right to development is also one. Here the right to 'sustainable development' cannot be singled out. Therefore, the concept of 'sustainable development' is to be treated an integral part of 'life' under Article 21. The weighty concepts like intergenerational equity (*State of Himachal Pradesh v. Ganesh Wood Products*, [1995] 6 SCC 363), public trust doctrine (*MC Mehta v. Kamal Nath*, [1997] 1 SCC 388 and precautionary principle (*Vellore Citizens*), which we declared as inseparable ingredients of our environmental jurisprudence, could only be nurtured by ensuring sustainable development.

26. To ensure sustainable development is one of the goals of Environmental Protection Act, 1986 (for short 'the Act') and this is quiet necessary to guarantee 'right to life' under Article 21. If the Act is not armed with the powers to ensure sustainable development, it will become a barren shell. In other words, *sustainable development is one of the means to achieve the object and purpose of the Act as well as the protection of 'life' under Article 21.*Acknowledgment of this principle will breath new life into our environmental jurisprudence and constitutional resolve. Sustainable development could be achieved only by strict compliance of the directions under the Act. The object and purpose of the Act-"to provide for the protection and improvement of environment" could only be achieved by ensuring the strict compliance of its directions. The concerned authorities by exercising its powers under the Act will have to ensure the acquiescence of sustainable development. Therefore, the directions or conditions put forward by the Act need to be strictly complied with. Thus the power under the Act cannot be treated as a power simpliciter, but it is a power coupled with duty. It is the duty of the State to make sure the fulfilment of conditions or direction under the Act. Without strict compliance, right to environment under Article 21 could not be guaranteed and the purpose of the Act will also be defeated. The commitment to the conditions thereof is an obligation both under Article 21 and under the Act. The conditions glued to the environmental clearance for the Tehri Dam Project given by the Ministry of Environment vide its Order dated July 19, 1990 has to be viewed from this perspective".

Despite the above shortcomings of the Notification and some clauses suffering from legal infirmity, the impugned Notification has certainly good and effective aspects as well. As already noticed by us, it brings into effect a social cause of providing affordable housing to the poor strata of the society. It also proposes to decentralize and bring authorities granting environmental clearance and those granting building permission together under a single window system so as to address environmental concerns. The concept of one window system is sought to be introduced. The Notification specifically provides for emphasis on the aspects that are required to be considered by the environmental cell with special focus on energy use, energy generated on site from on site renewable energy sources, water use and waste water generated, treated on site, waste segregated and treated on site, waste segregation and treated on site, tree plantation and maintenance. These are the few good features of the Notification which also do not suffer from element of illegality. 'Housing for all by 2022' is a purpose and object in conformity with the constitutional mandate. There would be collective and coordinated effort by the Environmental Cell, local and other authorities at the State level to expeditiously deal with environmental clearance.

ORDER/DIRECTIONS

32. The object of the Notification is laudable that is providing housing to the poor. The provisions of the existing regime under the Regulation/Notification of 2006 are sought to be liberalized and expanded for obtaining that object. Some of the provisions of the Notification are being amended to provide for decentralized regulation

in relation to building projects. Certain specified building and construction projects of specified area are proposed to be exempted from the rigours of the Notification. But these amendments would have to be in consonance with the law, where certain provisions of the amended Notification dated 9th December, 2016 are in consonance with the provisions of the Act of 1986 and do not suffer from the *vires* of illegality. Thus, some other provisions of the same Notification *ex-facie* suffer from legal infirmities and are incapable of being implemented in accordance with the scheme of federal structure under the Constitution of India. Out of them, some provisions are directly opposed to the Principle of Non-regression as they considerably dilute the existing environmental laws and standards to the prejudice of the environment. Thus, in the facts and circumstances of the present case, the Tribunal can safely take recourse to the doctrine of severability to declare some of the provisions of the Notification as *ultra-vires* or ineffective while holding the other part of the Notification as legally sound and sustainable.

33. In view of the above, we pass the following order/directions:

1. We hold and declare that this Tribunal has jurisdiction to examine the legality, validity and correctness of a Notification issued by the competent forum in exercise of its power of subordinate legislation with regard to acts stated in Schedule-I to the National Green Tribunal Act, 2010.
2. We hold and declare that (i) clause 14(8), (ii) the provisions relating to exclusion of Consent to Operate and Consent to Establish under Water (Prevention and Control of Pollution)

Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 in clause 14 of the impugned Notification; (iii) Appendix-XVI relating to constitution and functioning of Environmental Cell, cannot be sustained and are liable to be quashed for the reasons afore-stated. Thus, we direct MoEF&CC to re-examine its Notification dated 9th December, 2016 and take appropriate steps to delete, amend and rectify the clauses of the said Notification in light of this judgement.

3. As a result of the above, the byelaws amended by the DDA vide its Notification dated 22nd March, 2016 can also not be given effect to, unless the Notification dated 9th December, 2016 is amended in terms of this judgement.

4. Till the time the Ministry comply with the above directions and notify the amended provisions of Regulations of 2006, it will not implement the impugned Notifications. However, once the amended regulations are notified, MoEF&CC/SEIAA /Local Authorities can give effect to that, without any further reference to the Tribunal.

5. MoEF&CC shall, particularly take care that the laudable social cause of 'providing Housing to the poor' does not get defeated by business, economic profitability with reference to 'ease of doing business', while particularly protecting the environment.

34. With the above order/directions, the Original Applications No. 677 of 2016, 01 of 2017, 07 of 2017, 55 of 2017 and 67 of 2017 stand disposed of, with no order as to costs.

35. All the Miscellaneous Applications No. 148 of 2017, 03 of 2017, 445 of 2017, 879 of 2017 and 620 of 2017 have become infructuous and are accordingly disposed of.

SWATANTER KUMAR
CHAIRPERSON

DR. JAWAD RAHIM
JUDICIAL MEMBER

BIKRAM SINGH SAJWAN
EXPERT MEMBER

New Delhi
8th December, 2017

Supreme Court of India
Municipal Council, Ratlam vs Shri Vardhichand & Ors on 29 July, 1980
Equivalent citations: 1980 AIR 1622, 1981 SCR (1) 97
Author: V Krishnaiyer
Bench: Krishnaiyer, V.R.

PETITIONER:
MUNICIPAL COUNCIL, RATLAM

Vs.

RESPONDENT:
SHRI VARDHICHAND & ORS.

DATE OF JUDGMENT29/07/1980

BENCH:
KRISHNAIYER, V.R.
BENCH:
KRISHNAIYER, V.R.
REDDY, O. CHINNAPPA (J)

CITATION:
1980 AIR 1622 1981 SCR (1) 97
1980 SCC (4) 162
CITATOR INFO :
RF 1981 SC 344 (45)
R 1982 SC 149 (15,607,968)
RF 1986 SC 847 (12)
RF 1991 SC1902 (24)
R 1992 SC 248 (17)

ACT:
Code of Criminal Procedure 1973, s. 133 & M. P. Municipalities Act 1961, s. 123-Municipality not providing sanitary facilities and construction of public conveniences for slum dwellers-Whether Courts can compel municipal body to carry out its duty to the community to provide amenities and abate nuisance.

HEADNOTE:
The residents (respondents) of a prominent residential locality of the Municipality (petitioner) in their complaint under s. 133 Criminal Procedure Code to the Sub-Divisional Magistrate averred that the Municipality had failed despite several pleas, to meet its basic obligations, like provision of sanitary facilities on the roads, public conveniences for slum dwellers who were using the road for that purpose, and prevention of the discharge from the nearby Alcohol Plant of maladorous fluids into the public street, and that the

Municipality was oblivious to the statutory obligation envisaged in s. 123 M. P. Municipalities Act, 1961

The Municipal Council contested the petition on the ground that the owners of houses had gone to that locality on their own choice, fully aware of the insanitary conditions and therefore they could not complain. It also pleaded financial difficulties in the construction of drains and provision of amenities.

The Magistrate found the facts proved, and ordered the municipality to provide the amenities and to abate the nuisance by constructing drain pipes with flow of water to wash the filth and stop the stench and that failure would entail prosecution under s. 188 I.P.C.

The order of the Magistrate was found unjustified by the Sessions Court, but upheld by the High Court.

In the Special Leave Petition by the Municipality to this Court on the question whether a Court can by affirmative action compel a statutory body to carry out its duty to the community by constructing sanitation facilities at great cost and on a time-bound basis.

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HELD : 1. Wherever there is a public nuisance, the presence of s. 133 Criminal Procedure Code must be felt and any contrary opinion is contrary to the law. [112D]

2. The public power of the Magistrate under the Code is a public duty to the members of the public who are victims of the nuisance and so he shall exercise, it when the jurisdictional facts are present. [107G]

98

3. The Magistrate's responsibility under s. 133 Cr.P.C. is to order removal of such nuisance within a time to be fixed in the order. This is a public duty implicit in the public power to be exercised on behalf of the public and pursuant to a public proceeding. Failure to comply with the direction will be visited with a punishment contemplated by s. 188 I.P.C. [109C-D]

4. The Municipal Commissioner or other executive authority bound by the order under s. 133 Criminal Procedure Code shall obey the direction because disobedience, if causes obstruction or annoyance or injury to any persons lawfully pursuing their employment, shall be punished with simple imprisonment or fine as prescribed in the section. The offence is aggravated if the disobedience tends to cause danger to human health or safety. [109E]

5. Public nuisance, because of pollutants being discharged by big factories to the detriment of the poorer sections, is a challenge to the social justice component of the rule of law. [110C]

6. The imperative tone of s. 133 Criminal Procedure Code read with the punitive temper of s. 188 I.P.C. make the prohibitory act a mandatory duty. [109E]

7. The Criminal Procedure Code operates against statutory bodies and others regardless of the cash in their

coffers, even as human rights under Part III of the Constitution have to be respected by the State regardless of budgetary provision. [108H]

8. Section 123 M. P. Municipalities Act 1961 has no saving clause when the municipal council is penniless. [108H]

9. Although the Cr.P.C. and I.P.C. are of ancient vintage the new social justice orientation imparted to them by the Constitution of India makes them a remedial weapon of versatile use. Social Justice is due to the people and, therefore, the people must be able to trigger off the jurisdiction vested for their benefit in any public functionary like a Magistrate under s. 133 Criminal Procedure Code. In the exercise of such power, the judiciary must be informed by the broader principle of access to justice necessitated by the conditions of developing countries and obligated by Art. 38 of the Constitution. [109F-G]

10. A responsible municipal council constituted for the precise purpose of preserving public health and providing better finances cannot run away from its principal duty by pleading financial inability. Decency and dignity are non-negotiable facets of human rights and are a first charge on local self-governing bodies. Similarly, providing drainage systems not pompous and attractive, but in working condition and sufficient to meet the needs of the people-cannot be evaded if the municipality is to justify its existence. [110E]

11. The Court, armed with the provisions of the two Codes and justified by the obligation under s. 123 of the Act, must adventure into positive directions as it has done in the present case. Section 133 Criminal Procedure Code authorises the prescription of a time-limit for carrying out the order. The same provision spells out the power to give specific directives. [111A-B]

Govind Singh v. Shanti Sarup, [1979] 2 SCC 267, 279 referred to.

12. The state will realise that Art. 47 makes it a paramount principle of governance that steps are taken for the improvement of public health as amongst its primary duties. The municipality also will slim its budget on
99
low priority items and elitist projects to use the savings on sanitation and public health. [114C]

13. Where Directive Principles have found statutory expression in Do's and Don'ts the court will not sit idly by and allow municipal government to become a statutory mockery. The law will relentlessly be enforced and the plea of poor finance will be poor alibi when people in misery cry for justice. The dynamics of the judicial process have a new `enforcement' dimension not merely through some of the provisions of the Criminal Procedure Code (as here) but also through activated tort consciousness. The officers in charge

and even the elected representatives will have to face the penalty of the law if what the Constitution and follow up legislation direct them to do are defied or denied wrongfully. The wages of violation is punishment, corporate and personal. [114G-115A]

[The Court approved a scheme of construction work to be undertaken by the Municipality for the elimination of the insanitary conditions and directed that the work be commenced within two months and that the Magistrate inspect the progress of the work every three months and see that it is implemented. [113 D-114 B]

JUDGMENT:

CRIMINAL APPELLATE JURISDICTION: Special Leave Petition (Crl.) No. 2856 of 1979.

From the Judgment and Order dated 6-8-1979 of the Madhya Pradesh High Court in Crl. Revision No. 392/76.

Sobhag Mal Jain and S. K. Jain for the Petitioner. C. S. Chhazed, Miss Manisha Gupta and M. S. Gupta for Respondents 1-5.

S. K. Gambhir for the State.

The Order of the Court was delivered by KRISHNA IYER, J.-`It is procedural rules', as this appeal proves, `which infuse life into substantive rights, which activate them to make them effective'. Here, before us, is what looks like a pedestrian quasi-criminal litigation under s. 133 Cr.P.C., where the Ratlam Municipality-the appellant-challenges the sense and soundness of the High Court's affirmation of the trial court's order directing the construction of drainage facilities and the like, which has spiralled up to this Court. The truth is that a few profound issues of processual jurisprudence of great strategic significance to our legal system face us and we must zero-in on them as they involve problems of access to justice for the people beyond the blinkered rules of `standing' of British Indian vintage. If the centre of gravity of justice is to shift, as the Preamble to the Constitution mandates, from the traditional individualism of locus standi to the community orientation of public interest litigation, these issues must be considered. In that sense, the case before us between the Ratlam Municipality and the citizens of a ward, is a path-finder in the field of people's involvement in the justicing process, sans which as Prof. Sikes points out,(1) the system may `crumble under the burden of its own insensitivity'. The key question we have to answer is whether by affirmative action a court can compel a statutory body to carry out its duty to the community by constructing sanitation facilities at great cost and on a time-bound basis. At issue is the coming of age of that branch of public law bearing on community actions and the court's power to force public bodies under public duties to implement specific plans in response to public grievances.

The circumstances of the case are typical and overflow the particular municipality and the solutions to the key questions emerging from the matrix of facts are capable of universal application, especially in the Third World humanscape of silent subjection of groups of people to squalor and of callous public bodies habituated to deleterious inaction. The Ratlam municipal town, like many Indian urban centres, is populous with human and sub-human species, is punctuated with affluence and indigence in contrasting co-existence, and keeps public sanitation a low priority item. what with cesspools and filth menacing public health. Ward No. 12, New Road, Ratlam town is an area where prosperity and poverty live as strange bedfellows. The rich have bungalows and toilets, the poor live on pavements and litter the street with human excreta because they use roadsides as latrines in the absence of public facilities. And the city fathers being too busy with other issues to bother about the human condition, cesspools and stinks, dirtied the place beyond endurance which made the well-to-do citizens protest, but the crying demand for basic sanitation and public drains fell on deaf ears. Another contributory cause to the insufferable situation was the discharge from the Alcohol Plant of malodorous fluids into the public street. In this lawless locale, mosquitoes found a stagnant stream of stench so hospitable to breeding and flourishing, with no municipal agent disturbing their stinging music at human expense. The local denizens, driven by desperation, at long last, decided to use the law and call the bluff of the municipal body's bovine indifference to its basic obligations under s. 123 of the M. P. Municipalities Act, 1961 (the Act, for short). That provision casts a mandate:

> 123. Duties of Council.-(1) In addition to the duties imposed upon it by or under this Act or any other enactment for the time being in force, it shall be the duty of a Council to undertake and make reasonable and adequate provision for the following matters within the limits of the Municipality, namely:
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> XX XX XX
>
> (b) cleansing public streets, places and sewers, and all places, not being private property, which are open to the enjoyment of the public whether such places are vested in the Council or not; removing noxious vegetation, and abating all public nuisances:
>
> (c) disposing of night-soil and rubbish and preparation of compost manure from night-soil and rubbish.

And yet the municipality was obvious to this obligation towards human well-being and was directly guilty of breach of duty and public nuisance and active neglect. The Sub Divisional Magistrate, Ratlam, was moved to take action under s. 133 Cr.P.C., to abate the nuisance by ordering the municipality to construct drain pipes with flow of water to wash the filth and stop the stench. The Magistrate found the facts proved, made the direction sought and scared by the prospect of prosecution under s. 188 I.P.C., for violation of the order under s. 133 Cr.P.C., the municipality rushed from court to court till, at last, years after, it reached this Court as the last refuge of lost causes. Had the municipal council and its executive officers spent half this litigative zeal on cleaning up the street and constructing the drains by rousing the people's sramdan resources and laying out

the city's limited financial resources, the people's needs might have been largely met long ago. But litigation with other's funds is an intoxicant, while public service for common benefit is an inspiration; and, in a competition between the two, the former overpowers the latter. Not where a militant people's will takes over people's welfare institutions, energises the common human numbers, canalises their community consciousness, forbids the offending factories from polluting the environment, forces the affluent to contribute wealth and the indigent their work and thus transforms the area into a healthy locality vibrant with popular participation and vigilance, not neglected ghettoes noisy with squabbles among the slimy slum-dwellers nor with electoral 'sound and fury signifying nothing.' The Magistrate, whose activist application of s. 133 Cr.P.C., for the larger purpose of making the Ratlam municipal body to do its duty and abate the nuisance by affirmative action, has our appreciation. He has summed up the concrete facts which may be usefully quoted in portions:

> "New Road, Ratlam, is a very important road and so many prosperous and educated persons are living on this Road. On the southern side of this Road some houses are situated and behind these houses and attached to the College boundary, the Municipality has constructed a road and this new Road touches the Government College and its boundary. Just in between the said area a dirty Nala is flowing which is just in the middle of the main road i.e. New Road. In this stream (nala) many a time dirty and filthy water of Alcohol Plant having chemical and obnoxious smell, is also released for which the people of that locality and general public have to face most obnoxious smell. This Nala also produces filth which causes a bulk of mosquitoes breeding. On this very southern side of the said road a few days back municipality has also constructed a drain but it has (?) constructed it completely but left the construction in between and in some of the parts the drain has not at all been constructed because of this the dirty water of half constructed drain and septic tank is flowing on the open land of applicants, where due to insanitation and due to non-removing the obstructed earth the water is accumulated in the pits and it also creates dirt and bad smell and produces mosquitoes in large quantities. This water also goes to nearby houses and causes harm to them. For this very reason the applicants and the other people of that locality are unable to live and take rest in their respective houses. This is also injurious to health".

There are more dimensions to the environmental pollution which the magistrate points out:

"A large area of this locality is having slums where no facility of lavatories is supplied by the municipality. Many such people live in these slums who relieve their lateral dirt on the bank of drain or on the adjacent land. This way an open latrine is created by these people. This creates heavy dirt and mosquitoes. The drains constructed in other part of this Mohalla are also not proper it does not flow the water properly and it creates the water obnoxious. The Malaria Department of the State of M.P. also pays no attention in this direction. The non-applicants have not managed the drains, Nallahs and Naliyan properly and due to incomplete construction the non-applicants have left no outlet for the rainy water. Owing to above reasons the water is accumulated on the main road, it passes through living houses, sometimes snakes and scorpions come out and this obstruct the

people to pass through this road. This also causes financial loss to the people of this area. The road constructed by Nagarpalika is on a high level and due to this, this year more water entered the houses of this locality and it caused this year more harm and loss to the houses also. This way all works done by the non-applicants i.e. construction of drain, canal and road come within the purview of public nuisance. The non-applicants have given no response to the difficulties of the applicants, and non-applicants are careless in their duties towards the public, for which without any reason the applicants are facing the intolerable nuisance. In this relation the people of this locality submitted their returns, notices and given their personal appearance also to the non-applicants but the non-applicants are shirking from their responsibilities and try to avoid their duty by showing other one responsible for the same, whereas all the non- applicants are responsible for the public nuisance." Litigation is traumatic and so the local people asked first for municipal remedies failing which they moved for magisterial remedies:

> "At the last the applicants requested to remove all the nuisance stated in their main application and they also requested that under-mentioned works must be done by the non-applicants and for which suitable orders may be issued forthwith:
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> 1. The drains constructed by Municipality are mismanaged and incomplete, they should be managed and be completed and flow of water in the drains should be made so that the water may pass through the drain without obstruction.
>
> 2. The big pits and earthen drains which are situated near the College boundary and on the corners of the road where dirty water usually accumulates, they should be closed and the filth shall be removed therefrom.
>
> 3. The big 'Nala' which is in between the road, should be managed and covered in this way that it must not create overflow in the rainy season.
>
> 4. The Malaria Department should be ordered to sprinkle D.D.T. and act in such a manner and use such means so that the mosquitoes may be eradicated completely from the said locality."

The proceedings show the justness of the grievances and the indifference of the local body:

> "Both the parties heard. The court was satisfied on the facts contained in their application dated 12-5- 72 and granted conditional order against non-applicants No. 1 and 2 u/s 133 of Cr. P.C. (Old Code). In this order all the nuisances were described (which were there in their main application) and the court directed to remove all the nuisances within 15 days and if the non- applicants have any objection or dissatisfaction against the order then they must file it on the next date of hearing in the court."
>
> XX XX XX "The applicants got examined the following witnesses in their evidence and after producing following documents they closed their evidence."

XX XX XX "No evidence has been produced by the non- applicants in spite of giving them so many opportunities. Both the parties heard and I have also inspected the site."

XX XX XX "The non-applicant (Municipal Council) has sought six times to produce evidence but all in vain. Likewise non-applicant (Town Improvement Trust) has also produced no evidence."

The Nallah comes into picture after the construction of road and bridge. It has shown that Nallah is property of Nagarpalika according to Ex.p.

10. Many applications were submitted to remove the nuisance but without result. According to Sec. 32 to 43 of the Town Improvement Trust Act, it is shown, that it has only the provisions to make plans. Many a time people tried to attract the attention of Municipal Council and the Town Improvement Trust but the non-applicants always tried to throw the responsibility on one another shoulder.

XX XX XX It is submitted by non-applicant (Municipality) that the said Nallah belongs to whom, it is still disputed i.e. whether it belongs to non-applicant 1 or

2. Shastri Colony is within the area of Town Improvement Trust. The Nagarpalika (non-applicant No.

1) is financially very weak. But Municipal Council is not careless towards its duties.

Non-applicant (Town Improvement Trust) argued that primary responsibility lies with the Municipal Council only. There is no drainage system.

At the end of it all, the Court recorded: ..... after considering all the facts I come to this conclusion that the said dirty Nallah is in between the main road of Ratlam City. This dirty Nallah affects the Mohalla of New Road, Shastri Colony, Volga Talkies and it is just in the heart of the city. This is the very important road and is between the Railway Station and the main city. In these mohallas, cultured and educated people are living. The Nallah which flows in between the New Road and Shastri Colony the water is not flowing rapidly and on many places there are deep pits in which the dirty water is accumulated. The Nallah is also not straight that is also the reason of accumulation of dirty water. The Nallah is not managed properly by the non- applicants. It is unable to gush the rainy water and due to this the adjoining areas always suffer from over-flowing of the water and it causes the obstruction to the pedestrians.

XX XX XX It is also proved by the evidence given by the applicants that from time to time the Power Alcohol factory which is situated outside the premises of the Municipal Council and it flows its dirty and filthy water into the said Nallah, due to

> this also the obnoxious smell is spreading throughout the New Road or so it is the bounden duty of the Municipal Council and the Town Improvement Trust to do the needful in this respect.

XX XX XX The dirty water which flows from the lavatories and urinals of the residential houses have no outlet and due to this reason there are many pits on the southern side of the New Road and all the pits are full of dirty and stinking water. So it is quite necessary to construct an outlet for the dirty water in the said locality.

In this area many a places have no drainage system and if there is any drain it has no proper flow and water never passes through the drain properly. That causes the accumulation of water and by the time it becomes dirty and stink and then it produces mosquitoes there.

The Magistrate held in the end:

Thus after perusing the evidence I come to this conclusion and after perusing the applications submitted by the persons residing on the New Road area from time to time to draw the attention of the non- applicants to remove the nuisance, the non-applicants have taken no steps whatsoever to remove all these public nuisances.

He issued the following order which was wrongly found unjustified by the Sessions Court, but rightly upheld by the High Court:

> Therefore, for the health and convenience of the people residing in that particular area of all the nuisance must be removed and for that the following order is hereby passed:
>
> (1) The Town Improvement Trust with the help of Municipal Council must prepare a permanent plan to make the proper flow in the said Nallah which is flowing in between Shastri Colony and New Road. Both the non- applicants must prepare the plan within six months and they must take proper action to give it a concrete form.
>
> (2) According to para 13 a few places are described which are either having the same drains and the other area is having no drain and due to this the water stinks there; so the Municipal Council and the Town Improvement Trust must construct the proper drainage system and within their own premises where there is no drain it must be constructed immediately and all this work should be completed within six months.
>
> (3) The Municipal Council should construct drains from the jail to the bridge behind the southern side of the houses so that the water flowing from the septic tanks and the other water flowing outside the residential houses may be channellised and it may stop stinking and it should have a proper flow so that the water may go easily towards the main Nallah. All these drains should be constructed completely within six months by the Municipal Council.

(4) The places where the pits are in existence the same should be covered with mud so that the water may not accumulate in those pits and it may not breed mosquitoes. The Municipal Council must complete this work within two months.

A notice under Section 141 of the Criminal Procedure Code (Old Code) may be issued to the non- applicants Nos. 1 and 2 so that all the works may be carried out within the stipulated period. Case is hereby finalised.

Now that we have a hang of the case we may discuss the merits, legal and factual. If the factual findings are good- and we do not re-evaluate them in the Supreme Court except in exceptional cases- one wonders whether our municipal bodies are functional irrelevances, banes rather than booms and 'lawless' by long neglect, not leaders of the people in local self-government. It may be a cynical obiter of pervasive veracity that municipal bodies minus the people and plus the bureaucrats are the bathetic vogue-no better than when the British were here:

We proceed on the footing, as we indicated even when leave to appeal was sought, that the malignant facts of municipal callousness to public health and sanitation, held proved by the Magistrate, are true. What are the legal pleas to absolve the municipality from the court's directive under s. 133 Cr.P.C. ? That provision reads:

s. 133(1) whenever a District Magistrate or a Sub- Divisional Magistrate or any other Executive Magistrate specially empowered in this behalf by the State Government, on receiving the report of a police officer or other information and on taking such evidence (if any) as he thinks fit, considers-

(a) that any unlawful obstruction or nuisance should be removed from any public place or from any way, river or channel which is or may be lawfully used by the public;

XX XX XX such Magistrate may make a conditional order requiring the person causing such obstruction or nuisance, or carrying on such trade or occupation, or keeping any such goods or merchandise, or owning, possessing or controlling such building, tent, structure, substance, tank, well or excavation or owning or possessing such animal or tree, within a time to be fixed in the order-

(i) to remove such obstruction or nuisance; or XX XX XX

(iii) to prevent or stop the construction of such building, or to alter the disposal of such substance; or if he objects so to do, to appear before himself or some other Executive Magistrate subordinate to him at a time and place to be fixed by the order, and show cause, in the manner hereinafter provided. why the order should not be made absolute.

So the guns of s. 133 go into action wherever there is public nuisance. The public power of the Magistrate under the Code is a public duty to the members of the public who are victims of the nuisance, and so he shall exercise it when the jurisdictional facts are present as here. "All power is a trust-that we are accountable for its exercise- that, from the people, and for the people, all springs, and all must exist."(i) Discretion becomes a duty when the beneficiary brings home the circumstances for its benign exercise.

If the order is defied or ignored, s. 188 I.P.C. comes into penal play:

> 188. Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to obtain from a certain act, or to take certain order with certain property in his possession or under his management, disobeys such direction and if such disobedience causes or tends to cause danger to human life health or safety, or causes or tends to cause a riot or affray, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

There is no difficulty in locating who has the obligation to abate the public nuisance caused by absence of primary sanitary facilities. Section 123, which is mandatory, (we repeat), reads:

> 123. Duties of Council :-(1) In addition to the duties imposed upon it by or under this Act or any other enactment for the time being in force, it shall be the duty of a Council to undertake and make reasonable and adequate provision for the following matters within the limits of the Municipality, namely:-
>
> (a).....
>
> (b) cleansing public streets, places and sewers, and all places not being private property, which are open to the enjoyment of the public whether such places are vested in the Council or not; removing noxious vegetation, and abating all public nuisances;
>
> (c) disposing of night-soil and rubbish and preparation of compost manure from night-soil and rubbish.

The statutory setting being thus plain, the municipality cannot extricate itself from its responsibility. Its plea is not that the facts are wrong but that the law is not right because the municipal funds being insufficient it cannot carry out the duties under s. 123 of the Act. This 'alibi' made us issue notice to the State which is now represented by counsel, Shri Gambhir, before us. The plea of the municipality that notwithstanding the public nuisance financial inability validly exonerates it from statutory liability has no juridical basis. The Criminal Procedure Code operates against statutory bodies and others regardless of the cash in their coffers, even as human rights under Part III of the Constitution have to be respected by the State regardless of budgetary provision. Likewise, s. 123 of

the Act has no saving clause when the municipal council is penniless. Otherwise, a profligate statutory body or pachydermic governmental agency may legally defy duties under the law by urging in self-defence a self-created bankruptcy or perverted expenditure budget. That cannot be.

Section 133 Cr.P.C. is categoric, although reads discretionary. Judicial discretion when facts for its exercise are present, has a mandatory import. Therefore, when the sub-Divisional Magistrate, Ratlam, has, before him, information and evidence, which disclose the existence of a public nuisance and, on the materials placed, he considers that such unlawful obstruction or nuisance should be removed from any public place which may be lawfully used by the public, he shall act. Thus, his judicial power shall, passing through the procedural barrel, fire upon the obstruction or nuisance, triggered by the jurisdictional facts. The Magistrate's responsibility under s. 133 Cr.P.C. is to order removal of such nuisance within a time to be fixed in the order. This is a public duty implicit in the public power to be exercised on behalf of the public and pursuant to a public proceeding. Failure to comply with the direction will be visited with a punishment contemplated by s. 188 I.P.C. Therefore, the Municipal Commissioner or other executive authority bound by the order under s. 133 Cr.P.C. shall obey the direction because disobedience, if it causes obstruction or annoyance or injury to any persons lawfully pursuing their employment, shall be punished with simple imprisonment or fine as prescribed in the Section. The offence is aggravated if the disobedience tends to cause danger to human health or safety. The imperative tone of s. 133 Cr.P.C. read with the punitive temper of s. 188 I.P.C. make the prohibitory act a mandatory duty.

Although these two Codes are of ancient vintage, the new social justice orientation imparted to them by the Constitution of India makes it a remedial weapon of versatile use. Social justice is due to the people and, therefore, the people must be able to trigger off the jurisdiction vested for their benefit in any public functionary like a Magistrate under s. 133 Cr.P.C. In the exercise of such power, the judiciary must be informed by the broader principle of access to justice necessitated by the conditions of developing countries and obligated by Art. 38 of the Constitution. This brings Indian public law, in its processual branch, in line with the statement of Prof. Kojima :(1) "the urgent need is to focus on the ordinary man-one might say the little man..." "Access to Justice" by Cappelletti and B. Garth summarises the new change thus:(2) "The recognition of this urgent need reflects a fundamental change in the concept of "procedural justice"... The new attitude to procedural justice reflects what Professor Adolf Homburger has called "a radical change in the hierarchy of values served by civil procedure"; the paramount concern is increasingly with "social justice," i.e., with finding procedures which are conducive to the pursuit and protection of the rights of ordinary people. While the implications of this change are dramatic-for instance, insofar as the role of the adjudicator is concerned-it is worth emphasizing at the outset that the core values of the more traditional procedural justice must be retained. "Access to justice" must encompass both forms of procedural justice."

Public nuisance, because of pollutants being discharged by big factories to the detriment of the poorer sections, is a challenge to the social justice component of the rule of law. Likewise, the grievous failure of local authorities to provide the basic amenity of public conveniences drives the miserable slum-dwellers to ease in the streets, on the sly for a time, and openly thereafter, because under Nature's pressure, bashfulness becomes a luxury and dignity a difficult art. A responsible

municipal council constituted for the precise purpose of preserving public health and providing better finances cannot run away from its principal duty by pleading financial inability. Decency and dignity are non-negotiable facets of human rights and are a first charge on local self-governing bodies. Similarly, providing drainage systems- not pompous and attractive, but in working condition and sufficient to meet the needs of the people- cannot be evaded if the municipality is to justify its existence. A bare study of the statutory provisions makes this position clear.

In this view, the Magistrate's approach appears to be impeccable although in places he seems to have been influenced by the fact that "cultured and educated people" live in this area and "New Road, Ratlam" is a very important road and so many prosperous and educated persons are living on this road. In India 'one man, one value' is the democracy of remedies and rich or poor the law will call to order where people's rights are violated. What should also have been emphasised was the neglect of the Malaria Department of the State of Madhya Pradesh to eliminate mosquitoes, especially with open drains, heaps of dirt, public excretion by humans for want of lavatories and slums nearby, had created an intolerable situation for habitation. An order to abate the nuisance by taking affirmative action on a time- bound basis is justified in the circumstances. The nature of the judicial process is not purely adjudicatory nor is it functionally that of an umpire only.

Affirmative action to make the remedy effective is of the essence of the right which otherwise becomes sterile. Therefore, the court, armed with the provisions of the two Codes and justified by the obligation under s. 123 of the Act, must adventure into positive directions as it has done in the present case. Section 133 Cr.P.C. authorises the prescription of a time-limit for carrying out the order. The same provision spells out the power to give specific directives. We see no reason to disagree with the order of the Magistrate.

The High Court has taken a correct view and followed the observations of this Court in Govind Singh v. Shanti Sarup(1) where it has been observed:

> "We are of the opinion that in a matter of this nature where what is involved is not merely the right of a private individual but the health, safety and convenience of the public at large, the safer course would be to accept the view of the learned Magistrate, who saw for himself the hazard resulting from the working of the bakery."

We agree with the High Court in rejecting the plea that the time specified in the order is unworkable. The learned judges have rightly said.

> "It is unfortunate that such contentions are raised in 1979 when these proceedings have been pending since 1972. If in seven year's time the Municipal Council intended to remedy such a small matter there would have been no difficulty at all. Apart from it, so far as the directions are concerned, the learned Magistrate, it appears, was reasonable. So far as direction No. 1 is concerned, the learned Magistrate only expected the Municipal Council and the Town Improvement Trust to evolve a plan and to start planning about it within six months: the learned Magistrate has rightly not fixed the time limit within which that plan will be completed. Nothing more

> reasonable could be said about direction No. 1."

A strange plea was put forward by the Municipal Council before the High Court which was justly repelled, viz., that the owners of houses had gone to that locality on their own choice with eyes open and, therefore, could not complain if human excreta was flowing, dirt was stinking, mosquitoes were multiplying and health was held hostage. A public body constituted for the principal statutory duty of ensuring sanitation and health cannot outrage the court by such an ugly plea.

Luckily, no such contention was advanced before us. The request for further time for implementation of the Magistrate's order was turned down by the High Court since no specific time-limit was accepted by the municipality for fulfillment of the directions. A doleful statement about the financial difficulties of the municipality and the assurance that construction of drains would be taken up as soon as possible had no meaning. The High Court observed:

> "Such assurances, it appears, are of no avail as unfortunately these proceedings for petty little things like clearing of dirty water, closing the pits and repairing of drains have taken more than seven years and if these seven years are not sufficient to do the needful, one could understand that by granting some more time it could not be done."

The High Court was also right in rejecting the Additional Sessions Judge's recommendation to quash the Magistrate's order on the impression that s. 133 Cr.P.C. did not provide for enforcement of civic rights. Wherever there is a public nuisance, the presence of s. 133 Cr.P.C. must be felt and any contrary opinion is contrary to the law. In short, we have no hesitation in upholding the High Court's view of the law and affirmation of the Magistrate's order.

Before us the major endeavour of the municipal council was to persuade us to be pragmatic and not to force impracticable orders on it since it had no wherewithal to execute the order. Of course, we agree that law is realistic and not idealistic and what cannot be performed under given circumstances cannot be prescribed as a norm to be carried out. From that angle it may well be that while upholding the order of the Magistrate, we may be inclined to tailor the direction to make it workable. But first things first and we cannot consent to a value judgment where people's health is a low priority. Nevertheless, we are willing to revise the order into a workable formula the implementation of which would be watch-dogged by the court.

Three proposals have been put forward before us in regard to the estimated cost of the scheme as directed by the Magistrate. The Magistrate had not adverted to the actual cost of the scheme nor the reasonable time that would be taken to execute it. As stated earlier it is necessary to ascertain how far the scheme is feasible and how heavy the cost is likely to be. The Court must go further to frame a scheme and then fix time-limits and even oversee the actual execution of the scheme in compliance with the court's order.

Three schemes placed before us, together with tentative estimates of the costs, have been looked into by us. Judges are laymen and cannot put on expert airs. That was why we allowed the

municipality and the respondents to produce before us schemes prepared by expert engineers so that we may modify the directions issued by the Magistrate suitably. Scheme 'A' is stated to cost an estimated amount of Rs. 1.016 crores. The State Government has revised this proposal and brought down the cost. In our view, what is important is to see that the worst aspects of the insanitary conditions are eliminated, not that a showy scheme beyond the means of the municipality must be undertaken and half done. From that angle we approve scheme 'C' which costs only around Rs. 6 lakhs. We fix a time limit of one year for completing execution of the work according to that scheme. We further direct that the work shall be begun within two months from to-day and the Magistrate shall inspect the progress of the work every three months broadly to be satisfied that the order is being implemented bona fide. Breaches will be visited with the penalty of s. 188 I.P.C.

We make the further supplementary directions which we specifically enjoin upon the municipal authority and the State Government to carry out.

1. We direct the Ratlam Municipal Council (R1) to take immediate action, within its statutory powers, to stop the effluents from the Alcohol Plant flowing into the street. The State Government also shall take action to stop the pollution. The Sub Divisional Magistrate will also use his power under s. 133 I.P.C., to abate the nuisance so caused. Industries cannot make profit at the expense of public health. Why has the Magistrate not pursued this aspect ?

2. The Municipal Council shall, within six months from to-day, construct a sufficient number of public latrines for use by men and women separately, provide water supply and scavenging service morning and evening so as to ensure sanitation. The Health Officer of the Municipality will furnish a report, at the end of the six- monthly term, that the work has been completed. We need hardly say that the local people will be trained in using and keeping these toilets in clean condition. Conscious cooperation of the consumers is too important to be neglected by representative bodies.

3. The State Government will give special instructions to the Malaria Eradication Wing to stop mosquito breeding in Ward 12. The Sub Divisional Magistrate will issue directions to the officer concerned to file a report before him to the effect that the work has been done in reasonable time.

4. The municipality will not merely construct the drains but also fill up cesspools and other pits of filth and use its sanitary staff to keep the place free from accumulations of filth. After all, what it lays out on prophylactic sanitation is a gain on its hospital budget.

5. We have no hesitation in holding that if these directions are not complied with the Sub Divisional Magistrate will prosecute the officers responsible. Indeed, this court will also consider action to punish for contempt in case of report by the Sub Divisional Magistrate of willful breach by any officer.

We are sure that the State Government will make available by way of loans or grants sufficient financial aid to the Ratlam Municipality to enable it to fulfil its obligations under this order. The State will realise that Art. 47 makes it a paramount principle of governance that steps are taken 'for the improvement of public health as amongst its primary duties'. The municipality also will slim its

budget on low priority items and elitist projects to use the savings on sanitation and public health. It is not our intention that the ward which has woken up to its rights alone need be afforded these elementary facilities. We expect all the wards to be benefited without litigation. The pressure of the judicial process, expensive and dilatory, is neither necessary nor desirable if responsible bodies are responsive to duties. Cappelletti holds good for India when he observes :(1) "Our judicial system has been aptly described as follows:

> Admirable though it may be, (it) is at once slow and costly. It is a finished product of great beauty, but entails an immense sacrifice of time, money and talent.
>
> This "beautiful" system is frequently a luxury; it tends to give a high quality of justice only when, for one reason or another, parties can surmount the substantial barriers which it erects to most people and to many types of claims."

Why drive common people to public interest action ? Where Directive Principles have found statutory expression in Do's and Dont's the court will not sit idly by and allow municipal government to become a statutory mockery. The law will relentlessly be enforced and the plea of poor finance will be poor alibi when people in misery cry for justice. The dynamics of the judicial process has a new 'enforcement' dimension not merely through some of the provisions of the Criminal Procedure Code (as here), but also through activated tort consciousness. The officers in charge and even the elected representatives will have to face the penalty of the law if what the Constitution and follow-up legislation direct them to do are defied or denied wrongfully. The wages of violation is punishment, corporate and personal.

We dismiss this petition subject to the earlier mentioned modifications.

N.V.K. Petition dismissed.

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Page 1 Saturday, November 12, 2022
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2021 SCC OnLine SC 1133

In the Supreme Court of India

(BEFORE R. SUBHASH REDDY AND HRISHIKESH ROY, JJ.)

Civil Appeal No. 595 of 2021

Sai Baba Sales Pvt. Ltd. ... Appellant(s);

Versus

Union of India and Others ... Respondent(s).

With

Civil Appeal No. 5768 of 2021

Civil Appeal No. 595 of 2021 and Civil Appeal No. 5768 of 2021

Decided on November 26, 2021

The Judgment of the Court was delivered by

HRISHIKESH ROY, J.:— Heard Mr. Huzefa Ahmadi, learned senior counsel appearing for the appellant in Civil Appeal No. 595/2021. Mr. Lonkar Nitin representing the Original Applicant before the National Green Tribunal. Ms. Aishwarya Bhati, learned Additional Solicitor General of India appears for the Ministry of Environment & Forest. The Government of Maharashtra and the State Pollution Control Board are represented by Mr. Rahul Chitnis and Mr. Mukesh Verma, learned counsel respectively.

2. These two appeals are filed under Section 22 of the National Green Tribunal Act, 2010 (for short "the NGT Act") assailing the judgment and final order dated 18.1.2021 in the OA No. 83/2019. Under the impugned judgment, the NGT held that further construction cannot be made without environment impact assessment, but protected the constructions already made by the appellant, M/s Sai Baba Sales Pvt. Ltd. ("Project Proponent") on the basis of the Environmental Clearance ("EC" for short) issued by the Pimpri Chinchwad Municipal Corporation ("PCMC" for short) as per the notification dated 9.12.2016. The Original Applicant, on the other hand, is aggrieved by the decision of the NGT to protect the standing construction and limiting the impact of the impugned judgment on further construction to be made by the project proponent.

3. The main issue that arises for consideration in these matters is whether the Project Proponent herein possesses a validly granted Environmental Clearance (EC) under the Environmental Impact Assessment (EIA) notification dated 14.9.2006. The 2006 EIA notification provided that the projects above 20,000 sq. meter and below 1,50,000 sq. meter should obtain an EC from the State Environment Impact Assessment Authority (SEIAA) of the Ministry of Environment, Forest and Climate Change (MoEFCC).

4. For deciding the issue, the necessary facts in brief are that the Project Proponent initially conceived a project of 15,040 sq. mtrs. (below the EC threshold limit of 20,000 sq. mtrs.) and it approached the PCMC for a lay out order which was a prerequisite, to obtain an EC from the SEIAA of the MoEFCC. The application was processed and the Building Permission Department of the PCMC granted the commencement certificate to the Project Proponent for an area of 15,040 sq. mtrs. and approved the plan under the sanction letter dated 14.5.2013. With such permission, the Project Proponent could construct the permitted structures, and since the built up area was less than the threshold limit of 20000 sq. mtrs., the EC permission was not needed for the intended construction.

5. The Project Proponent builder then applied and was granted additional FSI as it intended to expand the project to one with built up area of 49,012 sq. mtrs. and for

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this they approached the PCMC for a lay out order, which as noted earlier was essential to obtain an EC from the SEIAA of the Ministry of Environment, Forest and Climate Change (MoEFCC). The required approval was issued by the Corporation on 28.11.2016.

6. Under the Ministry's notification dated 9.12.2016, the EIA regime was altered to indicate that the EC could be obtained from the Environmental Cell of a local authority, such as the PCMC. The State of Maharashtra opted for the new regime and adopted the environmental condition stipulated in the MoEFCC notification dated 9.12.2016. This was followed by the communication of the MoEFCC on 7.7.2017 which clarified that separate environmental clearance is not required for projects upto 1,50,000 sq. mtrs. built up area in respect of municipal corporations in Pune and Konkan division.

7. The Project Proponent then filed an application for EC under the 2016 notification which was considered by the Environmental Cell of the PCMC which appraised the project, as contemplated in the notification dated 9.12.2016. The necessary permission for construction to the builder was issued on 28.11.2017, stipulating the environmental conditions for buildings and constructions and this permission was accorded as per the amended regime under the notification dated 9.12.2016 of the MoEFCC and consequential one dated 13.4.2017 of the Maharashtra Government.

8. While the matter stood thus, the NGT while considering the challenge by certain applicants to the exemption from EC, in a batch matter, quashed certain portions of the MoEFCC notification dated 9.12.2016. The NGT in the analogous judgment dated 8.12.2017 in the OA No. 677/2016 (*Society for Protection of Environment and Biodiversity* v. *Union of India*) and other cases, directed the MoEFCC to revisit its notification dated 9.12.2016 and to take appropriate steps to amend/rectify certain clauses in the Ministry's notification, in terms of the NGT's judgment.

9. Nearly two years after the Project Proponent secured construction permission on 8.12.2017 from the PCMC, the OA No. 83/2019 was filed by the Pune resident (respondent No. 10) with the allegation that the Project Proponent had made construction without obtaining any EC. In this proceeding the NGT constituted a three Member Committee comprising the SEIAA - Maharashtra, the State PCB and the Municipal Commissioner, Pune. The Committee, after spot verification, in its Report dated 18.8.2020 noted that construction of total built up area of 22930.17 sq. mtrs. is already completed for Building Nos. A, E, B, D and the Club House. Thereafter, the NGT considered the submission of the original applicant, who contended that while the authority to grant EC is SEIAA as per the EIA notification dated 14.9.2006, the EC for the project in question was granted by the PCMC. The NGT in its order on 17.11.2020, in the first round, opined that the constructions were irregular and remedial measures were directed for the project in question.

10. The above order of the NGT was challenged before this Court and the Project Proponent's CA No. 3893/2020 was allowed on 11.12.2020 whereby, the NGT's order was set aside and the matter was remitted back to the NGT to afford hearing to the appellants and to pass a fresh order.

11. The case of the Project Proponent as can be seen from the pleadings was that he had initially commenced construction on 14.5.2013 with a sanction plan of 15040.05 sq. mtrs., which, being lesser than the threshold limit of 20,000 sq. mtrs, did not require a prior EC. Thereafter, for the proposed expansion of the project, for total constructed area of 49,012 sq. mtrs., the Project Proponent approached the concerned authority on 7.11.2016 for issuance of "*Proposed Development Certificate*", which is a prerequisite to apply for EC, and the said certificate was granted on 28.11.2016 for the purpose of obtaining the EC from the SEIAA. But at that stage, by virtue of the MoEFCC notification dated 9.12.2016, the concerned local authority was designated as the sanctioning authority for projects between 20,000 sq. mtrs. and

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50,000 sq. mtrs. and accordingly under the changed regime the Project Proponent applied to PCMC on 10.7.2017 and was sanctioned EC by the competent local authority, on 28.11.2017.

12. It is the further contention of the Project Proponent that when the NGT on 8.12.2017 had invalidated certain portions of the 2016 notification, it did not issue any order nullifying those ECs which were granted by the local authority under the altered regime.

13. The original applicant on the other hand, contended that when the NGT struck down certain provisions of the MoEFCC's 2016 notification, the 28.11.2017 EC granted by the Municipal Corporation, would not legitimize the construction and therefore the Project Proponent should be prevented from proceeding with the construction and also be penalized for the unauthorized construction.

14. The NGT then observed that because of the invalidation of certain clauses in the 2016 notification, the EC obtained from the PCMC is unacceptable and accordingly rendered a finding that the Project Proponent had failed to obtain the valid EC. The maintainability challenge of the OA on the ground of limitation was however rejected by observing that the cause of action arose only in 2017 when the builder allegedly exceeded the threshold limit of 20,000 sq. mtrs. Accordingly, the authorities were directed to take coercive action against the Project Proponent for construction done after 8.12.2017, when the NGT's judgment was rendered in the OA No. 677/2016. However, even with such finding having regard to the regime that existed at the relevant time and adverting to the ratio in *Goan Real Estate and Construction Ltd.* v. *Union of India*,[1] the NGT held that the construction already raised should be protected. However, further construction should be permitted only after securing the EC from the competent authority, under the current regime.

15. The picture which emerges from the above discussion is that when the Project Proponent initially wanted to apply for the EC it had obtained the requisite layout sanction for applying to the SEIAA. As such, it was operating well within the applicable procedure, prior to the amendment. After grant of such sanction, while the construction was underway, the amendment came about on 9.12.2016 whereby, the local authority such as the Municipal Corporation was made the competent authority to grant EC. In the changed circumstances, the Project Proponent necessarily had to apply to the PCMC as during the interregnum before the NGT's judgment on 8.12.2017, SEIAA was not the competent authority to consider application for EC. The Project Proponent was therefore, complying with the regime set out by the amended notification. It is apposite to note that the Committee appointed by the NGT, in its report dated 11.8.2020 had clearly indicated that when the Project Proponent had received the EC on 28.11.2017, the competent authority to issue the EC was the Environmental Cell of the PCMC. Thus, it is the discernible understanding as part of the NGT's own expert Committee that the Project Proponent had obtained the EC from the competent authority of the relevant time i.e. the PCMC. Interestingly, the constituted Committee also included a member of the SEIAA.

16. Moreover, only after the earlier judgment of the NGT on 8.12.2017 in the OA No. 677/2016, the State of Maharashtra issued a clarification on 29.1.2018 directing that the Municipal authorities should not process pending applications. But neither the decision of the NGT nor of the Maharashtra Government categorically gave any guidance as to the implication on the EC obtained by the Project Proponent, on the strength of which, a substantial measure of construction was already made. It is also necessary to note that in the subsequent notification issued on 14.11.2018 and 15.11.2018 by the MoEFCC, the power to grant EC continued to vest in the local authority such as the PCMC, with the only change being that it is the municipality itself and not its Environmental Cell which is empowered to grant the EC. For the sake

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of completion, it may be recorded that the said notifications of the MoEFCC is stayed by the Delhi High Court on 26.11.2018 in the WP(C) No. 12517/2018.

17. It is important to bear in mind that the Committee constituted by the NGT to report on the building project did not underscore any major deviation but instead found that the Project Proponent had made substantial compliance by obtaining the EC from the competent local authority. Moreover the OA, neither before the NGT or this Court, ever contended that appraisal done by the PCMC's Environmental Cell was defective or any different from one done by SEIAA. Both processes are also similarly structured. This may be the reason why the NGT in the impugned judgment itself protected the already made construction. However, the Project Proponent was restrained from making any further construction without obtaining clearance from the statutory EC and adhering to the environmental norms.

18. The project of the appellant comprises six buildings of which three were constructed in full, and the super structure of the fourth building is completed and only the internal works remains to be done. In the fourth building, 40 out of the 64 apartments have already been sold. In this context, it would be appropriate to advert to the submission of Ms. Aishwarya Bhati, the learned ASG who had clearly stated that at the relevant time, the competent authority to grant EC is the PCMC and not the SEIAA and therefore the internal works for the fourth constructed building, can be allowed to be completed.

19. Considering the above circumstances, the NGT rightly protected the already erected buildings and this protection in our view, should not be impacted by the earlier judgment of the NGT on 8.12.2017 in the OA No. 677/2016 whereby certain portions of the MoEFCC's 9.12.2016 notification were invalidated and direction was issued to the Ministry to revisit the said notification. Importantly, neither the NGT's invalidation order nor the subsequent clarifications by the State of Maharashtra, have suggested any adverse action against the pre-existing structures. As the expert body exclusively occupying the environmental field, the NGT has assessed the factual circumstances to consciously lean towards protecting the already constructed structures. Nothing more need be added on this aspect. It is also not necessary in this appeal to venture into the question of the retrospective implication of the invalidation of certain parts of the 2016 Notification for other project proponents, which may have gained their ECs in the interregnum.

20. In situations of this nature, the Doctrine of *Legitimate Expectation* is attracted. The principle of the rule of law as explained in *De Smith's Judicial Review*, such as, Regularity, Predictability and Certainty in Government's dealings with the Public, must operate in the present matter. The Project Proponent can legitimately expect a certain degree of stability in the manner in which environmental regime is set and how the applications are processed. The actions of the authorities are expected to adhere to the prevalent norms only, without the element of uncertainty for the executed project.

21. In the above context we may benefit by referring to the seminal case of *Attorney General of Hong Kong* v. *Ng Yuen Shiu*[2], where Lord Fraser speaking for the Privy Council, appositely observed thus,

> "... when a public authority has promised to follow a certain procedure, it is in the interest of good administration that it should act fairly and should implement its promise, so long as implementation does not interfere with its statutory duty."

22. This Court in *Sethi Auto Service Station* v. *Delhi Development Authority*[3], speaking through Justice D.K. Jain, has cited other opinions and elucidated on the concept of *legitimate expectation*, in the following manner,

> "24. The House of Lords in *Council of Civil Service Unions* v. *Minister for the Civil Service*, a locus classicus on the subject, wherein for the first time an attempt was made to give a comprehensive definition to the principle of legitimate expectation.

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Enunciating the basic principles relating to legitimate expectation, Lord Diplock observed that for a legitimate expectation to arise, the decision of the administrative authority must affect such person either

(a) **** **** **** **** ****

(b) **by depriving him of some benefit or advantage which either : (i) he has in the past been permitted by the decision maker to enjoy and which he can legitimately expect to be permitted to continue to do until some rational ground for withdrawing it has been communicated to him and he has been given an opportunity to comment thereon or** (ii) he has received assurance from the decisionmaker that they will not be withdrawn without first giving him an opportunity of advancing reasons for contending that they should be withdrawn."

(emphasis supplied)

23. The Doctrine of *Legitimate Expectation* is further explained in *Food Corporation of India* v. *Kamdhenu Cattle Feed Industries*[4] where for a Three-Judge Bench of this Court Justice J.S. Verma observed thus:—

"The mere reasonable or legitimate expectation of a citizen, in such a situation, may not by itself be a distinct enforceable right, but failure to consider and give due weight to it may render the decision arbitrary, and this is how the requirement of due consideration of a legitimate expectation forms part of the principle of non-arbitrariness, a necessary concomitant of the rule of law. Every legitimate expectation is a relevant factor requiring due consideration in a fair decision-making process. Whether the expectation of the claimant is reasonable or legitimate in the context is a question of fact in each case. Whenever the question arises, it is to be determined not according to the claimant's perception but in larger public interest wherein other more important considerations may outweigh what would otherwise have been the legitimate expectation of the claimant. A bona fide decision of the public authority reached in this manner would satisfy the requirement of non-arbitrariness and withstand judicial scrutiny. The doctrine of legitimate expectation gets assimilated in the rule of law and operates in our legal system in this manner and to this extent."

24. The more compelling public interest might possibly diminish the degree of *legitimate expectation* for a party but a balance has to be found. In the present matter the appellant has acted on the EC and made substantial investments. They cannot be pushed to a precipice and be made to fall. Doing so would be inequitable particularly when, the appellant has scrupulously adhered to the applicable legal framework during the concerned period. Moreover, third-party interests have also cropped up in the interregnum.

25. A Project Proponent is not expected to anticipate the changes in EC regimes, especially as a result of judicial interventions, and keep revisiting the sanctioned clearances by the competent authority or even raze down validly constructed structures. Neither can it be expected to knock the doors of an authority, not empowered at the relevant time, to process its applications. Such a scenario would render the process akin to a *Sisyphean task*, eternally inconclusive and never ending.

26. As seen, the NGT in the impugned judgment has protected the completed construction and, on this aspect, we deem it appropriate to endorse the same, by accepting the submission of the appellant's Counsel and the learned ASG. The four constructed buildings are resultantly to be treated to be under a valid EC with all legal consequences. It is, however, made clear that if any further construction is proposed by the appellant with the sanctioned layout, the same should not be done on the strength of the EC granted on 28.11.2017 by the PCMC. In other words, if the Project Proponent wishes to construct the remaining buildings, they must secure fresh

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clearance from the competent authority, as per the currently applicable framework. It is ordered accordingly.

27. With the above order, the appeals are disposed of without any order on cost.

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[1] (2010) 5 SCC 388

[2] (1983) 2 AC 629 : (1983) 2 WLR 735

[3] (2009) 1 SCC 180

[4] (1993) 1 SCC 71

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2021 SCC OnLine SC 1247

In the Supreme Court of India

(BEFORE INDIRA BANERJEE AND J.K. MAHESHWARI, JJ.)

Electrosteel Steels Limited ... Petitioner(s);

Versus

Union of India and Others ... Respondent(s).

Civil Appeal Nos. 7576-7577 of 2021 [Arising out of SLP (C.) Nos. 11226-11227 of 2020]

Decided on December 9, 2021

The Judgment of the Court was delivered by

INDIRA BANERJEE, J.:— Leave granted.

2. These Appeals are against an order dated 16th September 2020 passed by a Single Bench of the High Court of Jharkhand in W.P. (C) No. 1873 of 2018 and W.P. (C) No. 4850 of 2018, discontinuing the interim orders earlier passed by the High Court, allowing the Appellant to operate its unit under the supervisory regulatory control of the Respondent - Jharkhand State Pollution Control Board, hereinafter referred to as "JSPCB", which had been in force for over two years.

3. The Appellant owns and runs a 1.5 MTPA integrated steel plant in Bokaro District in Jharkhand. The said steel plant in Bokaro, which employs 3,000 regular employees and 7000 contractual employees, produced steel worth Rs. 4,200 crores in the financial year 2019-20.

4. The Appellant claims that about 30,000 persons other than those actually employed by the steel plant as regular or contractual employees depend on the steel plant for their livelihood.

5. Corporate Insolvency Resolution Process (CIRP) had commenced against the Appellant under the Insolvency and Bankruptcy Code 2016. As successful Resolution Applicant, Vedanta Ltd. took over the Appellant on or about 4th June 2018 upon payment of Rs. 5,320 crores for discharge of its debts.

6. Pollution and consequential deterioration of environment has been assuming alarming proportions, and has become a cause of universal concern. Fumes, smoke, emission of green house gases by use of motors and machines and operation of mills, factories and plants cause environmental degradation.

7. Under the aegis of the United Nations discussions and deliberations have been held to protect and improve environment and prevent pollution.

8. In 1972, the United Nations Conference on the Human Environment was convened in Stockholm to work out ways and means to protect and improve the environment. In course of deliberations, it was felt that there was need to enact law to tackle environmental pollution. India participated in the conference and strongly voiced environmental concerns.

9. The Environment (Protection) Act, 1986, hereinafter referred to as "*the 1986 Act*", has been enacted as a consequence of decisions taken at the United Nations Conference on the Human Environment held in Stockholm in June, 1972.

10. The statement of objects and reasons for enactment of the 1986 Act declares that the Act has been prompted by concern over environment, that has grown the world over, since the sixties.

11. Sub-Section (1) of Section 3 of the 1986 Act empowers the Central Government to take all such measures as it might deem necessary or expedient for the

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purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution.

12. Sub-section (2) of Section 3 of the 1986 Act enables the Central Government to take, *inter alia*, the following measures:

"(i) co-ordination of actions by the State Governments, officers and other authorities—

(a) under this Act, or the rules made thereunder; or

(b) under any other law for the time being in force which is relatable to the objects of this Act;

(ii) planning and execution of a nation-wide programme for the prevention, control and abatement of environmental pollution;

(iii) laying down standards for the quality of environment in its various aspects;

(iv) laying down standards for emission or discharge of environmental pollutants from various sources whatsoever:

Provided that different standards for emission or discharge may be laid down under this clause from different sources having regard to the quality or composition of the emission or discharge of environmental pollutants from such sources;

(v) restriction of areas in which any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards;

(vi) laying down procedures and safeguards for the prevention of accidents which may cause environmental pollution and remedial measures for such accidents;

(vii) laying down procedures and safeguards for the handling of hazardous substances;

(viii) examination of such manufacturing processes, materials and substances as are likely to cause environmental pollution;

(ix) carrying out and sponsoring investigations and research relating to problems of environmental pollution;

(x) inspection of any premises, plant, equipment, machinery, manufacturing or other processes, materials or substances and giving, by order, of such directions to such authorities, officers or persons as it may consider necessary to take steps for the prevention, control and abatement of environmental pollution;

(xi) establishment or recognition of environmental laboratories and institutes to carry out the functions entrusted to such environmental laboratories and insitutes under this Act;

(xii) collection and dissemination of information in respect of matters relating to environmental pollution;

(xiii) preparation of manuals, codes or guides relating to the prevention, control and abatement of environmental pollution;

(xiv) such other matters as the Central Government deems necessary or expedient for the purpose of securing the effective implementation of the provisions of this Act."

13. Sub-section (3) of Section 3 of the 1986 Act provides as follows:

"The Central Government may, if it considers it necessary or expedient so to do for the purposes of this Act, by order, published in the Official Gazette, constitute an authority or authorities by such name or names as may be specified in the order for the purpose of exercising and performing such of the powers and functions (including the power to issue directions under Section 5) of the Central Government under this Act and for taking measures with respect to such of the matters referred

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to in sub-section (2) as may be mentioned in the order and subject to the supervision and control of the Central Government and the provisions of such order, such authority or authorities may exercise the powers or perform the functions or take the measures so mentioned in the order as if such authority or authorities had been empowered by this Act to exercise those powers or perform those functions or take such measures."

14. Subject to the provisions of the 1986 Act, the Central Government has power under sub-section (1) of section 3 to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution.

15. Section 5 of the 1986 Act provides that notwithstanding anything contained in any other law, but subject to the provisions of the 1986 Act, the Central Government may, in exercise of its powers and performance of its functions under the 1986 Act, issue directions in writing to any person, officer or any authority and such person, officer or authority shall be bound to comply with such directions.

16. In exercise of powers conferred by Sub-Section (1) and clause (v) of sub-section (2) of Section 3 of the 1986 Act read with Rule 5(3)(d) of the Environment (Protection) Rules, 1986 the Central Government issued the Environmental Impact Assessment Notification dated 27th January 1994 directing that on and from the date of publication of the said notification in the Official Gazette, expansion or modernisation of any activity or a new project listed in Schedule I of the Notification shall not be undertaken in any part of India, unless it has been accorded Environmental Clearance (EC) by the Central Government in accordance with the procedure specified in the Notification.

17. Under Clause (2)(I) of the said Notification, any person who desires to undertake any new project listed in Schedule I is required to submit an application to the Secretary, Ministry of Environment and Forests (MoEF), New Delhi in the pro forma specified in Schedule II, accompanied by a project report which is to include the EIA (Environmental Impact Assessment) Report/Environment Management Plan (EMP) prepared in accordance with the guidelines issued by MoEF. Another Environmental Impact Notification was issued in 2006, for grant of Terms and Environmental Clearance *inter alia* for projects which had started work on site.

18. The EIA Report submitted with the application of the project proponent is to be evaluated and assessed by the Impact Assessment Agency (IAA), that is MoEF, and if deemed necessary, it may consult a Committee of Experts constituted in the manner prescribed in Schedule III. The Committee of Experts shall have full right of entry and inspection of the site. The Impact Assessment Agency is to prepare a set of recommendations based on technical assessment of documents and data, furnished by the project proponent, supplemented by data collected during visits to sites, interaction with the affected population and environmental groups, if necessary. The summary of the reports, the recommendations and the conditions, subject to which EC is given shall, subject to public interest, be made available to the parties concerned or environmental groups on request. The IAA may solicit comments of the public within the specified period by arranging public hearings for that purpose. The public shall, subject to public interest, be provided access, to the summary of the EIA Report/Environment Management Plan (EMP). The clearance granted for commencement of the construction or operation of the plant, is to be valid for five years. Clause IV of the Environmental Impact Assessment Notification provides for the monitoring of the implementation of the conditions of EC and/or the recommendations and conditions laid down by IAA.

19. A minor amendment was made to the said Environmental Impact Assessment Notification dated 27th January 1994, by a Notification dated 10th April 1997, which

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prescribes a detailed procedure for public hearing.

20. By a notification being S.O. 327(E), dated 10th April 2001, published in the Gazette of India, Extra., Pt.II, Sec.3(ii), dated 12th April 2001, the Central Government has delegated the powers vested in it under Section 5 of the 1986 Act, to the Chairpersons of the respective State Pollution Control Boards/Committees to issue directions to any industry or any local or other authority for the violations of the standards and rules relating to biomedical waste, hazardous chemicals, industrial solid waste and municipal solid waste including plastic waste notified under the Environment (Protection) Act, 1986 subject to the condition that the Central Government may revoke such delegation of powers or may itself invoke the provisions of Section 5 of the said Act, if in the opinion of the Central Government such a course of action is necessary in the public interest.

21. On or about 8th January 2007, the Appellant applied to the Ministry of Environment, Forest and Climate Change, Government of India, hereinafter referred to as "MoEF&CC" for grant of EC to establish 3 MTPA integrated steel plant at Mauza South Parbatpur of Chandankiyari Block of Bokaro District.

22. In its application, the Appellant stated that 1350 acres of land were required for establishing the said plant at the Mauza South Parbatpur of Chandankiyari Block of Bokaro District and that no forest land was involved in the project.

23. By a letter No. F. No. J-11011/137/2006-1A-II (i) dated 21st February 2008, the Appellant was granted EC. After obtaining EC, the Appellant applied to the JSPCB, for grant of 'Consent to Establish' (CTE) under the Air (Prevention and Control of Pollution) Act, 1981, hereinafter referred to as the Air Pollution Act, and Water (Prevention and Control of Pollution) Act 1974, hereinafter referred to as the Water Pollution Act.

24. On 5th May 2008, the JSPCB granted CTE to the Appellant to establish the 3 MTPA integrated steel plant at Mauza South Parbatpur of Chandankiyari Block of Bokaro District. The CTE was granted on the basis of the EC granted by the MoEF&CC.

25. The CTE was extended from time to time till 4th May 2011. Even though CTE was granted to the Appellant to establish a steel plant at Mauza South Parbatpur of Chandankiyari Block of Bokaro District, the Appellant established steel plant in Mauza Bhagabandh in the Chas Block in Bokaro District, 5.3 Kms away from the site for which EC and CTE had been granted.

26. A Circular No. J-11013/41/2006-1A.2(i) dated 22nd January, 2010 was issued by the Ministry of Environment and Forest (MoEF) of the Government of India which provided as follows:

> *"Instances have come to the notice of this Ministry wherein the project proponents have changed the project site after the said project has been granted environmental clearance or after the public hearing has been held. The project proponents have approached this Ministry to revalidate the environmental clearance so granted without undergoing afresh the procedure prescribed for obtaining environmental clearance. The matter has been considered in the ministry. The change in project site would lead to change in project affected people as well as the change in study area and the impact zone. As such the Environment Impact Assessment Report and Public Hearing conducted for a particular location cannot be taken valid for the changed location.*
>
> *Accordingly, it has been decided that any shift in project site location after holding of public hearing will be deemed to be a new proposal and will be appraised afresh as per the procedure prescribed under EIA Notification 2006 provided the respective Expert Appraisal Committee is satisfied that the shift is so minor as to have no change in EIA/EMP, duly recorded in the minutes and prior approval of advisor (In-charge)/SEIAA for Category 'A'/Category 'B' projects respectively is*

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obtained for not holding the public hearing for the changed location afresh.

This issues with the approval of the Competent Authority."

27. By a communication being Reference No. 1142 dated 4th May 2010, the District DFO (District Forest Officer) Bokaro requested JSPCB to take action against the Appellant for setting up its integrated steel plant on forest land in Mauza Bhagabandh of Chas Block of Bokaro District, in violation of the Forest Conservation Act 1980 and Indian Forest Act 1927. The DFO, Bokaro reported encroachment of 220.88 acres of notified forest land by the Appellant to JSPCB.

28. It appears that cases had been initiated against the officials of the Appellant under the Indian Forest Act, 1927, Forest Conservation Act, 1980 and the Bihar Public Land Encroachment Act, 1955 which have been quashed by the Jharkhand High Court, by an order dated 25th January 2011.

29. On or about 23rd September 2010 the Appellant applied for Consent to Operate (CTO) under the Air Pollution Act and the Water Pollution Act for its 350 m3 blast furnace. Later on 9th September 2011, the Appellant applied for CTO in respect of its entire plant.

30. By a letter dated 2nd December 2011, addressed to the Appellant, the MoEF confirmed that the lay out of the Appellant's 3 MTPA Integrated Steel Plant was well within the Environment Impact Area and that the affected people had the opportunity to participate in a public hearing.

31. By letter dated 18th May 2012, the JSPCB reported encroachment by the Appellant upon forest land and alleged violation by the Appellant of the Forest Conservation Act, 1980 to the MoEF&CC, New Delhi. The MoEF&CC was also informed of the unauthorized shifting of the integrated steel plant from Mauza South Parbatpur of Chandankiyari Block of Bokaro District to Mauza Bhagabandh of Chas Block of Bokaro District in violation of the conditions of Environment Clearance granted by the MoEC&CC.

32. Pursuant to the report of JSPCB, MoEF&CC issued a Show Cause Notice dated 6th June 2012 to the Appellant under Section 5 of the 1986 Act. The Appellant submitted its reply to the Show Cause Notice on 20th June 2012.

33. On 10th September 2012, the Appellant once again applied to JSPCB for CTO for one year under the Water Pollution Act and Air Pollution Act. According to the Appellant, several reminders were sent to MoEF&CC requesting MoEF&CC to intimate JSPCB of the outcome of the Show Cause Notice issued to the Appellant. However, JSPCB has not been informed of the decision of MoEF&CC.

34. The Appellant filed a Writ Petition being W.P. No. 2247/2012 in the Jharkhand High Court for orders on JSPCB to grant the Appellant CTO. The said writ petition was disposed of by an order dated 5th November 2012, the operative part whereof is set out hereinbelow:—

"Respondent 1& 2 to consider the petitioner's application and as assured by them, if so required, give an opportunity of hearing to the petitioners and after taking into consideration the facts and provisions of law and the related decisions, shall dispose of the petitioner's application within five weeks from the date of receipt/production of a copy of this order."

35. On or about 27th November 2013, the application of the Appellant for CTO was rejected on the ground that the Appellant had shifted the site of its steel Plant and had encroached upon forest land in violation of the Forest Conservation Act, 1980. The operative part of the order dated 27th November 2013 reads:—

"at this stage subject to final outcome of the decision of MoEF&CC, New Delhi with respect to show cause notice dated 6.6.2012, we dispose the application for CTO in exercise of power conferred u/s 21(4) of Air (Prevention and Control of

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Pollution) Act, 1981 & u/s 25(4) of Water (Prevention and Control of Pollution) Act, 1974 by "refusing" the CTO to the unit for the reason aforesaid."

36. The Appellant filed an application for contempt being Contempt Case (C) No. 939 of 2013 in W.P.(C) No. 2247 of 2012 in the Jharkhand High Court. Pursuant to an order dated 29th November 2013 in the Contempt Petition, the JSPCB disposed of the applications for grant of CTO to the Appellant.

37. By a letter dated 17th April 2013, the MoEF&CC had called for a status report from the State of Jharkhand in respect of forest land encroached by the Appellant. The Forest Department submitted a report to the MoEF&CC on 13th May, 2014.

38. Thereafter, by a letter dated 20th October 2014, the MoEF&CC, New Delhi directed the Department of Forest, Environment and Climate Change, Government of Jharkhand to take action against the Appellant for violating the provisions of Indian Forest Act, 1927 and Forest Conservation Act, 1980. In compliance with the aforesaid order, JSPCB directed the Appellant to close down its plant under Section 31(A) of the Air Pollution Act and Section 33(A) of Water Pollution Act.

39. By a Memo No. 521 dated 6th February 2015, the Department of Forest, Environment and Climate Change, Government of Jharkhand directed the DGP, Jharkhand, Ranchi and the Deputy Commissioner, Bokaro to take action against the Appellant in the light of the letter dated 20th October, 2014 of the MoEF&CC, Government of India and to submit an action taken report.

40. The aforesaid order of JSPCB was challenged by the Appellant by filing a Writ Petition being WP(C) No. 2033 of 2015 in the Jharkhand High Court. By an order dated 5th February 2016 the High Court set aside the order of the JSPCB holding that the same had been passed in violation of principles of natural justice. The High Court however, held that JSPCB would be at liberty to pass an order in accordance with law after giving the Appellant an opportunity of hearing.

41. Thereafter, a show cause notice dated 25th April 2016, was issued to the Appellant. The Appellant replied to the show cause notice on 28th September 2016, contending that the Appellant had not set up its plant on any forest land and that all pollution control measures had been taken. However, the Principal Chief Conservator of Forests (PCCF), Jharkhand had by a communication No. 2966 dated 8th August 2016 informed JSPCB that the Appellant had encroached forest land. Thereafter JSPCB once again called upon the Appellant to show cause in the light of information provided by the PCCF, Jharkhand. The Appellant by a letter dated 28th September 2016 reiterated that there was no forest land in the plant premises.

42. JSPCB passed an order No. B-319 dated 13th February 2017 disposing of the show cause notice in the light of the direction dated 5th February 2016 of the Jharkhand High Court and the applications for CTO. JSPCB granted CTO to the Appellant which was valid till 31st December, 2017.

43. The MoEF&CC and the State Environment Impact Assessment Authorities had, in the meanwhile been receiving proposals under the Environment Impact Assessment Notification, 2006 for grant of Terms of Reference and Environmental Clearance for projects which had started the work on site, expanded the production beyond the limit of environmental clearance or changed the product mix without obtaining prior environmental clearance.

44. The MoEF&CC deemed it necessary that all entities not complying with the environmental regulation under Environment Impact Assessment Notification, 2006, be brought to comply with the environmental laws in expedient manner, for the purpose of protecting and improving the quality of the environment and reducing environmental pollution.

45. The MoEF&CC deemed it necessary to bring such projects and activities in compliance with the environmental laws at the earliest point of time, rather than

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leaving them unregulated and unchecked, which would be more damaging to the environment.

46. In furtherance of this objective, the Government of India deemed it essential to establish a process for appraisal of cases of violation of norms, and prescribing such adequate environmental safeguards that would deter violation of the provisions of Environment Impact Assessment Notification, 2006 and ensure that damage to environment was adequately compensated for.

47. In *Indian Council for Enviro-Legal Action* v. *Union of India*[1], the Supreme Court analyzed relevant provisions of environmental laws and concluded that damages might be recovered under the provisions of the 1986 Act, inter alia, to implement measures that were necessary or expedient for protecting and promoting the environment. This Court affirmed that the power of the Central Government under Section 3 of the 1986 Act was wide and included the power to prohibit an activity, close an industry, direct to carry out remedial measures, and wherever necessary impose the cost of remedial measures upon the offending industry. The question of liability of the respondents to defray the costs of remedial measures could also be looked into from the principle "polluter pays."

48. In exercise of power under Section 3(1) and Section 3(2)(v) of the 1986 Act read with Rule 5(3)(d) of the Environment (Protection) Rules, 1986, the Central Government has issued a Notification being S.O. 804(E) dated 14th March 2017 which provides for grant of ex post facto EC for project proponents who have commenced, continued or completed a project without obtaining EC under the 1986 Act or the EIA notification issued under it.

49. Paragraphs 3, 4 and 5 of the said notification, read as follows:

"(3) In cases of violation, action will be taken against the project proponent by the respective State or State Pollution Control Board under the provisions of section 19 of the Environment (Protection) Act, 1986 and further, no consent to operate or occupancy certificate will be issued till the project is granted the environmental clearance.

(4) The cases of violation will be appraised by respective sector Expert Appraisal Committees constituted under subsection (3) of Section 3 of the Environment (Protection) Act, 1986 with a view to assess that the project has been constructed at a site which under prevailing laws is permissible and expansion has been done which can be run sustainably under compliance of environmental norms with adequate environmental safeguards; and in case, where the finding of the Expert Appraisal Committee is negative, closure of the project will be recommended along with other actions under the law.

(5) In case, where the findings of the Expert Appraisal Committee on point at sub-para(4) above are affirmative, the projects under this category will be prescribed the appropriate Terms of Reference for undertaking Environment Impact Assessment and preparation of Environment Management Plan. Further, the Expert Appraisal Committee will prescribe a specific Terms of Reference for the project on assessment of ecological damage, remediation plan and natural and community resource augmentation plan and it shall be prepared as an independent chapter in the environment impact assessment report by the accredited consultants. The collection and analysis of data for assessment of ecological damage, preparation of remediation plan and natural and community resource augmentation plan shall be done by an environmental laboratory duly notified under Environment (Protection) Act, 1986, or a environmental laboratory accredited by National Accreditation Board for Testing and Calibration Laboratories or a laboratory of a Council of Scientific and Industrial Research institution working in the field of environment."

50. On or about 24th August 2017, the Appellant applied for CTO for five years. On

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13th November 2017, JSPCB issued a Show Cause Notice to the Appellant pointing out alleged contraventions of the conditions of Consent to Operate (CTO) earlier granted to the Appellant. The Appellant was called upon to show cause whether conditions of the CTO had been contravened while the application of the Appellant for CTO for five year was pending.

51. On 23rd November 2017, the Appellant submitted its online reply to the Show Cause Notice showing compliance of the conditions of the CTO.

52. By a communication No. 2105 dated 18th December 2017 JSPCB requested MoEF&CC to inform JSPCB of the decision on the show cause notice issued to the Appellant under Section 5 of the 1986 Act for revocation of the EC for non compliance of the conditions for grant of EC for the integrated plant at Parbatpur, Jharkhand.

53. Aggrieved by the failure of JSPCB to issue/renew the CTO to the Appellant, pursuant to its application made on 24th August 2017, the Appellant filed a writ petition being W.P.(C) No. 1873 of 2018 in the Jharkhand High Court on or about 12th April 2018 seeking directions on the JSPCB to issue CTO to the Appellant.

54. By an order dated 16th July 2018, the High Court directed the JSPCB to take a final decision on the application of renewal/grant of CTO filed by the Appellant on 24th August 2017 within the time stipulated in the said order.

55. The High Court further passed an interim order directing that the Appellant be allowed to operate its unit under the supervisory and regulatory control of the JSPCB, who might carry out periodical check as to adherence by the Appellant of pollution control laws.

56. JSPCB passed an order dated 21st August, 2018, rejecting at that stage the request of the Appellant for CTO, subject to the decision of MoEF&CC on the show cause notice issued to the appellant. The operative part of the said order is set out hereinbelow:

> *"at this stage subject to final outcome of the decision of MoEF&CC, New Delhi with respect to show cause notice dated 6.6.2012, we dispose the application for CTO in exercise of power conferred u/s 21(4) of Air (Prevention and Control of Pollution) Act, 1981 & u/s 25(40 of Water (Prevention and Control of pollution) Act, 1974 by "refusing" the CTO to the unit for the reason aforesaid."*

57. The Appellant, thereafter approached the High Court with a prayer for amendment of Writ Petition No. 1873 of 2018. By an order dated 25th August 2018, the High Court allowed the application for amendment of the Writ Petition and directed the respondent to file their response to the amended writ petition. The High Court further directed:—

> *"10. So far as interim relief is concerned, this court finds that the order passed by the respondent-Jharkhand State Pollution Control Board dated 23.08.2018 appears to be directly dependent on the final decision which is yet to be taken by the Ministry of Environment, Forest & Climate Change on the show cause issued to the petitioner as back as in the year 2012. As per the submission made by the counsel appearing on behalf of Union of India, they are shortly going to take a final decision in the matter after hearing the petitioner. Accordingly the operation, implementation and execution of the order dated 23.08.2018 passed by Jharkhand State Pollution Control Board is hereby stayed till 27.09.2018 and the interim order dated 16.07.2018 is hereby extended till 27.09.2018.*
>
> *11. So far as decision of the Ministry of Environment, Forest & Climate Change are concerned, considering the fact that the unit of the petitioner is running unit and large number of employees are working in this unit of the petitioner, this court consider it appropriate that the issue regarding the environmental clearance of the petitioner should be decided at the earliest.*
>
> *12. It is further observed that it is open to the petitioner to approach the Union*

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of India with their proposal/application for regularization of the alleged violation, without prejudice to their rights (including right, title, interest, possession and nature of property of the petitioner) and advance submissions before the respondent authority of Union of India pursuant to the show cause notice issued to them dated 6.6.2012 and the appropriate authority may, if possible, simultaneously consider the aforesaid application of the petitioner for regularization along with the show cause reply of the petitioner such that entire dispute is decided and the petitioner may also have a clarity about the fate of its unit. The decision which is to be taken by the Union of India be brought on record by either of the parties by filing supplementary affidavit latest by 25.09.2018.

13. I.A. No. 7610 of 2018 and I.A No. 7613 OF 2018 are hereby disposed of.

14. It is made clear that this court has not gone into the merits of the claim of the petitioner and it will be open to the respondent no 3 to take decision as per law."

58. By the aforesaid order dated 25th August 2018, the High Court directed MoEF to take a decision on the application of the Appellant for EC as also a decision regarding violation by the Appellant of the provisions of EC by encroachment upon forest land by shifting the location of the plant.

59. On 31st August 2018, MoEF&CC issued a show cause notice No. F. No. J-11011/137/2006-1A Pt.II (i) dated 31st August 2018 to the Appellant for violating the provisions of the EC by shifting the location of its plant and encroaching upon forest land.

60. The Respondent No. 1 was also accorded personal hearing on 10th September 2018. On 12th September 2018 Mr. Gyanesh Bharti who presided over the personal hearing was transferred from MoEF&CC.

61. On 20th September 2018 the Respondent No. 1 issued an order bearing No. F. No. J-11011/137/2006-IA.II(I) revoking the EC of the Appellant on the ground that the Appellant had encroached upon 220 acres of forest land and had shifted the location of its plant from Parbatpur to Bhagabandh, violating the conditions stipulated in the EC.

62. The Appellant filed Writ petition being W.P. (C) No. 4850 of 2018 in the Jharkhand High Court challenging the revocation of the EC granted to the Appellant.

63. On 27th September 2018 the High Court passed an interim order staying the operation, implementation and execution of the impugned order dated 20th September 2018. The Court prima facie found that the impugned order, passed in violation of principles of natural justice, had serious repercussions on the unit of the Appellant which was a running unit, and had caused prejudice to the Appellant.

64. On 4th October 2018, the Appellant applied for ex post facto Forest Clearance (FC) without prejudice to its rights and contentions. On 27th November 2019 the Appellant applied for a "revised" EC without prejudice to its rights and contentions. In the meanwhile, the Interim order passed by the High Court on 27th September 2018 was extended from time to time. Such extensions were granted on 10.10.2018, 5.11.2018, 11.12.2018, 8.1.2019, 23.1.2019, 16.5.2019, 25.7.2019 and 17.10.2019.

65. On 17th December 2019, MoEF&CC passed an order according ex post facto in principle approval for the forest diversion/clearance proposal of the Appellant. The operative part of the said order reads:—

"After careful examination of the proposal of the State Government and on the basis of the recommendations of the Forest Advisory Committee and approval of the same by the competent authority of the MoEF&CC, New Delhi, the Central Government hereby accords ex-post facto 'in-principle' approval under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 184.23 ha of forest land

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(174.39 ha encroached (ex-post facto) and 9.84 ha virgin land) in favour of M/s Electrosteel Steels Limited in the State of Jharkhand subject to fulfilment of following conditions:—

(i) Legal status of the diverted forest land shall remain unchanged;…"

66. By an order dated 26th February 2020, the Jharkhand High Court directed that the pendency of W.P. (C) No. 4850 of 2018 and W.P. (C) No. 1873 of 2018 would not come in the way of consideration by the MoEF&CC of grant or refusal of restoration of EC and it would be open to the Ministry to take appropriate decision in accordance with law. The interim orders in force were extended.

67. Thereafter by a letter dated 2nd March 2020, the Appellant requested MoEF&CC to consider the application of the Appellant for revised EC. In the meanwhile, the interim orders passed by the High Court were further extended. The interim orders were extended by orders passed on 26.2.2020, 7.4.2020 and 29.5.2020.

68. The Writ Petition was called for hearing on 19th June 2020 whereupon it was submitted on behalf of the Respondent No. 1 that the revised EC application of the Appellant would be placed before the Expert Appraisal Committee (EAC) for consideration on merit and Violation Committee would decide on the action to be taken against the Appellant for violation of Environment (Protection) Act, 1986.

69. On 6th August 2020 and 7th August 2020, the case of the Appellant was placed before the EAC at its 35th meeting. The Appellant was invited to present its proposal online before the Committee.

70. After detailed deliberation, the EAC appraised the proposal on merits and recommended issuance of Standard Terms of Reference along with Specific Terms of Reference for undertaking Environmental Impact Assessment (EIA) and preparation of Environment Management Plan (EMP). The EAC noted that the plant was a running unit and the EC was subject to the conditions imposed in the Terms of Reference.

71. On 4th September 2020, the Jharkhand High Court extended the interim orders till 8th September 2020 while awaiting response from the Respondents. On 8th September 2020, the High Court reserved orders on the extension of interim orders dated 16th July 2018 and 27th September 2018 while listing the writ petitions for final hearing on 16th September 2020.

72. On 15th September 2020, the Respondent No. 1 filed an affidavit stating that it had no objection to extension of the interim orders considering that the steel plant employed a large workforce. At the hearing on 16th September 2020 JSPCB also consented to extension of the interim order. However, the High Court passed the impugned order dated 16th September 2021 dis-continuing the earlier interim orders on, *inter alia*, the following grounds:

(i) The Expert Appraisal Committee of the MoEF&CC had, after detailed deliberations, found that the Appellant had been in violation of the EIA Notification 2006 and general condition no. (ii) of the EC dated 21.02.2008.

(ii) The MoEF&CC had while issuing ToR for grant of EC recommended action against the Appellant under Section 19 of the 1986 Act for past violations. Extension of the interim orders would amount to staying action.

(iii) In *Alembic Pharmaceuticals Ltd.* v. *Rohit Prajapati*[2], this Court had deprecated ex post facto Ecs but passed certain directions in exercise of powers under Article 142 of the Constitution.

73. By an Office Memorandum, being F. No. 22-21/2020-1A III, dated 7th July 2021, the MoEF&CC issued Standard Operating Procedure (SOP) for Identification and Handing of violation cases under EIA Notification 2006.

74. The said Office Memorandum, *inter alia*, reads:

"The Ministry had issued a notification number S.O.804(E), dated the 14th March,

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2017 detailing the process for grant of Terms of Reference and Environmental Clearance in respect of projects or activities which have started the work on site and/or expanded the production beyond the limit of Prior EC or changed the product mix without obtaining Prior EC under the EIA Notification, 2006.

2. This Notification was applicable for six months from the date of publication i.e. 14.03.2017 to 13.09.2017 and further based on court direction from 14.03.2018 to 13.04.2018.

3. Hon'ble NGT in Original Application No. 287 of 2020 in the matter of Dastak N.G.O. *v.* Synochem Organics Pvt. Ltd. *and in applications pertaining to same subject matter in Original Application No. 298 of 2020 in* Vineet Nagar *v.* Central Ground Water Authority, *vide order dated 03.06.2021 held that* ***"(...) for past violations, the concerned authorities are free to take appropriate action in accordance with polluter pays principle, following due process".***

4. Further, the Hon'ble National Green Tribunal in O.A No. 34/2020 WZ in the matter of Tanaji B. Gambhire *v.* Chief Secretary, Government of Maharashtra, *vide order dated 24.05.2021 has directed that* ***"... a proper SoP be laid down for grant of EC in such cases so as to address the gaps in binding law and practice being currently followed. The MoEF may also consider circulating such SoP to all SEIAAs in the country".***

5. Therefore, in compliance to the directions of the Hon'ble NGT a Standard Operating Procedure (SoP) for dealing with violation cases is required to be drawn. The Ministry is also seized of different categories of 'violation' cases which have been pending for want of an approved structural/procedural framework based on 'Polluter Pays Principle' and 'Principle of Proportionality'. It is undoubtedly important that action under statutory provisions is taken against the defaulters/violators and a decision on the closure of the project or activity or otherwise is taken expeditiously.

6. In the list of the above directions of the Hon'ble Tribunal and the issues involved, the matter has accordingly been examined in detail in the Ministry. A detailed SoP has accordingly been framed and is outlined herein. The SoP is also guided by the observations/decisions of the Hon'ble Courts wherein principles of proportionality and polluters pay have been outlined."

75. The Standard Operating Procedure formulated by the said Office Memorandum dated 7th July 2021 refers to and gives effect to various judicial pronouncements including the judgment of this Court in *Alembic Pharmaceuticals* (supra).

76. In terms of the Standard Operating Procedure, the proposal for grant of EC in cases of violation are to be considered on merits, with prospective effect, applying principles of proportionality and the principle that the polluter pays and is liable for costs of remedial measures.

77. By an interim order passed on 15th July 2021 in WP(MD) 11757 of 2021 in *Fatima* v. *Union of India*, the Madurai Bench of Madras High Court has stayed the operation of the Standard Operating Procedure.

78. By an order dated 25th August 2021, MoEF&CC rejected the application of the Appellant for the time being. The application has, in effect, been kept in abeyance.

79. The MoEF apparently did not take any decision on the application of the Appellant for EC, since the Standard Operating Procedure issued by it has been stayed by the Madurai Bench of Madras High Court, by the said order dated 15th July 2021, citing the judgment of this Court in *Alembic Pharmaceuticals* (supra).

80. The Appellant has filed an application being I.A No. 125221 of 2021 in this appeal seeking directions on the Respondent No. 1 to process the Appellant's application dated 5th August 2020 for revised EC.

81. There can be no doubt that the need to comply with the requirement to obtain

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Environment Clearance is non-negotiable. A project can be set up or allowed to expand subject to compliance of the requisite norms. Environmental clearance is granted on condition of the suitability of the site to set up the project from the environmental angle, and existence of necessary infrastructural facilities and equipment for compliance of environmental norms. To protect future generations, it is imperative that pollution laws be strictly enforced. Under no circumstances, can industries which pollute be allowed to operate unchecked and degrade the environment.

82. The question is whether an establishment contributing to the economy of the country and providing livelihood to hundreds of people should be closed down for the technical irregularity of shifting its site without prior environmental clearance, without opportunity to the establishment to regularize its operation by obtaining the requisite clearances and permissions, even though the establishment may not otherwise be violating pollution laws, or the pollution, if any, can conveniently and effectively be checked. The answer has to be in the negative.

83. The Central Government is well within the scope of its powers under Section 3 of the 1986 Act to issue directions to control and/or prevent pollution including directions for prior Environmental Clearance before a project is commenced. Such prior Environmental Clearance is necessarily granted upon examining the impact of the project on the environment. Ex-Post facto Environmental Clearance should not ordinarily be granted, and certainly not for the asking. At the same time ex post facto clearances and/or approvals and/or removal of technical irregularities in terms of Notifications under the 1986 Act cannot be declined with pedantic rigidity, oblivious of the consequences of stopping the operation of a running steel plant.

84. The 1986 Act does not prohibit ex post facto Environmental Clearance. Some relaxations and even grant of ex post facto EC in accordance with law, in strict compliance with Rules, Regulations Notifications and/or applicable orders, in appropriate cases, where the projects are in compliance with, or can be made to comply with environment norms, is in over view not impermissible. The Court cannot be oblivious to the economy or the need to protect the livelihood of hundreds of employees and others employed in the project and others dependent on the project, if such projects comply with environmental norms.

85. As held by a three Judge Bench of this Court in *Lafarge Umiam Mining Private Limited* v. *Union of India*[3] ("Lafarge") reported in (2011) 7 SCC 338:

> *"119.* ***The time has come for us to apply the constitutional "doctrine of proportionality" to the matters concerning environment as a part of the process of judicial review in contradistinction to merit review. It cannot be gainsaid that utilization of the environment and its natural resources has to be in a way that is consistent with principles of sustainable development and intergenerational equity, but balancing of these equities may entail policy choices****. In the circumstances, barring exceptions, decisions relating to utilization of natural resources have to be tested on the anvil of the well-recognized principles of judicial review. Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that has the decision-maker taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision? Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint. Once this is ensured, then the doctrine of "margin of appreciation" in favour of the decision-maker would come into play."*

86. In *Alembic Pharmaceuticals* (supra) this Court observed:—

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"27. The concept of an ex post facto EC is in derogation of the fundamental principles of environmental jurisprudence and is an anathema to the EIA notification dated 27 January 1994. It is, as the judgment in Common Cause holds, detrimental to the environment and could lead to irreparable degradation. The reason why a retrospective EC or an ex post facto clearance is alien to environmental jurisprudence is that before the issuance of an EC, the statutory notification warrants a careful application of mind, besides a study into the likely consequences of a proposed activity on the environment. An EC can be issued only after various stages of the decision-making process have been completed. Requirements such as conducting a public hearing, screening, scoping and appraisal are components of the decision-making process which ensure that the likely impacts of the industrial activity or the expansion of an existing industrial activity are considered in the decision-making calculus. Allowing for an ex post facto clearance would essentially condone the operation of industrial activities without the grant of an EC. In the absence of an EC, there would be no conditions that would safeguard the environment. Moreover, if the EC was to be ultimately refused, irreparable harm would have been caused to the environment. In either view of the matter, environment law cannot countenance the notion of an ex post facto clearance. This would be contrary to both the precautionary principle as well as the need for sustainable development.

87. In *Alembic Pharmaceuticals* (supra), this Court deprecated ex-post facto clearances, but this Court did not pass orders for closure of the three industries concerned, on consideration of the consequences of their closure. This court proceeded to observe and held:—

44. The issue which must now concern the Court is the consequence which will emanate from the failure of the three industries to obtain their ECs until 14 May 2003 in the case of Alembic Pharmaceuticals Limited, *17 July 2003 in the case of* United Phosphorous Limited, *and 23 December 2002 in the case of* Unique Chemicals Limited. *The functioning of the factories of all three industries without a valid EC would have had an adverse impact on the environment, ecology and biodiversity in the area where they are located. The Comprehensive Environmental Pollution Index[4] report issued by the Central Pollution Control Board for 2009-2010 describes the environmental quality at 88 locations across the country. Ankleshwar in the State of Gujarat, where the three industries are located showed critical levels of pollution[5]. In the Interim Assessment of CEPI for 2011, the report indicates similar critical figures[6] of pollution in the Ankleshwar area. The CEPI scores for 2013[7] and 2018[8] were also significantly high. This is an indication that industrial units have been operating in an unregulated manner and in defiance of the law. Some of the environmental damage caused by the operation of the industrial units would be irreversible. However, to the extent possible some of the damage can be corrected by undertaking measures to protect and conserve the environment.*

45. Even though it is not possible to individually determine the exact extent of the damage caused to the environment by the three industries, several circumstances must weigh with the Court in determining the appropriate measure of restitution. First, it is not in dispute that all the three industries did obtain ECs, though this was several years after the EIA notification of 1994 and the commencement of production. Second, subsequent to the grant of the ECs, the manufacturing units of all the three industries have also obtained ECs for an expansion of capacity from time to time. Third, the MoEF had issued a circular on 5 November 1998 permitting applications for ECs to be filed by 31 March 1999, which was extended subsequently to 30 June 2001. On 14 May 2002, the deadline was extended until 31 March 2003 subject to a deposit commensurate to the investment made. The circulars issued by the MoEF extending time for obtaining ECs came to

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Page 14 Monday, April 04, 2022
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the notice of this Court in Goa Foundation (I) *v.* Union of India[9]. *Fourth, though in the context of the facts of the case, this Court in* Lafarge Umiam Mining Private Limited *v.* Union of India[10] *("Lafarge") has upheld the decision to grant ex post facto clearances with respect to limestone mining projects in the State of Meghalaya. In* ***Lafarge****, the Court dealt with the question of whether ex post facto clearances stood vitiated by alleged suppression of the nature of the land by the project proponent and whether there was non-application of mind by the MoEF while granting the clearances. While upholding the ex post facto clearances, the Court held that the native tribals were involved in the decision-making process and that the MoEF had adopted a due diligence approach in reassuring itself through reports regarding the environmental impact of the project."*

(Emphasis supplied)

46. After adverting to the decision in Lafarge, *another Bench of three learned judges of this Court in* Electrotherm (India) Limited *v.* Patel Vipulkumar Ramjibhai[11], *dealt with the issue of whether an EC granted for expansion to the appellant without holding a public hearing was valid in law. Justice Uday U. Lalit speaking for the Bench held thus:*

> *"19…the decision-making process in doing away with or in granting exemption from public consultation/public hearing, was not based on correct principles and as such the decision was invalid and improper."*

47. The Court while deciding the consequence of granting an EC without public hearing did not direct closure of the appellant's unit and instead held thus:

> *"20. At the same time, we cannot lose sight of the fact that in pursuance of environmental clearance dated 27-1-2010, the expansion of the project has been undertaken and as reported by CPCB in its affidavit filed on 7-7-2014, most of the recommendations made by CPCB are complied with. In our considered view, the interest of justice would be subserved if that part of the decision exempting public consultation/public hearing is set aside and the matter is relegated back to the authorities concerned to effectuate public consultation/public hearing.* ***However, since the expansion has been undertaken and the industry has been functioning, we do not deem it appropriate to order closure of the entire plant as directed by the High Court****. If the public consultation/public hearing results in a negative mandate against the expansion of the project, the authorities would do well to direct and ensure scaling down of the activities to the level that was permitted by environmental clearance dated 20-2-2008. If public consultation/public hearing reflects in favour of the expansion of the project, environmental clearance dated 27-1-2010 would hold good and be fully operative.* ***In other words, at this length of time when the expansion has already been undertaken, in the peculiar facts of this case and in order to meet ends of justice, we deem it appropriate to change the nature of requirement of public consultation/public hearing from pre-decisional to post-decisional. The public consultation/public hearing shall be organised by the authorities concerned in three months from today****."*

(Emphasis supplied)

48. Guided by the precepts that emerge from the above decisions, this Court has taken note of the fact that though the three industries operated without an EC for several years after the EIA notification of 1994, each of them had subsequently received ECs including amended ECs for expansion of existing capacities. These ECs have been operational since 14 May 2003 (in the case of Alembic Pharmaceuticals Limited), *17 July 2003 (in the case of* United Phosphorous Limited), *and 23 December 2002 (in the case of* Unique Chemicals Limited). *In addition, all the three units have made infrastructural investments and employed significant numbers of*

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workers in their industrial units.

49. In this backdrop, this Court must take a balanced approach which holds the industries to account for having operated without environmental clearances in the past without ordering a closure of operations. The directions of the NGT for the revocation of the ECs and for closure of the units do not accord with the principle of proportionality. At the same time, the Court cannot be oblivious to the environmental degradation caused by all three industries units that operated without valid ECs. The three industries have evaded the legally binding regime of obtaining ECs. They cannot escape the liability incurred on account of such noncompliance. Penalties must be imposed for the disobedience with a binding legal regime. The breach by the industries cannot be left unattended by legal consequences. The amount should be used for the purpose of restitution and restoration of the environment. Instead and in place of the directions issued by the NGT, we are of the view that it would be in the interests of justice to direct the three industries to deposit compensation quantified at Rs. 10 crores each. The amount shall be deposited with GPCB and it shall be duly utilised for restoration and remedial measures to improve the quality of the environment in the industrial area in which the industries operate. Though we have come to the conclusion, for the reasons indicated, that the direction for the revocation of the ECs and the closure of the industries was not warranted, we have issued the order for payment of compensation as a facet of preserving the environment in accordance with the precautionary principle. These directions are issued under Article 142 of the Constitution. Alembic Pharmaceuticals Limited, United Phosphorous Limited and Unique Chemicals Limited shall deposit the amount of compensation with GPCB within a period of four months from the date of receipt of the certified copy of this judgment. This deposit shall be in addition to the amount directed by the NGT. Subject to the deposit of the aforesaid amount and for the reasons indicated, we allow the appeals and set aside the impugned judgment of the NGT dated 8 January 2016 in so far as it directed the revocation of the ECs and closure of the industries as well as the order in review dated 17 May 2016."

88. The Notification being SO 804(E) dated 14th March, 2017 was not an issue in *Alembic Pharmaceuticals* (supra). This Court was examining the propriety and/or legality of a 2002 circular which was inconsistent with the EIA Notification dated 27th January, 1994, which was statutory. Ex post facto environmental clearance should not however be granted routinely, but in exceptional circumstances taking into account all relevant environmental factors. Where the adverse consequences of ex post facto approval outweigh the consequences of regularization of operation of an industry by grant of ex post facto approval and the industry or establishment concerned otherwise conforms to the requisite pollution norms, ex post facto approval should be given in accordance with law, in strict conformity with the applicable Rules, Regulations and/or Notifications. Ex post facto approval should not be withheld only as a penal measure. The deviant industry may be penalised by an imposition of heavy penalty on the principle of 'polluter pays' and the cost of restoration of environment may be recovered from it.

89. We are of the view that the High Court erred in passing the impugned order, vacating interim orders which had been in force for two years. The impugned order is not in conformity with the principle of proportionality. This is not a case where the steel plant was started without environmental clearance or consent of JSPCB. The Appellant had applied for and obtained environmental clearance to set up an integrated steel plant (3MTPA) on 1350 acres of land at Mauza South Parbatpur, as observed above. Environmental Clearance had been granted on 21st February 2008 and Consent to Operate had been granted by JSPCB on 5th May 2008.

90. The Appellant established its steel plant in Mauza Bhagaband, 5.3 kms away

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from the site for which EC and CTE had been granted. It is the contention of the Appellant that the shift is minor and makes no change in the EIA/EMP on the basis of which EC has been granted. The shift did not require fresh public hearing in terms of the Circular dated 22nd January 2010 of the MoEF.

91. As aforesaid, by a letter dated 2.12.2011 addressed to the Appellant, the MoEF confirmed that the steel plant of the Appellant was within the Environment Impact Area and the affected people had the opportunity to air their views in a public hearing. The question is whether the Petitioner was required to obtain fresh prior clearance for shifting or was covered by the exemption under the said Notification dated 22nd January 2010.

92. The Appellant has all along asserted that no part of the premises of the integrated steel plant is in any forest. As such there was no violation of the Indian Forest Act, 1927 or the Forest Conservation Act, 1980. The MoEF had also confirmed that the steel plant in question was well within the Environment Impact Area and the affected people had the opportunity in a public hearing. Be that as it may, whether the shifting of the site has really made any difference from the environmental impact angle requires consideration by the appropriate authority/forum.

93. In any case, the Appellant has duly applied for ex post facto forest clearance approval without prejudice to its rights and contentions that its steel plant is not on forest land and also applied for revised EC. On 17th December 2019, MoEF&CC accorded ex post facto in principle approval to the forest clearance proposal on the recommendations of the Forest Advisory Committee. The application for revised clearance is pending consideration. No final decision has however been taken, ostensibly in view of the interim order passed by the Madras High Court staying the operation of the Standard Operation Procedures issued vide Memorandum dated 7th July 2021.

94. The interim order passed by the Madras High Court appears to be misconceived. However, this Court is not hearing an appeal from that interim order. The interim stay passed by the Madras High Court can have no application to operation of the Standard Operating Procedure to projects in territories beyond the territorial jurisdiction of Madras High Court. Moreover, final decision may have been taken in accordance with the Orders/Rules prevailing prior to 7th July, 2021.

95. In passing the impugned order the High Court overlooked the consequences of closure of an integrated steel plant with a work force of 300 regular and 700 contractual workers. The High Court also failed to appreciate that the judgment of this Court in *Alembic Pharmaceuticals* (supra) was distinguishable on facts. Furthermore, continuance of the interim orders allowing operation of an industrial establishment or even the grant of revised EC to the industrial establishment cannot stand in the way of action against that establishment for contraventions, including the imposition of penalty, on the principle 'polluter pays'. The scope and effect of Section 32A of the IBC is a different issue. This Court need not examine into the question of whether penal action can be initiated against the Appellant or, whether compensation can be recovered from the Appellant, at this stage. The issue may be decided by the appropriate authority at the appropriate stage when it adjudicates an action for penalization of the Appellant or recovery of compensation from the Appellant. The application of the Appellant for revised EC, CTO etc. shall be considered strictly in accordance with environmental norms.

96. The appeals are allowed. The impugned order is set aside. The Respondent No. 1 shall take a decision on the application of the Appellant for revised EC in accordance with law, within three months from date. Pending such decision, the operation of the steel plant shall not be interfered with on the ground of want of EC, FC, CTE or CTO.

———

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[1] (1996) 3 SCC 212

[2] 2020 SCC OnLine SC 347

[3] (2011) 7 SCC 338

[4] "CEPI"

[5] CEPI score - 88.50

[6] CEPI score - 85.75

[7] CEPI score - 80.93

[8] CEPI score - 80.21

[9] (2005) 11 SCC 559

[10] (2011) 7 SCC 338

[11] (2016) 9 SCC 300

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2022 SCC OnLine SC 362

In the Supreme Court of India

(BEFORE INDIRA BANERJEE AND J.K. MAHESHWARI, JJ.)

Pahwa Plastics Pvt. Ltd. and Another ... Appellants;

Versus

Dastak NGO and Others ... Respondents.

Civil Appeal No. 4795 of 2021

Decided on March 25, 2022

The Judgment of the Court was delivered by

INDIRA BANERJEE, J.:— This appeal under Section 22 of the National Green Tribunal Act, 2010, is against an order dated 3rd June 2021 passed by the Principal Bench of the National Green Tribunal (NGT) in O.A No. 287/2020 at New Delhi, *inter alia*, holding that establishments such as the manufacturing units of the Appellants, which did not have prior Environmental Clearance (EC) could not be allowed to operate.

2. The question of law involved in this appeal is, whether an establishment employing about 8000 workers, which has been set up pursuant to Consent to Establish (CTE) and Consent to Operate (CTO) from the concerned statutory authority and has applied for ex post facto EC can be closed down pending issuance of EC, even though it may not cause pollution and/or may be found to comply with the required pollution norms.

3. With increasing industrialization and the establishment of factories which emitted smoke and other pollutants, there was worldwide concern for protection of environment. In June 1972, the United Nations Conference on the Human Environment was held in Stockholm, where decisions were taken to take appropriate steps for preservation of the natural resources of the earth, which, among other things, included preservation of the quality of air and water by controlling pollution.

4. In 1974, Parliament enacted the Water (Prevention and Control of Pollution) Act, 1974, with a view to prevent and control water pollution and to maintain and restore wholesomeness of water.

5. In furtherance of the decisions taken at Stockholm, Parliament enacted the Air (Prevention and Control of Pollution) Act, 1981, hereinafter referred to as "the Air Pollution Act", to provide for prevention, control and abatement of air pollution.

6. The Air Pollution Act provides for the constitution of a Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCB) to deal with the problem of air pollution. Section 16 of the Air Pollution Act enables the Central Pollution Control Board to take steps to improve the quality of air and to prevent, control or abate air pollution in the country. Section 17 of the Air Pollution Act enables the State Pollution Control Boards to plan comprehensive programmes for the prevention, control or abatement of air pollution, inter alia, by laying down standards for emission of air pollutants.

7. Section 18 of the Air Pollution Act enables the Central Government to give directions by which the CPCB is to be bound. Similarly, every SPCB is to be bound by directions in writing as might be given by the CPCB or the State Government.

8. Where a notification is issued under the Air Pollution Act, placing an area within the control area of air pollution, permission is necessary to set up and operate any factory or plant thereat. No person operating any factory or plant in any air pollution control area is to discharge or cause or permit to be discharged the emission of any air pollutants, in excess of the standards laid down by the SPCB under Clause (g) of sub-

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Section (1) of Section 17.

9. The Environment (Protection) Act, 1986, hereinafter referred to as "the EP Act" was also enacted pursuant to the decisions taken at the United Nations Conference on the Human Environment, held in Stockholm in June, 1972. As per the Statement of Objects and Reasons for enactment of the EP Act, the said Act has been prompted by concern over the environment, that has grown all over the world since the 60s.

10. Sub-section (1) of Section 3 of the EP Act empowers the Central Government to take all such measures as it might deem necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and reducing environmental pollution.

11. Sub-section (2) of Section 3 of the EP Act enables the Central Government to take, inter alia, the following measures:

"(i) co-ordination of actions by the State Governments, officers and other authorities—

(a) under this Act, or the rules made thereunder; or

(b) under any other law for the time being in force which is relatable to the objects of this Act;

(ii) planning and execution of a nation-wide programme for the prevention, control and abatement of environmental pollution;

(iii) laying down standards for the quality of environment in its various aspects;

(iv) laying down standards for emission or discharge of environmental pollutants from various sources whatsoever:

Provided that different standards for emission or discharge may be laid down under this clause from different sources having regard to the quality or composition of the emission or discharge of environmental pollutants from such sources;

(v) restriction of areas in which any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards;

(vi) laying down procedures and safeguards for the prevention of accidents which may cause environmental pollution and remedial measures for such accidents;

(vii) laying down procedures and safeguards for the handling of hazardous substances;

(viii) examination of such manufacturing processes, materials and substances as are likely to cause environmental pollution;

(ix) carrying out and sponsoring investigations and research relating to problems of environmental pollution;

(x) inspection of any premises, plant, equipment, machinery, manufacturing or other processes, materials or substances and giving, by order, of such directions to such authorities, officers or persons as it may consider necessary to take steps for the prevention, control and abatement of environmental pollution;

(xi) establishment or recognition of environmental laboratories and institutes to carry out the functions entrusted to such environmental laboratories and institutes under this Act;

(xii) collection and dissemination of information in respect of matters relating to environmental pollution;

(xiii) preparation of manuals, codes or guides relating to the prevention, control and abatement of environmental pollution;

(xiv) such other matters as the Central Government deems necessary or expedient for the purpose of securing the effective implementation of the provisions

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of this Act."

12. Sub-section (3) of Section 3 of the EP Act provides as follows:

"3. Power of Central Government to take measures to protect and improve environment.—

...

(3) The Central Government may, if it considers it necessary or expedient so to do for the purposes of this Act, by order, published in the Official Gazette, constitute an authority or authorities by such name or names as may be specified in the order for the purpose of exercising and performing such of the powers and functions (including the power to issue directions under Section 5) of the Central Government under this Act and for taking measures with respect to such of the matters referred to in sub-section (2) as may be mentioned in the order and subject to the supervision and control of the Central Government and the provisions of such order, such authority or authorities may exercise the powers or perform the functions or take the measures so mentioned in the order as if such authority or authorities had been empowered by this Act to exercise those powers or perform those functions or take such measures."

13. Subject to the provisions of the EP Act, the Central Government has power under sub-Section (1) of Section 3, to take all such measures, as it deems necessary or expedient, for the purpose of protecting and improving the quality of environment and preventing, controlling or reducing environmental pollution.

14. Section 5 of the EP Act provides that notwithstanding anything contained in any other law, but subject to the provisions of the EP Act, the Central Government may, in exercise of its powers and performance of its functions under the EP Act, issue directions in writing to any person, officer or any authority and such person, officer or authority shall be bound to comply with such directions.

15. In exercise of powers conferred by Sections 6 and 25 of the EP Act, the Central Government has made the Environment (Protection) Rules, 1986, hereinafter referred to as "the EP Rules".

16. The Central Government issued an Environmental Impact Assessment Notification dated 27th January 1994 in exercise of powers conferred by sub-section (1) and clause (v) of sub-section (2) of Section 3 of the EP Act read with clause (d) of sub -rule (3) of Rule 5 of the EP Rules, directing that on and from the date of publication of the said notification in the Official Gazette, expansion or modernization of any activity or a new project listed in Schedule I to the said notification shall not be undertaken in any part of India, unless it has been accorded EC by the Central Government in accordance with the procedures specified in the said notification.

17. In exercise of powers conferred by sub-section (1) and clause (v) of sub-section (2) of Section 3 of the EP Act read with clause (d) of sub-rule (3) of Rule 5 of the EP Rules and in supersession of notification number S.O. 60 (E) dated 27th January 1994, except in respect of things done or omitted to be done before such supersession, the Central Government issued a notification dated 14th September 2006, being Notification S.O. 1533 (E) requiring prior environmental clearance from the Central Government or as the case may be, by the State-Level Environment Assessment Authority, duly constituted by the Central Government under sub-section (3) of Section 3 of the EP Act.

18. In terms of the said notification dated 14th September 2006, the process of environmental clearance for new projects was to comprise of a maximum of four stages, all of which might not apply to particular cases. The stages were (1) Screening, (2) Scoping, (3) Public Consultation and (4) Appraisal.

19. In the meanwhile, by a notification being S.O. 327 (E) dated 10th April 2001, published in the Gazette of India on 12th April 2001, the Central Government has

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delegated the powers vested in it under the EP Act, to the Chairpersons of the respective State Pollution Control Boards/Committees to issue directions to any industry or any local or other authority to prevent violation of the Rules.

20. The Appellants carry on business, *inter alia*, of manufacture and sale of basic organic chemicals, namely, Formaldehyde. The Appellant No. 1, M/s. Pahwa Plastics Private Limited has two manufacturing units, one at village Kharawar in Rohtak, hereinafter referred to as the "Rohtak Unit" and the other at village Jathlana, Jagadhri in Yamuna Nagar in Haryana, hereinafter referred to as the "Yamuna Nagar Unit". The Appellant No. 2 has a manufacturing unit at village Ghespur in Yamuna Nagar, Haryana which is hereinafter referred to as the "Yamuna Nagar Unit". The manufacturing units established, run and operated by the respective Appellants fall in the category of Micro, Small and Medium Enterprise (MSME) as defined under the Micro, Small and Medium Enterprises Development Act, 2006, hereinafter referred to as "the MSME Act".

21. On or about 31st March 2014, the Appellant No. 1, M/s. Pahwa Plastics Ltd. applied for Consent to Establish (CTE) its Yamuna Nagar unit for manufacture of Formaldehyde.

22. By a communication No. HSPCB/Consent/ : 2846616YAMCTE 3087415 dated 2nd June 2016, the Haryana State Pollution Control Board (HSPCB) granted Consent to Establish (CTE) to the Appellant No. 1 M/s. Pahwa Plastics Private Limited in respect of its Yamuna Nagar Unit. The CTE was to remain valid for 60 months from the date of its issue, to be extended for another year at the discretion of the Board or till the time the unit started its trial production, whichever was earlier.

23. Some of the terms and conditions on which CTE was granted are set out hereinbelow:

> *"3. The officer/official of the Board shall have the right to access and inspection of the industry in connection with the various processes and the treatment facilities being provided simultaneously with the construction of building/machinery. The effluent should conform the effluent standards as applicable.*
>
> *4. That necessary arrangement shall be made by the industry for the control of Air Pollution before commissioning the plant. The emitted pollutants will meet the emission and other standards as laid/will be prescribed by the Board from time to time.*
>
> *5. The applicant will obtain consent under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21/22 of the Air (Prevention & Control of Pollution) Act, 1981 as amended to-date-even before starting trial production.*
>
> *6. The above Consent to Establish is further subject to the conditions that the unit complies with all the laws/rules/decisions and competent directions of the Board/Government and its functionaries in all respect before commissioning of the operation and during its actual working strictly.*
>
> * * *
>
> *8. The Electricity Department will give only temporary connection and permanent connection to the unit will be given after verifying the consent granted by the Board, both under Water Act and Air Act.*
>
> * * *
>
> *12. That there is no discharge directly or indirectly from the unit or the process into any interstate river or Yamuna River or River Ghaggar.*
>
> *13. That the industry or the unit concerned is not sited within any prohibited distances according to the Environmental Laws and Rules, Notification, Orders and Policies of Central Pollution Control Board and Haryana State Pollution Control*

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Board.

* * *

17. In case of change of name from previous Consent to Establish granted, fresh Consent to Establish fee shall be levied.

18. Industry should adopt water conservation measures to ensure minimum consumption of water in their Process. Ground water based proposals of new industries should get clearance from Central Ground Water Authority for scientific development of previous resources.

19. That the unit will take all other clearances from concerned agencies, whenever required.

20. That the unit will not change its process without the prior permission of the Board.

21. That the Consent to Establish so granted will be invalid, if the unit falls in Aravali Area or non conforming area.

22. That the unit will comply with the Hazardous Waste Management Rules and will also make the non-leachate pit for storage of Hazardous waste and will undertake not to dispose off the same except for pit in their own premises or with the authorized disposal authority.

23. That the unit will submit an undertaking that it will comply with all the specific and general conditions as imposed in the above Consent to Establish within 30 days failing which Consent to Establish will be revoked."

24. By another communication No. HSPCB/Consent/ : 2846618YAMCTO3098246 dated 26th March 2018, HSPCB granted consent to the Appellant No. 1 to operate its Yamuna Nagar Unit from 8th February 2018 to 31st March 2022.

25. By an order No. HSPCB/YMN/2242, dated 31st March 2010, the Appellant No. 2, M/s. Apcolite Polymer Private Limited was granted CTE to establish its Yamuna Nagar Unit for manufacture of Formaldehyde with the manufacturing capacity of 80 tonnes per day.

26. By another communication Nos. HSPCB/Consent/ : HSPCB/YMN/DLC/2011/4027 & HSPCB/YMN/DLC/2011/4029 dated 16th January 2012, HSPCB granted the Appellant No. 2, M/s. Apcolite Polymers Private Limited, Consent to Operate (CTO) its Yamuna Nagar Unit. The CTO has been extended from 1st April 2016 till 31st March 2026, by a letter dated 13th March 2016. The CTO is valid till March 2026.

27. By a communication No. HSPCB/Consent/ : 2846616YAMCT OHWM2630357 dated 13th March 2016, HSPCB granted consent for emission of AIR to Appellant No. 2, M/s. Apcolite Polymers Private Limited in respect of its Yamuna Nagar Unit on, inter alia, the terms and conditions specified in the said letter, some of which are extracted hereinbelow:—

"10. The air pollution control equipment of such specification which shall keep the emissions within the emission standard as approved by the State Board from time to time shall be installed and operated in the premises where the industry is carrying on/proposed to carry on its business.

11. The existing air pollution control equipment if required shall be alerted or replaced in accordance with the direction on the Board.

12. All solid wastes arising in the factory premises shall be properly graded and disposed of by:—

(i) In case of Land fill material, care should be taken to ensure that the material does not give rise to leachate which may percolate in ground water of carried away with storm run off.

(ii) Composting in case of bio degradable materials.

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(iii) If the method of incineration is used for the disposal of solid waste the consent application should be processed separately and it should be taken up which consent is granted.

13. The industry shall submit an undertaking to the effect that the above conditions shall be complied with by them.

14. The applicant shall submit its undertaking to the effect that the above conditions shall be complied with by them.

15. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent.

* * *

18. There should not be any fugitive emission from the premises.

19. The liquid effluent arising out of the operation of the air pollution control equipment shall also be treated in a manner and to the standards stipulated in the consent granted under Water (Prevention & Control of Pollution) Act, 1974 by this Board.

* * *

21. If the industry fails to adhere to any of the condition of this consent order the consent so granted shall automatically lapse.

* * *

33. The industry shall submit Environment Audit report once in a year.

* * *

38. In case of by passing the emissions, the consent shall be deemed revoked."

28. It is the case of the Appellants that at the time when CTE was granted to the Appellants, it was thought that EC was not required for units which manufactured Formaldehyde. Even HSPCB itself was not sure of whether EC was required for such units.

29. Mr. Gupta argued that the Appellants were *bona fide* under the impression that the Appellants were not required to obtain prior EC for setting up this establishment to manufacture Formaldehyde. On the basis of CTE granted by HSPCB, the Appellants set up their units taking huge loans from banks for which repayments have to be paid in installments.

30. In exercise of power under Section 3(1) and Section 3(2)(v) of the EP Act read with Rule 5(3)(d) of the EP Rules, the Central Government issued a notification being S.O. 804(E) dated 14th March 2017 which provides for grant of *ex post facto* EC for project proponents who had commenced, continued or completed a project without obtaining EC under the EP Act/EP Rules or the Environmental Impact Notification issued thereunder. Paragraphs 3, 4 and 5 of the said notification, read as hereunder:

"(3) In cases of violation, action will be taken against the project proponent by the respective State or State Pollution Control Board under the provisions of section 19 of the Environment (Protection) Act, 1986 and further, no consent to operate or occupancy certificate will be issued till the project is granted the environmental clearance.

(4) The cases of violation will be appraised by respective sector Expert Appraisal Committees constituted under sub-section (3) of Section 3 of the Environment (Protection) Act, 1986 with a view to assess that the project has been constructed at a site which under prevailing laws is permissible and expansion has been done which can be run sustainably under compliance of environmental norms with adequate environmental safeguards; and in case, where the finding of the Expert Appraisal Committee is negative, closure of the project will be recommended along with other actions under the law.

(5) In case, where the findings of the Expert Appraisal Committee on point at

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sub-para(4) above are affirmative, the projects under this category will be prescribed the appropriate Terms of Reference for undertaking Environment Impact Assessment and preparation of Environment Management Plan. Further, the Expert Appraisal Committee will prescribe a specific Terms of Reference for the project on assessment of ecological damage, remediation plan and natural and community resource augmentation plan and it shall be prepared as an independent chapter in the environment impact assessment report by the accredited consultants. The collection and analysis of data for assessment of ecological damage, preparation of remediation plan and natural and community resource augmentation plan shall be done by an environmental laboratory duly notified under Environment (Protection) Act, 1986, or a environmental laboratory accredited by National Accreditation Board for Testing and Calibration Laboratories, or a laboratory of a Council of Scientific and Industrial Research institution working in the field of environment."

31. The Notification of 2017 is a valid statutory notification issued by the Central Government in exercise of power under Sections 3(1) and 3(2)(v) of the EP Act read with Rule 5(3)(d) of the EP Rules in the same manner as the EIA Notification dated 27th January 1994 and the Notification dated 14th September 2006.

32. Section 21 of the General Clauses Act, 1897 provides that where any Central Act or Regulations confer a power to issue notifications, orders, rules or bye-laws, that power includes the power, exercisable in like manner, and subject to like sanction and conditions, if any, to add to, amend, vary or rescind any notification, order, rule or bye-law so issued. The authority, which had the power to issue Notifications dated 27th January 1994 and 14th September 2006 undoubtedly had, and still has the power to rescind or modify or amend those notifications in like manner. As held by this Court in *Shree Sidhbali Steels Ltd.* v. *State of Uttar Pradesh*[1], power under Section 21 to amend, vary or rescind notifications, orders, rules or bye-laws can be exercised from time to time having regard to the exigency.

33. Puducherry Environment Protection Association filed a Writ Petition being W.P. No. 11189 of 2017 in the High Court of Madras assailing the said notification dated 14th March 2017. By a judgment and order dated 13th October 2017, a Division Bench of the High Court refused to interfere with the said notification, holding that the impugned notification did not compromise with the need to preserve environmental purity.

34. The Ministry of Environment, Forest and Climate Change (MoEF&CC) issued a draft notification dated 23rd March 2020 which was duly published in the Gazette of India Extraordinary Part II. The Notification was proposed to be issued in exercise of powers conferred by subsection (1) and clause (v) of sub-section (2) of Section 3 of the EP Act for dealing with cases of violation of the notification with regard to EC. It was proposed that cases of violation would be appraised by the Appraisal Committee with a view to assess whether the project had been constructed or operated at a site which was permissible under prevailing laws and could be run sustainably on compliance of environmental norms with adequate environmental safeguards. Closure was to be recommended if the findings of the Appraisal Committee were in the negative. If the Appraisal Committee found that such unit had been running sustainably upon compliance of environmental norms with adequate environment safeguards, the unit would be prescribed appropriate Terms of Reference (TOR) after which the procedure for grant of EC would follow.

35. On 10th November 2020, the Department of Environment and Climate Change of the Government of Haryana issued an order which is extracted hereinbelow for convenience:

"Whereas the process of manufacturing of Formaldehyde is covered under the provisions of 5(f) of Schedule of Environment Impact Assessment Notification (EIA),

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2006 of Government of India, and requires the prior Environmental Clearance (EC) from the competent authority State Environment Impact Assessment Authority (SEIAA)/Ministry of Environment, Forest and Climate Change, Government of India, before establishment and operation of such units, besides other mandatory clearance, as applicable;

Whereas, it has come to the notice of Government that around 15 such units have been permitted to establish/operate in the State of Haryana, without obtaining the necessary Prior Environmental Clearances, but with the Consent of the Haryana State Pollution Control Bureau (HSPCB), which misinterpreted the category of such units and on realising the requirement of EC in these cases, has revoked its consents issued earlier to these units recently;

Whereas, some of these units approached the Government explaining their hardship due to such sudden revocation of their consents and have sought time for obtaining the necessary EC from the competent authority as the process is likely to take a minimum of 6 months to one year period, and to allow them to operate with all pollution control measures, following the pollution control norms applicable, and,

Whereas, the Government has carefully considered their request and the competent authority has decided that these units shall be allowed to continue their operations for a period of six months, without prejudice to any legal action taken against the violations committed by them, by the competent authorities, with the conditions that they will immediately apply for Environmental Clearance from the competent authority and provide the proof of such application within 60 days from the issuance of this communication to Environment and Climate Change Department and to Haryana State Pollution Control Board.

Therefore, it is ordered accordingly."

36. Referring to the Counter Affidavit filed by HSPCB before the NGT, Mr. Gupta pointed out that, since HSPCB itself was under the misconception that prior EC was not necessary for units such as the Yamunanagar units of the Appellants Nos. 1 and 2 respectively. HSPCB took a policy decision to allow the units which did not have prior EC to operate for six months, on condition that they would apply for EC within sixty days.

37. The Appellants duly applied for EC in respect of their manufacturing units. After scrutinizing their applications and after finding the units suitable for grant of EC in terms of the prevailing guidelines, the Expert Appraisal Committee constituted by the MoEF&CC conducted a public hearing to finalize the cases of the Appellants for issuance of Terms of Reference (TOR).

38. By an Office Memorandum, being F. No. 22-21/2020-1A III, dated 7th July 2021, the MoEF&CC issued Standard Operating Procedure (SOP) for identification and handling of violation cases under EIA Notification 2006.

39. The said Office Memorandum, inter alia, reads:

"The Ministry had issued a notification number S.O.804(E), dated the 14th March, 2017 detailing the process for grant of Terms of Reference and Environmental Clearance in respect of projects or activities which have started the work on site and/or expanded the production beyond the limit of Prior EC or changed the product mix without obtaining Prior EC under the EIA Notification, 2006.

2. This Notification was applicable for six months from the date of publication i.e. 14.03.2017 to 13.09.2017 and further based on court direction from 14.03.2018 to 13.04.2018.

3. Hon'ble NGT in Original Application No. 287 of 2020 in the matter of Dastak N.G.O. *v.* Synochem Organics Pvt. Ltd. *and in applications pertaining to same subject matter in Original Application No. 298 of 2020 in* Vineet Nagar *v.* Central Ground Water Authority, *vide order dated 03.06.2021 held that "(…) for past*

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violations, the concerned authorities are free to take appropriate action in accordance with polluter pays principle, following due process".

4. Further, the Hon'ble National Green Tribunal in O.A. No. 34/2020 WZ in the matter of Tanaji B. Gambhire *v.* Chief Secretary, Government of Maharashtra, *vide order dated 24.05.2021 has directed that"****.... a proper SoP be laid down for grant of EC in such cases so as to address the gaps in binding law and practice being currently followed. The MoEF may also consider circulating such SoP to all SEIAAs in the country".***

5. Therefore, in compliance to the directions of the Hon'ble NGT a Standard Operating Procedure (SoP) for dealing with violation cases is required to be drawn. The Ministry is also seized of different categories of 'violation' cases which have been pending for want of an approved structural/procedural framework based on 'Polluter Pays Principle' and 'Principle of Proportionality'. It is undoubtedly important that action under statutory provisions is taken against the defaulters/violators and a decision on the closure of the project or activity or otherwise is taken expeditiously.

6. In the light of the above directions of the Hon'ble Tribunal and the issues involved, the matter has accordingly been examined in detail in the Ministry. A detailed SoP has accordingly been framed and is outlined herein. The SoP is also guided by the observations/decisions of the Hon'ble Courts wherein principles of proportionality and polluters pay have been outlined."

40. The SOP formulated by the said Office Memorandum dated 7th July 2021 refers to and gives effect to various judicial pronouncements including the judgment of this Court in *Alembic Pharmaceuticals Ltd.* v. *Rohit Prajapati*[2].

41. In terms of the SOP, the proposal for grant of EC in cases of violation are to be considered on merits, with prospective effect, applying principles of proportionality and the principle that the polluter pays and is liable for costs of remedial measures.

42. By an order dated 9th July 2021, the MoEF&CC confirmed the minutes of an earlier meeting of the Expert Appraisal Committee and recommended issuance of terms of reference to the Appellant No. 1, M/s. Pahwa Plastics Private Limited for expansion of its Formaldehyde Manufacturing unit from 60 TPD to 150 TPD.

43. In the meanwhile, on or about 26th November 2020, the Respondent No. 1, a Non-Governmental Organisation (NGO) hereinafter referred to as "Dastak" filed an application being O.A. No./287/2020 before the NGT praying that the order dated 10th November 2020 passed by the State of Haryana be quashed and units which were operating without EC be closed. The NGT disposed of the said application of Dastak by the impugned order dated 3rd June 2021.

44. A Public Interest Litigation being W.P. (MD) No. 11757 of 2021 (*Fatima* v. *Union of India*) was filed before the Madurai Bench of the Madras High Court challenging the said Memorandum dated 7th July 2021. By an interim order dated 15th July 2021 a Division Bench of the Madras High Court admitted the Writ Petition and stayed the said memorandum.

45. The Madurai Bench of the Madras High Court observed and held:—

"This writ petition has been filed as a public interest litigation challenging the validity of the office memorandum dated 07.07.2021, issued by the respondent.

2. We have heard Mr. A. Yogeshwaran, learned counsel appearing for the writ petitioner and Mr. L. Victoria Gowri, learned Assistant Solicitor General of India, accepts notice for the respondent.

3. The impugned office memorandum is challenged as being wholly without jurisdiction, contrary to the Environment Impact Assessment Notification, 2006, ultra vires the powers of the respondent under the Environment (Protection) Act, 1986 and violative of the various principles enunciated by the Hon'ble Supreme

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Court, while interpreting Article 21 and Article 48-A of the Constitution of India.

4. Further, it is submitted that the impugned notification is in gross violation of the undertaking given before the Hon'ble Full Bench of this Court in W.P. No. 11189 of 2017, wherein, the Court took note of the submissions made on behalf of the Government of India, that the notification impugned therein is only a one-time measure. Further, it is submitted that the respondent failed to see that concept of ex-post facto approval is alien to environment jurisprudence and it is anathema to the Environment Impact Assessment Notification, 2006.

5. Further, it is submitted that the impugned notification is in gross violation of the judgment of the Hon'ble Supreme Court in the case of Alembic Pharmaceuticals Ltd. *v.* Rohit Prajapati, *2020 SCC OnLine SC 347 and the orders passed by the National Green Tribunal, Principal Bench, New Delhi, in the case of* S.P. Muthuraman *v.* Union of India, *2015 SCC OnLine NGT 169.*

6. Identical grounds were considered by us in a challenge to an office memorandum dated 19.02.2021, which provided a procedure for granting post facto clearance under Coastal Regulation Zone (CRZ) Notification 2011, on the ground that despite no such provisions in the notification and being contrary to the earlier judgments and undertaking. The said writ petition in W.P(MD). No. 8866 of 2021 was admitted and by order dated 30.04.2021, the said office memorandum dated 19.02.2021 has been stayed.

7. The core issue in this writ petition is whether the Government of India could have issued the office memorandum and brought about the Standard Operating Procedure for dealing with violators, who failed to comply with the mandatory condition of obtaining prior environment clearance under the Environment Impact Assessment Notification 2006, read with the provisions of Environment (Protection) Act, 1986. This issue was considered by the Hon'ble Supreme Court in Alembic Pharmaceuticals Ltd. *(cited supra), and it was held that such office memorandum in the nature of circular is without jurisdiction. The operative portion of the judgment reads as follows:*

> *"...What is sought to be achieved by the administrative circular dated 14 May 2002 is contrary to the statutory notification dated 27 January 1994. The circular dated 14 May 2002 does not stipulate how the detrimental effects on the environment would be taken care of if the project proponent is granted an ex post facto EC. The EIA notification of 1994 mandates a prior environmental clearance. The circular substantially amends or alters the application of the EIA notification of 1994. The mandate of not commencing a new project or expanding or modernising an existing one unless an environmental clearance has been obtained stands diluted and is rendered ineffective by the issuance of the administrative circular dated 14 May 2002. This discussion leads us to the conclusion that the administrative circular is not a measure protected by Section 3. Hence there was no jurisdictional bar on the NGT to enquire into its legitimacy or vires. Moreover, the administrative circular is contrary to the EIA Notification 1994 which has a statutory character. The circular is unsustainable in law."*

8. Despite the above decision, once again the Government of India, Ministry of Environment, Forest and Climate Change have chosen to adopt the route of issuing the office memorandum and virtually setting at naught the provisions of the Environment Impact Assessment Notification and the Environment (Protection) Act.

9. Before the Hon'ble First Bench, a public interest litigation was filed by the Puducherry Environment Protection Association, challenging the notification dated 14.03.2017, on identical grounds and the Hon'ble First Bench by judgment dated 13.10.2017, recorded the submissions of the learned Assistant Solicitor General of India that the said notification was a one-time measure and accordingly, disposed

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Page 11 Thursday, July 06, 2023
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of the writ petition.

10. Once again, the Ministry of Environment, Forest and Climate Change have issued the impugned office memorandum. Thus, from what we have noted above, we are of the clear view that the petitioner has made out a prima facie case for entertaining the writ petition. Accordingly, the writ petition is ***admitted*** *and there shall be an order of interim stay."*

46. It is true that in the case of *Puducherry Environment Protection Association* v. *Union of India*[3], the Division Bench of Madras High Court took note of and recorded the submission made on behalf of the Union of India that the relaxation was a one time relaxation. In view of such submission, this Court held that a one time relaxation was permissible.

47. It is, however, well settled that words and phrases and/or sentences in a judgment cannot be read in the manner of a statute, and that too out of context. The observation of the Division Bench that a one time relaxation was permissible, is not to be construed as a finding that relaxation cannot be made more than once. If power to amend or modify or relax a notification and/or order exists, the notification and/or order may be amended and/or modified as many times, as may be necessary. A statement made by counsel in Court would not prevent the authority concerned from making amendments and/or modifications provided such amendments and/or modifications were as per the procedure prescribed by law.

48. The Division Bench of Madras High Court fell in error in staying the said office memorandum, by relying on observations made by this Court in *Alembic Pharmaceuticals Ltd.* (supra), in the context of a circular which was contrary to the statutory Environment Impact Notification of 1994. The attention of the High Court was perhaps not drawn to the fact that the notification of 7th July 2021 was in pursuance of the statutory notification of 2017 which was valid. The judgment of this Court in *Alembic Pharmaceuticals Ltd.* (supra), was clearly distinguishable and could have no application to the office memorandum dated 7th July 2021 which was issued pursuant to the notification dated 14th March 2017.

49. The Appellants have already applied for EC. The Expert Appraisal Committee of the MoEF&CC has, after scrutinizing the application of the Appellants and finding them eligible for grant of EC, recommended their cases for grant of Terms of Reference (ToR). ToR was granted to the Appellants and a public hearing had also been conducted. Only last procedural step of issuance of EC is left.

50. It is claimed that the units of the Appellants are totally non-polluting units having "Zero Trade discharge". They have been in operation for many years. In the reply affidavit filed by the State before the NGT, it was mentioned that the units were operating in good faith with valid CTOs granted by the HSPCB. It was stated that the units were not causing pollution hazards. The only thing against the units was the procedural lapse of not obtaining EC.

51. By a communication No. F. No. IA-J-110011/185/2020-IA-II(I) dated 20th July 2021 issued to the Appellant No. 1, the MoEF&CC rejected the proposal for terms of reference on the purported ground that the activity of the Appellant No. 1 was covered under category "A" of item 5(f) "Synthetic Organic Chemicals" of the Schedule to the EIA Notification, 2006. A similar communication was issued in respect of M/s. Apcolite Polymers Pvt. Ltd. Significantly, by an order dated 9th July 2021, the MoEF&CC had confirmed the minutes of an earlier meeting of the Expert Appraisal Committee and recommended issuance of ToR to the Appellant No. 1, as observed above. The proposal for Terms of Reference has obviously been rejected at the final stage after the public hearing, by reason of the impugned order dated 3rd June 2021 passed by the NGT on the application of Dastak, which is under appeal.

52. This appeal was listed for admission on 30th September 2021, along with an

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application for interim relief being I.A. No. 110064 of 2021 praying for orders permitting the Appellants to operate their units during the pendency of the appeal. The appeal was heard at length at the admission stage and reserved for judgment along with the interim application by an order dated 30th September 2021.

53. After receiving the communication dated 20th July 2021 rejecting the proposal for Terms of Reference, the Appellants requested HSPCB to forward to the Appellants the proceedings of public hearing in respect of the manufacturing units of the Appellants. By a communication No. HSPCB/YR/2021/2830 dated 15th February 2022, HSPCB forwarded proceedings of the public hearing in respect of the Yamuna Nagar unit of the Appellant No. 1. By another Communication No. HSPCB/YR/29021/2829 dated 15th February 2022 the HSPCB forwarded to the Appellant No. 2 the proceedings of the public hearing held on 3rd February 2022 in connection with the Yamuna Nagar Unit of the Appellant No. 2.

54. The manufacturing units of the Appellants appoint about 8,000 employees and have a huge annual turnover. An establishment contributing to the economy of the country and providing livelihood ought not to be closed down only on the ground of the technical irregularity of not obtaining prior Environmental Clearance irrespective of whether or not the unit actually causes pollution.

55. In *Electrosteel Steels Limited* v. *Union of India*[4], this Court held:—

> ***"82. The question is whether an establishment contributing to the economy of the country and providing livelihood to hundreds of people should be closed down for the technical irregularity of shifting its site without prior environmental clearance, without opportunity to the establishment to regularize its operation by obtaining the requisite clearances and permissions, even though the establishment may not otherwise be violating pollution laws, or the pollution, if any, can conveniently and effectively be checked. The answer has to be in the negative.***
>
> *83. The Central Government is well within the scope of its powers under Section 3 of the 1986 Act to issue directions to control and/or prevent pollution including directions for prior Environmental Clearance before a project is commenced. Such prior Environmental Clearance is necessarily granted upon examining the impact of the project on the environment. Ex-Post facto Environmental Clearance should not ordinarily be granted, and certainly not for the asking.* ***At the same time ex post facto clearances and/or approvals and/or removal of technical irregularities in terms of Notifications under the 1986 Act cannot be declined with pedantic rigidity, oblivious of the consequences of stopping the operation of a running steel plant.***
>
> ***84. The 1986 Act does not prohibit ex post facto Environmental Clearance****. Some relaxations and even grant of ex post facto EC in accordance with law, in strict compliance with Rules, Regulations Notifications and/or applicable orders, in appropriate cases, where the projects are in compliance with, or can be made to comply with environment norms, is in over view not impermissible. The Court cannot be oblivious to the economy or the need to protect the livelihood of hundreds of employees and others employed in the project and others dependent on the project, if such projects comply with environmental norms.*
>
> * * *
>
> *88. The Notification being SO 804(E) dated 14th March, 2017 was not an issue in* Alembic Pharmaceuticals *(supra). This Court was examining the propriety and/or legality of a 2002 circular which was inconsistent with the EIA Notification dated 27th January, 1994, which was statutory. Ex post facto environmental clearance should not however be granted routinely, but in exceptional circumstances taking*

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into account all relevant environmental factors. Where the adverse consequences of ex post facto approval outweigh the consequences of regularization of operation of an industry by grant of ex post facto approval and the industry or establishment concerned otherwise conforms to the requisite pollution norms, ex post facto approval should be given in accordance with law, in strict conformity with the applicable Rules, Regulations and/or Notifications. ***Ex post facto approval should not be withheld only as a penal measure****. The deviant industry may be penalised by an imposition of heavy penalty on the principle of 'polluter pays' and the cost of restoration of environment may be recovered from it.*

* * *

96. The appeals are allowed. The impugned order is set aside. The ***Respondent No. 1 shall take a decision on the application of the Appellant for revised EC in accordance with law, within three months from date. Pending such decision, the operation of the steel plant shall not be interfered with on the ground of want of EC, FC, CTE or CTO."***

56. As held by this Court in *Electrosteel Steels Limited* (supra) *ex post facto* Environmental Clearance should not ordinarily be granted, and certainly not for the asking. At the same time *ex post facto* clearances and/or approvals and/or removal of technical irregularities in terms of a Notification under the EP Act cannot be declined with pedantic rigidity, oblivious of the consequences of stopping the operation of mines, running factories and plants.

57. The 1986 Act does not prohibit *ex post facto* Environmental Clearance. Grant of ex post facto EC in accordance with law, in strict compliance with Rules, Regulations, Notifications and/or applicable orders, in appropriate cases, where the projects are in compliance with, or can be made to comply with environment norms, is in our view not impermissible. The Court cannot be oblivious to the economy or the need to protect the livelihood of hundreds of employees and others employed in the project and others dependent on the project, if such projects comply with environmental norms.

58. As held by a three Judge Bench of this Court in *Lafarge Umiam Mining Private Limited* v. *Union of India*[5]:—

"119. The time has come for us to apply the constitutional "doctrine of proportionality" to the matters concerning environment as a part of the process of judicial review in contradistinction to merit review. It cannot be gainsaid that utilization of the environment and its natural resources has to be in a way that is consistent with principles of sustainable development and intergenerational equity, but balancing of these equities may entail policy choices. In the circumstances, barring exceptions, decisions relating to utilisation of natural resources have to be tested on the anvil of the well-recognized principles of judicial review. Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that has the decision-maker taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision? Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint. Once this is ensured, then the doctrine of "margin of appreciation" in favour of the decision-maker would come into play."

59. In *Alembic Pharmaceuticals Ltd.* (supra), this Court observed:—

"27. The concept of an ex post facto EC is in derogation of the fundamental principles of environmental jurisprudence and is an anathema to the EIA notification

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dated 27 January 1994. It is, as the judgment in Common Cause holds, detrimental to the environment and could lead to irreparable degradation. The reason why a retrospective EC or an ex post facto clearance is alien to environmental jurisprudence is that before the issuance of an EC, the statutory notification warrants a careful application of mind, besides a study into the likely consequences of a proposed activity on the environment. An EC can be issued only after various stages of the decision-making process have been completed. Requirements such as conducting a public hearing, screening, scoping and appraisal are components of the decision-making process which ensure that the likely impacts of the industrial activity or the expansion of an existing industrial activity are considered in the decision-making calculus. Allowing for an ex post facto clearance would essentially condone the operation of industrial activities without the grant of an EC. In the absence of an EC, there would be no conditions that would safeguard the environment. Moreover, if the EC was to be ultimately refused, irreparable harm would have been caused to the environment. In either view of the matter, environment law cannot countenance the notion of an ex post facto clearance. This would be contrary to both the precautionary principle as well as the need for sustainable development."

60. Even though this Court deprecated ex post facto clearances, in *Alembic Pharmaceuticals Ltd.* (supra), this Court did not direct closure of the units concerned but explored measures to control the damage caused by the industrial units. This Court held:—

"However, since the expansion has been undertaken and the industry has been functioning, we do not deem it appropriate to order closure of the entire plant as directed by the High Court."

61. The Notification being SO. 804(E) dated 14th March 2017 was not in issue in *Alembic Pharmaceuticals Ltd.* (supra). In *Alembic Pharmaceuticals Ltd.* (supra) this Court was examining the propriety and/or legality of a 2002 circular which was inconsistent with the EIA Notification dated 27th January 1994, which was statutory. The EIA Notification dated 27th January 1994 has, as stated above, been superseded by the Notification dated 14th September 2006.

62. There can be no doubt that the need to comply with the requirement to obtain EC is non-negotiable. A unit can be set up or allowed to expand subject to compliance of the requisite environmental norms. EC is granted on condition of the suitability of the site to set up the unit, from the environmental angle, and also existence of necessary infrastructural facilities and equipment for compliance of environmental norms. To protect future generations and to ensure sustainable development, it is imperative that pollution laws be strictly enforced. Under no circumstances can industries, which pollute, be allowed to operate unchecked and degrade the environment.

63. *Ex post facto* environmental clearance should not be granted routinely, but in exceptional circumstances taking into account all relevant environmental factors. Where the adverse consequences of denial of *ex post facto* approval outweigh the consequences of regularization of operations by grant of ex post facto approval, and the establishment concerned otherwise conforms to the requisite pollution norms, ex post facto approval should be given in accordance with law, in strict conformity with the applicable Rules, Regulations and/or Notifications. The deviant industry may be penalised by an imposition of heavy penalty on the principle of 'polluter pays' and the cost of restoration of environment may be recovered from it.

64. The question in this case is, whether a unit contributing to the economy of the country and providing livelihood to hundreds of people, which has been set up pursuant to requisite approvals from the concerned statutory authorities, and has

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applied for *ex post facto* EC, should be closed down for the technical irregularity of want of prior environmental clearance, pending the issuance of EC, even though it may not cause pollution and/or may be found to comply with the required norms. The answer to the aforesaid question has to be in the negative, more so when the HSPCB was itself under the misconception that no environment clearance was required for the units in question. HSPCB has in its counter affidavit before the NGT clearly stated that a decision was taken to regularize units such as the Apcolite Yamuna Nagar and Pahwa Yamuna Nagar Units, since requisite approvals had been granted to those units, by the concerned authorities on the misconception that no EC was required.

65. It is reiterated that the 1986 Act does not prohibit ex post facto EC. Some relaxations and even grant of ex post facto EC in accordance with law, in strict compliance with Rules, Regulations, Notifications and/or applicable orders, in appropriate cases, where the projects are in compliance with environment norms, is not impermissible. As observed by this Court in *Electrosteel Steels Limited* (supra), this Court cannot be oblivious to the economy or the need to protect the livelihood of hundreds of employees and others employed in the units and dependent on the units in their survival.

66. *Ex post facto* EC should not ordinarily be granted, and certainly not for the asking. At the same time *ex post facto* clearances and/or approvals cannot be declined with pedantic rigidity, regardless of the consequences of stopping the operations. This Court is of the view that the NGT erred in law in directing that the units cannot be allowed to function till compliance of the statutory mandate.

67. Accordingly, the appeal is allowed. The impugned order is set aside in so far as the same is applicable to the units of the Appellants established and operated pursuant to CTE and CTO from the HSPCB in respect of which applications for *ex post facto* EC have been filed. The Respondent shall take a decision on the applications of the Appellants for EC in accordance with law within one month from date. Pending decision, the operation of the Pahwa Yamuna Nagar Unit and the Apcolite Yamuna Nagar Unit, in respect of which consents have been granted and even public hearing held in connection with grant of EC, shall not be interfered with.

68. The Appellants will be allowed to operate the units. Electricity, if disconnected, shall be restored subject to payment of charges, if any. If the application for EC is rejected on the ground of any contravention on the part of the Appellants, it will be open to the Respondents to disconnect the supply of electricity.

69. The Union of India had proceeded with the application for EC and even public hearing had been held. Counsel appearing on behalf of the Union of India contended that the Appellant had not submitted its final application for EC, after public hearing. It is not clear what more was required of the Appellants. Be that as it may, the Union of India shall, within three working days from the date of receipt of a copy of this judgment and order, inform the Appellants in writing of whether anything further is required to be done by the Appellants, and if so what is required to be done. The Appellants shall, within a week thereafter do the needful. The final decision on the application of the Appellants for EC shall be taken within three weeks thereafter.

70. The application being I.A. No. 110064/2021 and other pending applications, if any, in this appeal are disposed of accordingly.

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[1] (2011) 3 SCC 193

[2] 2020 SCC OnLine SC 347

[3] 2017 SCC OnLine Mad 7056

[4] 2021 SCC OnLine SC 1247

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[5] (2011) 7 SCC 338

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2965
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view that the conduct of the election in the circumstances was not valid in law.

5. Though the learned counsel for the appellant seeks to rely upon Rule 14-A of the Punjab Gram Panchayat Election Rules, we do not think that the facts of the case fall in any of the grounds enumerated in that rule. She cannot file an election petition equally. However, in view of the facts stated above, it being a case of unlawful prevention of the appellant from contesting the election, the election to the office of Sarpanch held is clearly in violation of the law. Therefore, the election of the 7th respondent as Sarpanch is set aside. He may, however, continue till the re-poll is held. The authorities are directed to conduct the election according to the rules within four weeks from the date of the receipt of this order.

6. The appeal is allowed. Writ is issued accordingly. No costs.

(1996) 3 Supreme Court Cases 212

(BEFORE B.P. JEEVAN REDDY AND B.N. KIRPAL, JJ.)

INDIAN COUNCIL FOR ENVIRO-LEGAL ACTION AND OTHERS .. Petitioners;

Versus

UNION OF INDIA AND OTHERS .. Respondents.

Writ Petitions (C) No. 967 of 1989 with Nos. 94 of 1990, 824 of 1993 and 76 of 1994†, decided on February 13, 1996

A. **Constitution of India — Arts. 32, 21, 48-A and 51-A(g) — PIL — Petition alleging environmental pollution caused by private industrial units — Maintainability — Writ petition filed by an environmentalist organisation, not for issuance of writ, order or direction against such units but against Union of India, State Govt. and State Pollution Board concerned to compel them to perform their statutory duties on ground that their failure to carry on such duties violated rights guaranteed under Art. 21 of the residents of the affected area — Held, maintainable — Court can, after ascertaining that the alleged industrial units were responsible for causing ecological fragility in the area, direct the authorities concerned to perform their statutory duties — Environment (Protection) Act, 1986, Ss. 3, 4, 5 — Water (Prevention and Control of Pollution) Act, 1974, Ss. 24(1), 25(1) (as amended by Act 53 of 1988), 33, 33-A (as introduced by Act 53 of 1988) — Air (Prevention and Control of Pollution) Act, 1981 — Hazardous Wastes (Management and Handling) Rules, 1989**

B. **Constitution of India — Arts. 32, 21, 48-A, 51-A(g) — Environmental pollution — Compensation — Imposition of cost of remedial measures — Principles of Strict Liability and Polluter Pays — Applicability — Hazardous and inherently dangerous activity carried on by industrial units — Principle laid down by Supreme Court in *Oleum Gas Leak case* regarding strict and absolute liability of such units to compensate to persons adversely affected thereby, held, not obiter but binding — Rule in *Rylands* v. *Fletcher*, which is**

† Under Article 32 of the Constitution of India

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subject to exceptions of 'foreseeability' and 'non-natural user', not suitable for Indian conditions and hence not applicable — Discharge of highly toxic effluents viz. waste water and sludge, both iron-based and gypsum-based, from respondents' chemical factories manufacturing 'H' Acid, poisoning earth, underground water, wells, agriculture and other vegetation and rendering the village, where the factories located, ecologically fragile — Respondents operating contrary to law without obtaining clearances from authorities concerned and also disobeying orders of authorities as well as of Supreme Court — Respondents alone found to be responsible for such extensive damages — Held on facts, principles of Strict Liability and Polluter Pays applicable — Power of Central Govt. to direct such industries to defray costs for undertaking remedial measures implicit under Ss. 3 and 4 of Environment (Protection) Act — Determination of the amount required for carrying out the remedial measures, recovery/realisation thereof and undertaking such measures are functions of Central Govt. — Court can therefore issue appropriate directions to the Central Govt. to invoke and exercise the powers under Ss. 3 and 4 of the said Act — Environment (Protection) Act, 1986, Ss. 3 to 5 — Water (Prevention and Control of Pollution) Act, 1974, Ss. 24(1), 25(1) (as amended by Act 53 of 1988), 33, 33-A (as introduced by Act 53 of 1988) — Air (Prevention and Control of Pollution) Act, 1981 — Hazardous Wastes (Management and Handling) Rules, 1989 — Tort

C. **Constitution of India — Art. 32 — PIL — Reports submitted by experts pursuant to court's orders — Absence of opportunity to respondents to cross-examine the experts — Plea regarding raised at very late stage, unacceptable**

The units/factories of Respondents 4 to 8, located in an industrial complex in village Bichhri in Udaipur (Rajasthan), were all chemical industries and were controlled by the same group of individuals. Respondent 4 started producing in 1987 certain chemicals like Oleum (concentrated form of sulphuric acid) and Single Super Phosphate. Respondent 5 (Silver Chemicals) and Respondent 8 (Jyoti Chemicals) commenced production of 'H' acid. Respondents 6 and 7 were producing fertilizers and a few other products. The respondents had not obtained the requisite clearances/consents/licences; nor did they install any equipment for treatment of highly toxic effluents discharged by them. 'H' acid was meant for export exclusively. Its manufacture gives rise to enormous quantities of highly toxic effluents — in particular, iron-based and gypsum-based sludge — which if not properly treated, pose grave threat to Mother Earth. It poisons the earth, the water and everything that comes in contact with it. The chemicals produced by Respondents 5 and 8 gave birth to about 2400-2500 MT of highly toxic sludge (iron-based sludge and gypsum-based sludge) besides other pollutants. Since the toxic untreated waste waters were allowed to flow out freely and because the untreated toxic sludge was thrown in the open in and around the complex, the toxic substances percolated deep into the bowels of the earth polluting the aquifers and the subterranean supply of water. The water in the wells and the streams turned dark and dirty rendering it unfit for human consumption, unfit for cattle to drink and for irrigating the land. The soil became polluted rendering it unfit for cultivation, the mainstay of the villagers. It spread diseases, death and disaster in the village and the surrounding areas. The villagers then rose in virtual revolt leading to the imposition of Section 144 CrPC by the District Magistrate in the area. It was averred by the respondents that both the units, Silver Chemicals and Jyoti Chemicals had stopped manufacturing 'H' acid since January 1989 were closed. Yet the consequences of their action remained — the sludge, the long-lasting damage to earth, to underground water, to human beings, to cattle and the village economy. An environmentalist organisation filed the present

2967
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writ petition before the Supreme Court by way of social action litigation, complaining precisely of the above situation and requesting for appropriate remedial action. Pursuant to notice issued by the Supreme Court, the Government of India, Government of Rajasthan, Rajasthan Pollution Control Board (RPCB) and Respondents 4 to 8 filed counter-affidavits. The Court by its order dated 11-12-1989 requested the National Environmental Engineering Research Institute (NEERI) to study the situation in and around Bichhri village and submit their report "as to the choice and scale of the available remedial alternatives". From the affidavits of the parties, various orders of the Court, technical reports and other data, it was found that out of 2440 tonnes of sludge, about 720 tonnes had been stored in the pits provided by the respondents. The remaining sludge was still there either within the area of the complex of the respondents or outside their complex. With a view to conceal it from the eyes of the inspection teams and other authorities, the respondents dispersed it all over the area and covered it with earth. In some places, the sludge was lying in mounds. The units continued to function even after and in spite of the closure orders of the RPCB. They never did carry out the orders of the Supreme Court fully (e.g., entombing the sludge), nor did they fulfil the undertaking given by them to the court (in the matter of removal of sludge and de-watering of the wells). In spite of repeated reports of officials and expert bodies, they persisted in their illegal course of action in a brazen manner exhibiting their contempt for law, for the lawful authorities and the courts. Allowing the writ petition with costs

Held :

The contention that the respondents being private corporate bodies and not 'State' within the meaning of Article 12, a writ petition under Article 32 would not lie against them, cannot be accepted. If the Supreme Court finds that the Government/authorities concerned have not taken the action required of them by law and that their inaction is jeopardising the right to life of the citizens of this country or of any section thereof, it is the duty of the Supreme Court to intervene. If it is found that the respondents are flouting the provisions of law and the directions and orders issued by the lawful authorities, the Court can certainly make appropriate directions to ensure compliance with law and lawful directions made thereunder. This is a social action litigation on behalf of the villagers whose right to life, is invaded and seriously infringed by the respondents as is established by the various reports of the experts called for, and filed before, the Court. If an industry is established without obtaining the requisite permission and clearances and if the industry is continued to be run in blatant disregard of law to the detriment of life and liberty of the citizens living in the vicinity, the Supreme Court has power to intervene and protect the fundamental right to life and liberty of the citizens of this country. (Para 54)

The contention of respondents that the reports submitted by various expert bodies could not be relied upon by the Court in absence of opportunity to cross-examine the experts cannot be accepted. These reports were called by the Court and several orders passed on the basis of those reports. It was never suggested on behalf of offending industrial units (Respondents 4 to 8) that unless they are permitted to cross-examine the experts or the persons who made those reports, their reports cannot be acted upon. This objection, urged at this late stage of proceedings — after a lapse of several years — is wholly unacceptable. The persons who made the said reports are all experts in their field and under no obligation either to the State Pollution Control Board or for that matter to any other person or industry. It is in view of their independence and competence that their reports were relied upon and made the basis of passing orders by the Supreme Court from time to time. (Para 54)

Relying on the reports submitted by the National Environmental Engineering Research Institute by the Central team (experts from the Ministry of Environment

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and Forests, Government of India) and the Rajasthan PCB, it must be held that the respondents alone were responsible for all the damage to the soil, to the underground water and to the village in general. (Paras 54 and 57)

[*See also* 'Conclusions' at para 69]

The question is whether and to what extent can the respondents be made responsible for defraying the cost of remedial measures in these proceedings under Article 32. (Para 57)

Any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country. According to the rule laid down by the Constitution Bench of the Supreme Court in *Oleum Gas Leak case*, once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity *irrespective* of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on. In the words of the Constitution Bench, such an activity "... can be tolerated only on condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all those who suffer on account of the carrying on of such hazardous or inherently dangerous activity regardless of whether it is carried on carefully or not". The Constitution Bench has also assigned the reason for stating the law in the said terms. It is that the enterprise (carrying on the hazardous or inherently dangerous activity) alone has the resource to discover and guard against hazards or dangers — and not the person affected *and* the practical difficulty (on the part of the affected person) in establishing the absence of reasonable care or that the damage to him was foreseeable by the enterprise. The Bench also observed that such liability is not subject to any of the exceptions which operate vis-à-vis the tortious principle of strict liability under the rule in *Rylands* v. *Fletcher*. The twin tests laid down in *Rylands* v. *Fletcher* — apart from the proof of damage to the plaintiff by the act/negligence of the defendants — which must be satisfied to attract its rule are 'foreseeability' and 'non-natural' user of the land. The observation of Ranganath Misra, C.J. in his concurring opinion in *Union Carbide Corpn. case* that the view declared in *Oleum* was only obiter cannot be accepted. It does not appear to be unnecessary for the purposes of that case. Thus the law stated by the Supreme Court in *Oleum Gas Leak case* is by far the more appropriate one — apart from the fact that it is binding. (Paras 65, 58 and 62)

M.C. Mehta v *Union of India*, (1987) 1 SCC 395 : 1987 SCC (L&S) 37, *affirmed*

Rylands v. *Fletcher*, (1868) LR 3 HL 330 : (1861-73) All ER Rep 1, *disapproved*

Union Carbide Corpn. v. *Union of India*, (1991) 4 SCC 584, paras 14 and 15, *overruled on this aspect*

Cambridge Water Co. Ltd. v. *Eastern Counties Leather, plc*, (1994) 2 WLR 53 : (1994) 1 All ER 53; *Burnie Port Authority* v. *General Jones Pty Ltd.*, (1994) 68 Aus LJ 331, *considered*

Pravinbhai Jashbhai Patel v. *State of Gujarat*, (1995) 2 GLR 1210 : (1995) 2 GLH 352, *referred to*

Ballard v. *Tomlinson*, (1885) 29 Ch D 115 : (1881-5) All ER Rep 688, *cited*

The question of liability of the respondents to defray the costs of remedial measures can also be looked into from another angle, which has now come to be accepted universally as a sound principle, viz., the "Polluter Pays" principle. According to this principle, the responsibility for repairing the damage is that of the offending industry. (Para 67)

Carolyn Shelbourn: "*Historic Pollution — Does the Polluter Pay*"? — Journal of Planning and Environmental Law, Aug. 1974 issue), *approved*

2969
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Read with the wide definition of 'environment' in Section 2(*a*), Sections 3 and 5 clothe the Central Government with all such powers as are "necessary or expedient for the purpose of protecting and improving the quality of the environment". The Central Government is empowered to take all measures and issue all such directions as are called for for the above purpose. Levy of costs required for carrying out remedial measures is implicit in Sections 3 and 4. (Para 60)

In the present case, the said powers will include giving directions for the removal of sludge, for undertaking remedial measures and also the power to impose the cost of remedial measures on the offending industry and utilise the amount so recovered for carrying out remedial measures. The Supreme Court can certainly give directions to the Central Government or its delegate to take all such measures, if in a given case the Court finds that such directions are warranted. Therefore, appropriate directions can be given by the Court to the Central Government to invoke and exercise those powers with such modulations as are called for in the facts and circumstances of this case. (Paras 60 and 66)

Indian Council for Enviro-Legal Action v. *Union of India*, (1995) 3 SCC 77 : (1995) 5 Scale 578, *relied on*

Further, in this case, there is a clear violation of law and disobedience to the orders of the Supreme Court apart from the orders of the lawful authorities. In this respect it is distinct from *Oleum Gas Leak case*. The Supreme Court has to ensure the observance of law and of its orders as a part of enforcement of fundamental rights That power cannot be disputed. If so, the Court is competent to make orders necessary for a full and effective implementation of its orders — and that includes the imposition and recovery of cost of all measures including remedial measures. (Para 60)

However, in all the circumstances, it is appropriate that the task of determining the amount required for carrying out the remedial measures, its recovery/realisation and the task of undertaking the remedial measures is placed upon the Central Government in the light of the provisions of the Environment (Protection) Act, 1986. It is, of course, open to the Central Government to take the help and assistance of State Government, the Rajasthan Pollution Control Board or such other agency or authority, as they think fit. It is but appropriate that an estimate of the cost of remedial measures be made now with notice to the respondents, which amount should be paid to Central Government and/or recovered from them by the Central Government. Other directions are also called for in the light of the facts and circumstances mentioned above. (Paras 67 and 68)

[*See* 'Directions' in para 70]

Suggested Case Finder Search Text :

(1) environment or ecology or pollution or (hazardous near substance*)

Search again.

(compensation or costs or directions)

(2) (pil or "public interest litigation") (standing or maintainabl*)

(3) (rylands or "strict liability") not criminal

D. **Constitution of India — Arts. 32 and 21, 48-A & 51-A(g) — PIL — Environmental pollution — Central Govt. directed to consider and examine the advisability of treating chemical industries as a category apart for scrutinising their establishments and functioning more rigorously and allowing these industries to be established in arid area (most of them being water-intensive industries); establishment of environment courts; strengthening the**

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environment protection machinery both at the Centre and the States and providing them more teeth; personal accountability of the industrial units for their lapses and negligence and formation of environmental audit directed to be considered and examined by Central Govt. — Environment (Protection) Act, 1986, Ss. 3 to 5 [Paras 70(4), (6) and (7)]

E. **Constitution of India — Art. 32 — PIL — Costs — Actions of voluntary bodies in furtherance of public interest deserve encouragement — Hence while allowing the public interest writ petition respondents directed to pay Rs 50,000 by way of costs to the petitioner — Supreme Court Rules, 1966, Or. 41**

(Para 71)

R-M/15795/C

Advocates who appeared in this case :

Altaf Ahmed, Additional Solicitor General, Harish N. Salve, K.N. Bhat and P.P. Malhotra, Senior Advocates (M.C. Mehta, Ms Seema Midha, K.R.R. Pillai, P.R. Seetharaman, R.P. Wadhwani, K.S. Rohtagi, M.K. Aggarwal, Ms Aparna Rohtagi, Mukul Mudgal, Aruneshwar Gupta, S.B. Wad, Surya Kant, Ms Sushma Suri and Wasim A. Qadri, Advocates, with them) for the appearing parties.

Chronological list of cases cited ***in para(s)***

1. (1995) 3 SCC 77 : (1995) 5 Scale 578, *Indian Council for Enviro-Legal Action* v. *Union of India* 43, 60
2. (1995) 2 GLR 1210 : (1995) 2 GLH 352, *Pravinbhai Jashbhai Patel* v. *State of Gujarat* 4, 46
3. (1994) 2 WLR 53 : (1994) 1 All ER 53, *Cambridge Water Co. Ltd.* v. *Eastern Counties Leather, plc* 63
4. (1994) 68 Aus LJ 331, *Burnie Port Authority* v *General Jones Pty Ltd.* 64
5. (1991) 4 SCC 584, *Union Carbide Corpn.* v. *Union of India* 46, 59
6. (1987) 1 SCC 395 : 1987 SCC (L&S) 37, *M.C. Mehta* v. *Union of India* 38, 43, 46, 58, 59, 60, 61, 65, 66, 69
7. (1885) 29 Ch D 115 : (1881-5) All ER Rep 688, *Ballard* v. *Tomlinson* 63
8. (1868) LR 3 HL 330 : (1861-73) All ER Rep 1, *Rylands* v. *Fletcher* 58, 59, 61, 63, 64

The Judgment of the Court was delivered by

B.P. JEEVAN REDDY, J.—

Writ Petition (C) No. 967 of 1989

1. This writ petition filed by an environmentalist organisation brings to light the woes of people living in the vicinity of chemical industrial plants in India. It highlights the disregard, nay, contempt for law and lawful authorities on the part of some among the emerging breed of entrepreneurs, taking advantage, as they do, of the country's need for industrialisation and export earnings. Pursuit of profit has absolutely drained them of any feeling for fellow human beings — for that matter, for anything else. And the law seems to have been helpless. Systemic defects? It is such instances which have led many people in this country to believe that disregard of law pays and that the consequences of such disregard will never be visited upon them — particularly, if they are men with means. Strong words indeed — but nothing less would reflect the deep sense of hurt, the hearing of this case has instilled in us. The facts of the case will bear out these opening remarks.

2971
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2. Bichhri is a small village in Udaipur District of Rajasthan. To its north is a major industrial establishment, Hindustan Zinc Limited, a public sector concern. That did not affect Bichhri. Its woes began somewhere in 1987 when the fourth respondent herein, Hindustan Agro Chemicals Limited started producing certain chemicals like Oleum (said to be the concentrated form of sulphuric acid) and Single Super Phosphate. The real calamity occurred when a sister concern, Silver Chemicals (Respondent 5), commenced production of 'H' acid in a plant located within the same complex. 'H' acid was meant for export exclusively. Its manufacture gives rise to enormous quantities of highly toxic effluents — in particular, iron-based and gypsum-based sludge — which if not properly treated, pose grave threat to Mother Earth. It poisons the earth, the water and everything that comes in contact with it. Jyoti Chemicals (Respondent 8) is another unit established to produce 'H' acid, besides some other chemicals. Respondents 6 and 7 were established to produce fertilizers and a few other products.

3. All the units/factories of Respondents 4 to 8 are situated in the same complex and are controlled by the same group of individuals. All the units are what may be called "chemical industries". The complex is located within the limits of Bichhri village.

4. Because of the pernicious wastes emerging from the production of 'H' acid, its manufacture is stated to have been banned in the western countries. But the need of 'H' acid continues in the West. That need is catered to by the industries like the Silver Chemicals and Jyoti Chemicals in this part of the world. (A few other units producing 'H' acid have been established in Gujarat, as would be evident from the decision of the Gujarat High Court in *Pravinbhai Jashbhai Patel* v. *State of Gujarat*[1], a decision rendered by one of us, B.N. Kirpal, J. as the Chief Justice of that Court.) Silver Chemicals is stated to have produced 375 MT of 'H' acid. The quantity of 'H' acid produced by Jyoti Chemicals is not known. It says that it produced only 20 MT, as trial production, and no more. Whatever quantity these two units may have produced, it has given birth to about 2400-2500 MT of highly toxic sludge (iron-based sludge and gypsum-based sludge) besides other pollutants. Since the toxic untreated waste waters were allowed to flow out freely and because the untreated toxic sludge was thrown in the open in and around the complex, the toxic substances have percolated deep into the bowels of the earth polluting the aquifers and the subterranean supply of water. The water in the wells and the streams has turned dark and dirty rendering it unfit for human consumption. It has become unfit for cattle to drink and for irrigating the land. The soil has become polluted rendering it unfit for cultivation, the mainstay of the villagers. The resulting misery to the villagers needs no emphasis. It spread disease, death and disaster in the village and the surrounding areas. This sudden degradation of earth and water had an echo in Parliament too. An Hon'ble Minister said, action was

1 (1995) 2 GLR 1210 (1995) 2 GLH 352

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being taken, but nothing meaningful was done on the spot. The villagers then rose in virtual revolt leading to the imposition of Section 144 CrPC by the District Magistrate in the area and the closure of Silver Chemicals in January 1989. It is averred by the respondents that both the units, Silver Chemicals and Jyoti Chemicals have stopped manufacturing 'H' acid since January 1989 and are closed. We may assume it to be so. Yet the consequences of their action remain — the sludge, the long-lasting damage to earth, to underground water, to human beings, to cattle and the village economy. It is with these consequences that we are to contend with in this writ petition.

5. The present social action litigation was initiated in August 1989 complaining precisely of the above situation and requesting for appropriate remedial action. To the writ petition, the petitioner enclosed a number of photographs illustrating the enormous damage done to water, cattle, plants and to the area in general. A good amount of technical data and other material was also produced supporting the averments in the writ petition.

Counter-affidavits of the Respondents

6. On notice being given, counter-affidavits have been filed by the Government of India, Government of Rajasthan, Rajasthan Pollution Control Board (RPCB) and Respondents 4 to 8. Since the earliest *counter-affidavit* in point of time is that of RPCB, we shall refer to it in the first instance. It was filed on 26-10-1989. The following are the averments:

(*a*) Re Hindustan Agro Chemicals Limited (R-4): The unit obtained "No Objection Certificate" from the PCB for manufacturing sulphuric acid and alumina sulphate. The Board granted clearance subject to certain conditions. Later "No Objection Certificate" was granted under the Water (Prevention and Control of Pollution) Act, 1974 (Water Act) and Air (Prevention and Control of Pollution) Act, 1981 (Air Act), again subject to certain conditions. However, this unit changed its product without clearance from the Board. Instead of sulphuric acid, it started manufacturing Oleum and Single Super Phosphate (SSP). Accordingly, consent was refused to the unit on 16-2-1987. Directions were also issued to close down the unit.

(*b*) Re Silver Chemicals (R-5): This unit was promoted by the fourth respondent without obtaining "No Objection Certificate" from the Board for the manufacture of 'H' acid. The waste water generated from the manufacture of 'H' acid is highly acidic and contains very high concentration of dissolved solids along with several dangerous pollutants. This unit was commissioned in February 1988 without obtaining the prior consent of the Board and accordingly, notice of closure was served on 30-4-1988. On 12-5-1988, the unit applied for consent under Water and Air Acts which was refused. The Government was requested to issue directions for cutting off the electricity and water

2973
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Page 9 Tuesday, July 18, 2023
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to this unit but no action was taken by the Government. The unit was found closed on the date of inspection, viz., 2-10-1989.

(*c*) Re Rajasthan Multi Fertilizers (R-6): This unit was installed without obtaining prior "No Objection Certificate" from the Board and without even applying for consent under Water and Air Acts. Notice was served on this unit on 20-2-1989. In reply whereto, the Board was informed that the unit was closed since last three years and that electricity has also been cut off since 12-2-1988.

(*d*) Re Phosphates India (R-7): This unit was also established without obtaining prior "No Objection Certificate" from the Board nor did it apply for consent under the Water and Air Acts. When notice dated 20-2-1989 was served upon this unit, the Management replied that this unit was closed for a long time.

(*e*) Re Jyoti Chemicals (R-8): This unit applied for "No Objection Certificate" for producing ferric alum. "No Objection Certificate" was issued imposing various conditions on 8-4-1988. The "No Objection Certificate" was withdrawn on 30-5-1988 on account of non-compliance with its conditions. The consent applied for under Water and Air Acts by this unit was also refused. Subsequently, on 9-2-1989, the unit applied for fresh consent for manufacturing 'H' acid. The consent was refused on 30-5-1989. The Board has been keeping an eye upon this unit to ensure that it does not start the manufacture of 'H' acid. On 2-10-1989, when the unit was inspected, it was found closed.

7. The Board submitted further (in its counter-affidavit) that the sludge lying in the open in the premises of Respondents 4 to 8 ought to be disposed of in accordance with the provisions contained in the Hazardous Wastes (Management and Handling) Rules, 1989 framed under Environment (Protection) Act, 1986. According to the Board, the responsibility for creating the said hazardous situation was squarely that of Respondents 4 to 8. The Board enclosed several documents to its counter in support of the averments contained therein.

8. *The Govt. of Rajasthan filed its counter-affidavit* on 20-1-1990. It made a curious statement in para 3 to the following effect:

> "(T)hat the State Government is *now* aware of the pollution of underground water being caused by liquid effluents from the firms arrayed as Respondents 4 to 8 in the writ petition. Therefore, the State Government has initiated action through the Pollution Control Board to check further spread of pollution."

The State Government stated that the water in certain wells in Bichhri village and some other surrounding villages has become unfit for drinking by human beings and cattle, though in some other wells, the water remains unaffected.

9. *The Ministry of Environment and Forests, Government of India filed its counter* on 8-2-1990. In their counter, the Government of India stated that Silver Chemicals was merely granted a Letter of Intent but it never applied

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Page 10 Tuesday, July 18, 2023
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for conversion of the Letter of Intent into industrial licence. Commencing production before obtaining industrial licence is an offence under Industries (Development and Regulation) Act, 1951. So far as Jyoti Chemicals is concerned, it is stated that it has not approached the Government at any time even for a Letter of Intent. The Government of India stated that in June 1989, a study of the situation in Bichhri village and some other surrounding villages was conducted by the Centre for Science and Environment. A copy of their report is enclosed to the counter. The report states the consequences emanating from the production of 'H' acid and the manner in which the resulting wastes were dealt with by Respondents 4 to 8 thus:

> "The effluents are very difficult to treat as many of the pollutants present are refractory in nature. Setting up such highly polluting industry in a critical groundwater area was essentially ill-conceived. The effluents seriously polluted the nearby drain and overflowed into Udaisagar main canal, severely corroding its cement-concrete lined bed and banks. The polluted waters also seriously degraded some agricultural land and damaged standing crops. On being ordered to contain the effluents, the industry installed an unlined holding pond within its premises and resorted to spraying the effluent on the nearby hill slope. This only resulted in extensive seepage and percolation of the effluents into groundwater and their spread down the aquifer. Currently about 60 wells appear to have been significantly polluted but every week a few new wells, down the aquifer start showing signs of pollution. This has created serious problems for water supply for domestic purposes, cattle-watering crop irrigation and other beneficial uses, and it has also caused human illness and even death, degradation of land and damage to fruit, trees and other vegetation. There are serious apprehensions that the pollution and its harmful effects will spread further after the onset of the monsoon as the water percolating from the higher parts of the basin moves down carrying the pollutants lying on the slopes — in the holding pond and those already underground."

10. Each of the *Respondents 4 to 8 filed separate counter-affidavits*. All the affidavits filed on behalf of these respondents are sworn to by Lt. Gen. M.L. Yadava, who described himself as the President of each of these units. In the counter-affidavit filed on behalf of the fourth respondent, it is stated that it is in no way responsible for the situation complained of. It is engaged in the manufacture of sulphuric acid and had commenced its operations on 6-1-1987. It has been granted "No Objection Certificates" from time to time. The consent obtained from RPCB is valid up to 15-8-1988. Application for extension of consent has already been filed. This counter-affidavit was filed on 18-1-1990.

11. In the counter-affidavit filed on behalf of the fifth respondent (Silver Chemicals), it is stated that the manufacture of 'H' acid which was commenced in February 1988 has been completely stopped after January 1989. The respondent is fully conscious of the need to conserve and protect

2975
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Page 11 Tuesday, July 18, 2023
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environment and is prepared fully to cooperate in that behalf. It is ready to comply with any stipulations or directions that may be made for the purpose. It, however, submitted that the real culprit is Hindustan Zinc Limited. The Archaeological Department of the Government of Rajasthan had issued environmental clearance for its unit (rather surprising statement). "No Objection Certificates" had also been issued by the Executive Engineer (Irrigation), Udaipur Division and the Wild Life Warden. So far as the requirement of 'consent' under Water and Air Acts is concerned, it merely stated that it had applied for it. Its closure in January 1989 was on account of promulgation of an order under Section 144 CrPC by the District Magistrate in view of widespread agitation by the villagers against its functioning.

12. In the counter-affidavit filed on behalf of the sixth respondent (Rajasthan Multi Fertilizers), it is stated that it commenced production on 14-3-1982 and closed down in December 1985. Electrical connection to it was disconnected on 13-2-1988. It was submitted that since it is a small-scale industry, no consent was asked for from anyone. It denied that it was causing any pollution, either ground, air or water.

13. In the counter-affidavit filed on behalf of the seventh respondent (Phosphates India), it is stated that this unit commenced production on 15-5-1988 but was closed on and with effect from 1-9-1988 for want of support from the Central Government in the form of subsidies. It submitted that it has merged with the fourth respondent in 1987-88.

14. In the counter-affidavit filed on behalf of the eighth respondent (Jyoti Chemicals), it is stated that it has no electrical connection, that it had commenced production in April 1987 and closed down completely in January 1989. It is stated that the unit produced 'H' acid to an extent of 20 MT as a trial measure for one month with the permission of the Industries Department. It is no longer manufacturing 'H' acid and, therefore, is not responsible for causing any pollution. It is further submitted that it is a small-scale industry and was registered with the District Industry Centre, Udaipur for the manufacture of ferric alum and 'H' acid. It began its operation simultaneously with the fifth respondent, Silver Chemicals, and several of the clearances are common to both, as both of them are located together. The trial production of 'H' acid, it is stated, took place in January 1987.

15. *Hindustan Zinc Limited* was impleaded as the ninth respondent at the instance of Respondents 4 to 8. It has *filed a counter-affidavit* denying that it is responsible in any manner for causing any pollution in Bichhri village or the surrounding areas. According to it, its plants are situated downstream, towards north of Bichhri village. We do not think it necessary to refer to this affidavit in any detail inasmuch as we are not concerned, in this writ petition, with the pollution, if any, caused by the ninth respondent in other villages but only with the pollution caused by Respondents 4 to 8 in Bichhri or surrounding villages.

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Orders passed and steps taken during the period 1989-1992

16. The first considered order made, after hearing the parties, by this Court is of 11-12-1989. Under this order, the court requested the National Environmental Engineering Research Institute (NEERI) to study the situation in and around Bichhri village and submit their report "as to the choice and scale of the available remedial alternatives". NEERI was requested to suggest both short-term and long-term measures required to combat the hazard already caused. Directions were also made for *supply of drinking water* to affected villages by the State of Rajasthan. The RPCB was directed to make available to the court the Report it had prepared concerning the situation in Bichhri village.

17. On the next date of hearing, i.e., 5-3-1990, the court took note of the statements made on behalf of Respondents 4 to 8 that they have completely stopped the manufacture of 'H' acid in their plants and that they did not propose to resume its manufacture. The court also took note of the petitioner's statement that though the manufacture of 'H' acid may have been stopped, a large quantity of highly dangerous effluent waste/sludge has accumulated in the area and that unless properly treated, stored and removed, it constitutes a serious danger to the environment. Directions were given to the RPCB to arrange for its transportation, treatment and safe storage according to the technically accepted procedures for disposal of chemical wastes of that kind. All reasonable expenses for the said operation were to be borne by Respondents 4 to 8 (hereinafter referred to in this judgment as the 'respondents'). So far as the polluted water in the wells was concerned, the court noted the offer made by the learned counsel for the respondents that they will themselves undertake the de-watering of the wells. The RPCB was directed to inspect and indicate the number and location of the wells to be de-watered.

18. The matter was next taken up on 4-4-1990. It was brought to the notice of the court that no meaningful steps were taken for removing the sludge as directed by this Court in its order dated 5-3-1990. Since the monsoon was about to set in, which would have further damaged the earth and water in the area, the court directed the respondents to immediately remove the sludge from the open spaces where it was lying and store it in safe places to avoid the risk of seepage of toxic substances into the soil during the rainy season. The respondents were directed to complete the task within five weeks therefrom.

19. It is not really necessary to refer to the contents of the various orders passed in 1990 and 1991, i.e., subsequent to the order dated 4-4-1990 for the present purposes. Suffice it to say that the respondents did not comply with the direction to store the sludge in safe places. The de-watering of wells did not prove possible. There was good amount of bickering between the respondents on one side and the RPCB and the Ministry of Environment and Forests on the other. They blamed each other for lack of progress in the

2977
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Page 13 Tuesday, July 18, 2023
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matter of removal of sludge. Meanwhile, years rolled by and the hazard continued to rise. NEERI submitted an interim report. (We are, however, not referring to the contents of this interim report inasmuch as we would be referring to the contents of the final report presently after referring to a few more relevant orders of this Court.)

20. On 17-2-1992, this Court passed a fairly elaborate order observing that Respondents 5 to 8 are responsible for discharging the hazardous industrial wastes; that the manufacture of 'H' acid has given rise to huge quantities of iron sludge and gypsum sludge — approximately 2268 MT of gypsum-based sludge and about 189 MT of iron-based sludge; that while the respondents blamed Respondent 9 as the main culprit, Respondent 9 denied any responsibility therefor. The immediate concern, said the Court, was the appropriate remedial action. The report of the RPCB presented a disturbing picture. It stated that the respondents have deliberately spread the hazardous material/sludge all over the place which has only heightened the problem of its removal and that they have failed to carry out the order of this Court dated 4-4-1990. Accordingly, the court directed the Ministry of Environment and Forests, Government of India to depute its experts immediately to inspect the area to ascertain the existence and extent of gypsum-based and iron-based sludge, to suggest the handling and disposal procedures and to prescribe a package for its transportation and safe storage. The cost of such storage and transportation was to be recovered from the respondents.

21. Pursuant to the above order, a team of experts visited the area and submitted a report along with an affidavit dated 30-3-1992. The report presented a highly disturbing picture. It stated that the sludge was found inside a shed and also at four places outside the shed but within the premises of the complex belonging to the respondents. It stated further that sludge has been mixed with soil and at many places it is covered with earth. A good amount of sludge was said to be lying exposed to sun and rain. The report stated:

> "Above all, the extent of pollution in groundwater seems to be very great and the entire aquifer may be affected due to the pollution caused by the industry. The organic content of the sludge needs to be analysed to assess the percolation property of the contents from the sludge. It is also possible that the iron content in the sludge may be very high which may cause the reddish colouration. As the mother liquor produced during the process (with pH-1) was highly acidic in nature and was indiscriminately discharged on land by the unit, it is possible that this might have eroded soil and caused the extensive damage. It is also possible that the organic contents of the mother liquor would have gone into soil with water together with the reddish colour."

The report also suggested the mode of disposal of sludge and measures for reconditioning the soil.

22. In view of the above report, the court made an order on 6-4-1992 for entombing the sludge under the supervision of the officers of the Ministry of

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Page 14 Tuesday, July 18, 2023
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Environment and Forests, Government of India. Regarding revamping of the soil, the court observed that for this purpose, it might become necessary to stop or suspend the operation of all the units of the respondent but that, the court said, requires to be examined further.

23. The work of entombment of sludge again faced several difficulties. While the respondents blamed the government officers for the delay, the government officials blamed the said respondents of non-cooperation. Several orders were passed by this Court in that behalf and ultimately, the work commenced.

Orders passed in 1993, filing of Writ Petition (C) No. 76 of 1994 by Respondent 4 and the orders passed therein

24. With a view to find out the connection between the wastes and sludge resulting from the production of 'H' acid and the pollution in the underground water, the court directed on 20-8-1993, that samples should be taken of the entombed sludge and also of the water from the affected wells and sent for analysis. Environment experts of the Ministry of Environment and Forests were asked to find out whether the pollution in the well water was on account of the said sludge or not. Accordingly, analysis was conducted and the experts submitted the Report on 1-11-1993. Under the heading 'Conclusion', the report stated:

> "5.0 *Conclusion*
>
> 5.1 On the basis of the observations and analysis results, it is concluded beyond doubt that the sludge inside the entombed pit is the contaminated one as evident from the number of parameters analysed.
>
> 5.2 The groundwater is also contaminated due to discharge of H-acid plant effluent as well as H-acid sludge/contaminated soil leachates as shown in the photographs and also supported by the results. The analysis results revealed good correlation between the colour of well water and H-acid content in it. The analysis results show high degree of impurities in sludge/soil and also in well water *which is a clear indication of contamination of soil and groundwater due to disposal of H-acid waste.*"

The report which is based upon their inspection of the area in September 1993 revealed many other alarming features. It represents a commentary on the attitude and actions of the respondents. In para 2, under the heading "Site Observations and Collection of Sludge/Contaminated Soil Samples", the following facts are stated:

> "2.1. The Central team, during inspection of the premises of M/s HACL, observed that *H-acid sludge (iron/gypsum) and contaminated soil are still lying at different places, as shown in Fig. 1, within the industrial premises* (Photograph 1) which are the leftovers. The area, where the solar evaporation pond was existing with H-acid sludge dumped here and there, was observed to have been levelled with borrowed soil (Photograph 2). It was difficult to ascertain whether the

2979
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Page 15 Tuesday, July 18, 2023
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sludge had been removed before filling. However, there are visual evidences of contaminated soil in the area.

2.2 As reported by the Rajasthan Pollution Control Board (RPCB) representatives, *about 720 tonnes out of the total contaminated soil and sludge scraped from the sludge dump sites is disposed of in six lined entombed pits* covered by lime/flyash mix, brick soling and concrete (Photographs 3 and 4). *The remaining scraped sludge and contaminated soil was lying near the entombed pits for want of additional disposal facility*. However, during the visit, the left over sludge and contaminated soil could not be traced at site. Inspection of the surrounding area revealed that *a huge heap of foreign soil of 5 metre height (Photograph 5) covering a large area, as also indicated in Fig. 1, was raised on the slopy ground at the foothill within the industry premises.* The storm water run-off pathway over the area showed indication of H-acid sludge leachates coming out of the heap. Soil in the area was sampled for analysis.

2.3 *M/s HACL has a number of other industrial units which are operating within the same premises without valid consents* from the Rajasthan Pollution Control Board (RPCB). These plants are sulphuric acid (H_2SO_4), fertilizer (SSP) and vegetable oil extraction. *The effluent of these units are not properly treated and the untreated effluent particularly from the acid plant is passing through the sludge dump area playing havoc* (Photograph 7). The final effluent was collected at the outlet of the factory premises during operation of these units, at the time of groundwater monitoring in September 1993, by the RPCB. Its quality was observed to be highly acidic (pH: 1.08, Conductivity: 37,100 mg/1, SO_4: 21,000 mg/1, Fe: 392 mg/1, COD: 167 mg/1) which was also revealed in the earlier visits of the Central teams. However, these units were not in operation during the present visit."

Under para 4.2.1, the report stated inter alia:

"The sludge samples from the surroundings of the (presently non-existent) solar evaporation and the contaminated soil due to seepage from the newly raised dump site also exhibited very high values of the above-mentioned parameters. This revealed that the contaminated soil is buried under the new dump found by the team."

25. So much for the waste disposal by the respondents and their continuing good conduct! To the same effect is the report of the RPCB which is dated 30-10-1993.

26. In view of the aforesaid reports, all of which unanimously point out the consequences of the 'H' acid production, the manner in which the highly corrosive waste water (mother liquor) and the sludge resulting from the production of 'H' acid was disposed of and the continuing discharge of highly toxic effluents by the remaining units even in the year 1993, the authorities (RPCB) passed orders closing down, in exercise of their powers under Section 33-A of the Water Act, the operation of the Sulphuric Acid

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Page 16 Tuesday, July 18, 2023
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Plant and the solvent extraction plant including oil refinery of the fourth respondent with immediate effect. Orders were also passed directing disconnection of electricity supply to the said plants. The fourth respondent filed Writ Petition (C) No. 76 of 1994 in this Court, under Article 32 of the Constitution, questioning the said orders in January 1994. The main grievance in this writ petition was that without even waiting for the petitioner's (Hindustan Agro Chemicals Limited) reply to the show-cause notices, orders of closure and disconnection of electricity supply were passed and that this was done by the RPCB with a mala fide intent to cause loss to the industry. It was also submitted that sudden closure of its plants is likely to result in disaster and, may be, an explosion and that this consideration was not taken into account while ordering the closure. In its Order dated 7-3-1994, this Court found some justification in the contention of the industry that the various counter-affidavits filed by the RPCB are self-contradictory. The Board was directed to adopt a constructive attitude in the matter. By another order dated 18-3-1994, the RPCB was directed to examine the issue of grant of permission to restart the industry or to permit any interim arrangement in that behalf. On 8-4-1994, a 'consent' order was passed whereunder the industry was directed to deposit a sum of Rupees sixty thousand with RPCB before 11-4-1994 and the RPCB was directed to carry on the construction work of storage tank for storing and retaining ten days' effluents from the Sulphuric Acid Plant. The construction of temporary tank was supposed to be an interim measure pending the construction of an ETP on permanent basis. The order dated 28-4-1994 noted the report of the RPCB stating that the construction of temporary tank was completed on 26-4-1994 under its supervision. The industry was directed to comply with such other requirements as may be pointed out by RPCB for prevention and control of pollution and undertake any work required in that behalf forthwith. Thereafter, the matter went into a slumber until 13-10-1995.

NEERI Report

27. At this juncture, it would be appropriate to refer to the report submitted by NEERI on the subject of "Restoration of Environmental Quality of the affected area surrounding Village Bichhri due to past Waste Disposal Activities". This report was submitted in April 1994 and it states that it is based upon the study conducted by it during the period November 1992 to February 1994. Having regard to its technical competence and reputation as an expert body on the subject, we may be permitted to refer to its report at some length.

28. At p. 7, the report mentions the industrial wastes emerging from the manufacture of 'H' acid. It reads:

> "Solid wastes generated from H-acid manufacturing process are:
>
> Gypsum sludge produced during the neutralisation of acidic solution with lime after nitration stage (around 6 tonnes/tonne of H-acid manufactured)

2981
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Page 17 Tuesday, July 18, 2023
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Iron sludge produced during the reduction stage (around 0.5 tonnes/tonne of H-acid manufactured)

Gypsum sludge contains mostly calcium sulphate along with sodium salts and organics. Iron sludge constitutes unreacted iron powder, besides ferric salts and organics.

It is estimated that, for each tonne of H-acid manufactured, about 20 m^3 of highly corrosive waste water was generated as mother liquor, besides the generation of around 2.0 m^3 of wash water. The mother liquor is characterised by low pH (around 2.0) and high concentration of total dissolved solids (80-280 g/L). High COD of the waste water (90 g/L) could be attributed to organics formed during various stages of manufacture. These include naphthalene trisulphonic acid, nitro naphthalene sulphonic acid, Koch acid and H-acid, besides several other intermediates."

29. At pp. 8 and 9, the report describes the manner in which the sludge and other industrial wastes were disposed of by the respondents. It states inter alia:

"The total quantities of waste water and that of sludge generated were around 8250 m^3 and 2440 tonnes respectively for a production of 375 tonnes by M/s Silver Chemicals Ltd. and M/s Jyoti Chemicals Ltd....

Majority of sludge brought back from disposal sites located outside the plant was transferred inside a covered shed.

The sludge lying in the plant premises was entombed in the underground pit by RPCB as per the directions of the Hon'ble Supreme Court. It may be mentioned that *only 720 MT of sludge out of the estimated quantity of 2440 MT could be entombed as the capacity of the underground tanks provided by the industry for the purpose was only to that extent.*

Remaining sludge and sludge-mixed soil were, however, present in the plant premises as these could not be transferred into underground tanks. It has also been observed that only sludge above the soil was removed from the six sites and transferred to the plant site. Sub-surface soil of these sites appears to have been contaminated as the soil has reddish colour akin to that of the sludge.

A fertilizer plant (single superphosphate), a sulphuric acid plant and an oil extraction and oil refining plant were in operation in the same premises where H-acid was earlier manufactured. *The acidic waste water (around pH 1.0) presently generated from these units was flowing over the abandoned dump site. This leaches the sludge-mixed soil from the abandoned dump site and the contaminated water flows by gravity towards east and finds its way into a nullah flowing through the compound and conveys the contaminated water to an irrigation canal which originates from Udaisagar Lake (Pate 1.4).*" (emphasis added)

30. At p. 10, the report mentions the six dump sites outside the 'H' acid plant premises where the sludge was lying in the open. At pp. 26 and 27, the

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Page 18 Tuesday, July 18, 2023
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report states on the basis of VES investigations that while certain wells were found contaminated, others were not. At p. 96, the report states thus:

"DAMAGE TO CROPS AND TREES

The field surveys in contaminated fields *in Zones I and II showed that no crops were coming in the fields particularly in low-lying areas.* On some elevated areas, crops like jowar, maize were growing; however the growth and yield were very poor.

Further it was also observed that even trees like eucalyptus planted in contaminated fields show leaf burning and stunted growth. Many old trees which were badly affected due to contamination are still growing under stress conditions as a result of soil contamination.

The top soils at the old dump sites outside the plant premises are still contaminated and require de-contamination before the land is used for other purposes.

It was observed that even after the operation of hauling the sludge back to the industry premises, some sludge-mixed soil was still lying in the premises of a primary school (Table 1.1), which needs de-contamination."

31. In Chapter 6, the report mentions the remedial measures. Para 6.1, titled INTRODUCTION, states:

"As could be seen from the data reported in Chapters 4 and 5, *the groundwater and soils within 2 kms from the plant have been contaminated.* After critically scrutinising the data, it was concluded that there is an *urgent need to work out a de-contamination strategy* for the affected area. This strategy includes the de-contamination of the soil, contaminated groundwater and abandoned dump sites. This chapter details the remedial measures that can be considered for implementation to restore the environmental quality of the affected area."

32. The chapter then sets out the various remedial measures, including land treatment, soil washing, revegetation, control over the flow of the contaminated water to adjoining lands through canals, leaching of soluble salts, design of farm to development of agro-forestry and/or forestry plantation with salt tolerant crops/plants and groundwater de-contamination. Inter alia, the report states:

"The entire contaminated area comprising of 350 ha of contaminated land and six abandoned dump sites outside the industrial premises has been found to be ecologically fragile due to reckless past disposal activities practised by M/s Silver Chemicals Ltd. and M/s Jyoti Chemicals Ltd. Accordingly, it is suggested that the whole of the contaminated area be developed as a green belt at the expense of M/s Hindustan Agrochemicals Ltd. during the monsoon of 1994."

33. Under para 6.3.2, the report suggests "De-contamination Alternatives for Groundwater" including bioremediation, degradation of H-

2983
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Page 19 Tuesday, July 18, 2023
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acid by *Azotobacter Vinelandii*, isolation of bacterial population from H-acid contaminated soil and several other methods.

34. Under para 6.4.2, the report mentions the several de-contamination alternatives including containment of contaminated soil, surface control, groundwater control, leachate collection and treatment, gas migration control and direct waste treatment.

35. At pp. 157 and 158, the report mentions the continuing discharge of effluents in an illegal and dangerous manner. It reports:

> "It was also observed by NEERI's team during the current study that the industry *has not provided adequate effluent treatment facilities* and the waste waters (pH<1.5) from the existing plants (sulphuric acid, fertilizer, and oil extraction) are being discharged, without treatment, on land within the plant premises. This indiscriminate and wilful disposal activity is *further aggravating the contamination problem in the area. Acidic effluent leaches the pollutants from the dumped sludge and the contaminated soil and facilitates their penetration through the ground* and thereby increasing the concentration of sulphates and dissolved solids in groundwater. *What is most serious is the fact that the industry produced chlorosulfonic acid for a few months during late 1992 which is a hazardous and toxic substance as per MEF Notification* titled 'Manufacture, Storage and Import of Hazardous Chemical Rules, 1989' and even floated public shares for the manufacture of this obnoxious chemical. *The production was however ceased due to the intervention of the Rajasthan Pollution Control Board in December 1992 as the industry was operating without obtaining site clearance, No Objection Certificate (NOC)/Consent from the concerned appropriate regularity (regulatory?) authorities and without providing for any pollution-control measures*. It is, therefore, essential for M/s Hindustan Agrochemicals Ltd. to comply with these requirements for carrying out the present industrial activities. *The abatement of further contamination warrants the closure of all industrial operations till an appropriate effluent treatment plant is installed,* and certified by RPCB for its functionality in keeping with the provisions of Water Act."

The report adds:

> "The Industry management in the past (during 1988-89) has shown scant respect for Pollution Control and Environment Protection Acts. Not only this, the management *continues industrial activity producing obnoxious waste waters and dumping the same without any treatment, contaminating land and groundwater without any concern for ecology and public health.* It is necessary that the provisions of relevant legislations are imposed on the industry to avoid environmental damage and harm to public welfare." (emphasis added)

36. We do not think that the above report requires any emphasis at our hands. It speaks for itself — and it speaks volumes of the "high regard" the respondents have for law!

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(1996) 3 Supreme Court Cases 212

(BEFORE B.P. JEEVAN REDDY AND B.N. KIRPAL, JJ.)

INDIAN COUNCIL FOR ENVIRO-LEGAL ACTION AND OTHERS . . Petitioners;

Versus

UNION OF INDIA AND OTHERS . . Respondents.

Writ Petitions (C) No. 967 of 1989 with Nos. 94 of 1990, 824 of 1993 and 76 of 1994†, decided on February 13, 1996

A. Constitution of India — Arts. 32, 21, 48-A and 51-A(g) — PIL — Petition alleging environmental pollution caused by private industrial units — Maintainability — Writ petition filed by an environmentalist organisation, not for issuance of writ, order or direction against such units but against Union of India, State Govt. and State Pollution Board concerned to compel them to perform their statutory duties on ground that their failure to carry on such duties violated rights guaranteed under Art. 21 of the residents of the affected area — Held, maintainable — Court can, after ascertaining that the alleged industrial units were responsible for causing ecological fragility in the area, direct the authorities concerned to perform their statutory duties — Environment (Protection) Act, 1986, Ss. 3, 4, 5 — Water (Prevention and Control of Pollution) Act, 1974, Ss. 24(1), 25(1) (as amended by Act 53 of 1988), 33, 33-A (as introduced by Act 53 of 1988) — Air (Prevention and Control of Pollution) Act, 1981 — Hazardous Wastes (Management and Handling) Rules, 1989

B. Constitution of India — Arts. 32, 21, 48-A, 51-A(g) — Environmental pollution — Compensation — Imposition of cost of remedial measures — Principles of Strict Liability and Polluter Pays — Applicability — Hazardous and inherently dangerous activity carried on by industrial units — Principle laid down by Supreme Court in *Oleum Gas Leak case* regarding strict and absolute liability of such units to compensate to persons adversely affected thereby, held, not obiter but binding — Rule in *Rylands* v. *Fletcher*, which is

Page: 213

subject to exceptions of 'foreseeability' and 'non-natural user', not suitable for Indian conditions and hence not applicable — Discharge of highly toxic effluents viz. waste water and sludge, both iron-based and gypsum-based, from respondents' chemical factories manufacturing 'H' Acid, poisoning earth, underground water, wells, agriculture and other vegetation and rendering the village, where the factories located, ecologically fragile — Respondents operating contrary to law without obtaining clearances from authorities concerned and also disobeying orders of authorities as well as of Supreme Court — Respondents alone found to be responsible for such extensive damages — Held on facts, principles of Strict Liability and Polluter Pays applicable — Power of Central Govt. to direct such industries to defray costs for undertaking remedial measures implicit under Ss. 3 and 4 of Environment (Protection) Act — Determination of the amount required for carrying out the remedial measures, recovery/realisation thereof and undertaking such measures are functions of Central Govt. — Court can therefore issue appropriate directions to the Central Govt. to invoke and exercise the powers under Ss. 3 and 4 of the said Act — Environment (Protection) Act, 1986, Ss. 3 to 5 — Water (Prevention and Control of Pollution) Act, 1974, Ss. 24(1), 25(1) (as amended by Act 53 of 1988), 33, 33-A (as introduced by Act 53 of 1988) — Air (Prevention and Control of Pollution) Act, 1981 — Hazardous Wastes (Management and Handling) Rules, 1989 — Tort

C. Constitution of India — Art. 32 — PIL — Reports submitted by experts pursuant to court's orders — Absence of opportunity to respondents to cross-examine the experts — Plea regarding raised at very late stage, unacceptable

The units/factories of Respondents 4 to 8, located in an industrial complex in village Bichhri in Udaipur (Rajasthan), were all chemical industries and were controlled by the same group of

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individuals. Respondent 4 started producing in 1987 certain chemicals like Oleum (concentrated form of sulphuric acid) and Single Super Phosphate. Respondent 5 (Silver Chemicals) and Respondent 8 (Jyoti Chemicals) commenced production of 'H' acid. Respondents 6 and 7 were producing fertilizers and a few other products. The respondents had not obtained the requisite clearances/consents/licences; nor did they install any equipment for treatment of highly toxic effluents discharged by them. 'H' acid was meant for export exclusively. Its manufacture gives rise to enormous quantities of highly toxic effluents — in particular, iron-based and gypsum-based sludge — which if not properly treated, pose grave threat to Mother Earth. It poisons the earth, the water and everything that comes in contact with it. The chemicals produced by Respondents 5 and 8 gave birth to about 2400-2500 MT of highly toxic sludge (iron-based sludge and gypsum-based sludge) besides other pollutants. Since the toxic untreated waste waters were allowed to flow out freely and because the untreated toxic sludge was thrown in the open in and around the complex, the toxic substances percolated deep into the bowels of the earth polluting the aquifers and the subterranean supply of water. The water in the wells and the streams turned dark and dirty rendering it unfit for human consumption, unfit for cattle to drink and for irrigating the land. The soil became polluted rendering it unfit for cultivation, the mainstay of the villagers. It spread diseases, death and disaster in the village and the surrounding areas. The villagers then rose in virtual revolt leading to the imposition of Section 144 CrPC by the District Magistrate in the area. It was averred by the respondents that both the units, Silver Chemicals and Jyoti Chemicals had stopped manufacturing 'H' acid since January 1989 were closed. Yet the consequences of their action remained — the sludge, the long-lasting damage to earth, to underground water, to human beings, to cattle and the village economy. An environmentalist organisation filed the present

Page: 214

writ petition before the Supreme Court by way of social action litigation, complaining precisely of the above situation and requesting for appropriate remedial action. Pursuant to notice issued by the Supreme Court, the Government of India, Government of Rajasthan, Rajasthan Pollution Control Board (RPCB) and Respondents 4 to 8 filed counter-affidavits. The Court by its order dated 11-12-1989 requested the National Environmental Engineering Research Institute (NEERI) to study the situation in and around Bichhri village and submit their report "as to the choice and scale of the available remedial alternatives". From the affidavits of the parties, various orders of the Court, technical reports and other data, it was found that out of 2440 tonnes of sludge, about 720 tonnes had been stored in the pits provided by the respondents. The remaining sludge was still there either within the area of the complex of the respondents or outside their complex. With a view to conceal it from the eyes of the inspection teams and other authorities, the respondents dispersed it all over the area and covered it with earth. In some places, the sludge was lying in mounds. The units continued to function even after and in spite of the closure orders of the RPCB. They never did carry out the orders of the Supreme Court fully (e.g., entombing the sludge), nor did they fulfil the undertaking given by them to the court (in the matter of removal of sludge and de-watering of the wells). In spite of repeated reports of officials and expert bodies, they persisted in their illegal course of action in a brazen manner exhibiting their contempt for law, for the lawful authorities and the courts. Allowing the writ petition with costs

Held :

The contention that the respondents being private corporate bodies and not 'State' within the meaning of Article 12, a writ petition under Article 32 would not lie against them, cannot be accepted. If the Supreme Court finds that the Government/authorities concerned have not taken the action required of them by law and that their inaction is jeopardising the right to life of the citizens of this country or of any section thereof, it is the duty of the Supreme Court to intervene. If it is found that the respondents are flouting the provisions of law and the directions and orders issued by the lawful authorities, the Court can certainly make appropriate directions to ensure compliance with law and lawful directions made thereunder. This is a social action litigation on behalf of the villagers whose right to life, is invaded and seriously infringed by the respondents as is established by the various reports of the experts called for, and filed before, the Court. If an industry is established without obtaining the requisite permission and clearances and if the industry is continued to be run in blatant disregard of law to the detriment of life and liberty of the citizens living in the vicinity, the Supreme Court has power to intervene and protect the fundamental right to life and liberty of the citizens of

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this country.

(Para 54)

The contention of respondents that the reports submitted by various expert bodies could not be relied upon by the Court in absence of opportunity to cross-examine the experts cannot be accepted. These reports were called by the Court and several orders passed on the basis of those reports. It was never suggested on behalf of offending industrial units (Respondents 4 to 8) that unless they are permitted to cross-examine the experts or the persons who made those reports, their reports cannot be acted upon. This objection, urged at this late stage of proceedings — after a lapse of several years — is wholly unacceptable. The persons who made the said reports are all experts in their field and under no obligation either to the State Pollution Control Board or for that matter to any other person or industry. It is in view of their independence and competence that their reports were relied upon and made the basis of passing orders by the Supreme Court from time to time.

(Para 54)

Relying on the reports submitted by the National Environmental Engineering Research Institute by the Central team (experts from the Ministry of Environment

Page: 215

and Forests, Government of India) and the Rajasthan PCB, it must be held that the respondents alone were responsible for all the damage to the soil, to the underground water and to the village in general.

(Paras 54 and 57)

[*See also* 'Conclusions' at para 69]

The question is whether and to what extent can the respondents be made responsible for defraying the cost of remedial measures in these proceedings under Article 32.

(Para 57)

Any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country. According to the rule laid down by the Constitution Bench of the Supreme Court in *Oleum Gas Leak case*, once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on. In the words of the Constitution Bench, such an activity "… can be tolerated only on condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all those who suffer on account of the carrying on of such hazardous or inherently dangerous activity regardless of whether it is carried on carefully or not". The Constitution Bench has also assigned the reason for stating the law in the said terms. It is that the enterprise (carrying on the hazardous or inherently dangerous activity) alone has the resource to discover and guard against hazards or dangers — and not the person affected and the practical difficulty (on the part of the affected person) in establishing the absence of reasonable care or that the damage to him was foreseeable by the enterprise. The Bench also observed that such liability is not subject to any of the exceptions which operate vis-à-vis the tortious principle of strict liability under the rule in *Rylands* v. *Fletcher*. The twin tests laid down in *Rylands* v. *Fletcher* — apart from the proof of damage to the plaintiff by the act/negligence of the defendants — which must be satisfied to attract its rule are 'foreseeability' and 'non-natural' user of the land. The observation of Ranganath Misra, C.J. in his concurring opinion in *Union Carbide Corpn. case* that the view declared in Oleum was only obiter cannot be accepted. It does not appear to be unnecessary for the purposes of that case. Thus the law stated by the Supreme Court in *Oleum Gas Leak case* is by far the more appropriate one — apart from the fact that it is binding.

(Paras 65, 58 and 62)

M.C. Mehta v. *Union of India*, (1987) 1 SCC 395 : 1987 SCC (L&S) 37, *affirmed*

Rylands v. *Fletcher*, (1868) LR 3 HL 330 : (1861-73) All ER Rep 1, *disapproved*

Union Carbide Corpn. v. *Union of India*, (1991) 4 SCC 584, paras 14 and 15, *overruled on this aspect*

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Cambridge Water Co. Ltd. v. *Eastern Counties Leather, plc*, (1994) 2 WLR 53 : (1994) 1 All ER 53; *Burnie Port Authority* v. *General Jones Pty Ltd.*, (1994) 68 Aus LJ 331, *considered*

Pravinbhai Jashbhai Patel v. *State of Gujarat*, (1995) 2 GLR 1210 : (1995) 2 GLH 352, *referred to*

Ballard v. *Tomlinson*, (1885) 29 Ch D 115 : (1881-5) All ER Rep 688, *cited*

The question of liability of the respondents to defray the costs of remedial measures can also be looked into from another angle, which has now come to be accepted universally as a sound principle, viz., the "Polluter Pays" principle. According to this principle, the responsibility for repairing the damage is that of the offending industry.

(Para 67)

Carolyn Shelbourn: "*Historic Pollution — Does the Polluter Pay*"? — Journal of Planning and Environmental Law, Aug. 1974 issue), *approved*

Page: 216

Read with the wide definition of 'environment' in Section 2(a), Sections 3 and 5 clothe the Central Government with all such powers as are "necessary or expedient for the purpose of protecting and improving the quality of the environment". The Central Government is empowered to take all measures and issue all such directions as are called for for the above purpose. Levy of costs required for carrying out remedial measures is implicit in Sections 3 and 4.

(Para 60)

In the present case, the said powers will include giving directions for the removal of sludge, for undertaking remedial measures and also the power to impose the cost of remedial measures on the offending industry and utilise the amount so recovered for carrying out remedial measures. The Supreme Court can certainly give directions to the Central Government or its delegate to take all such measures, if in a given case the Court finds that such directions are warranted. Therefore, appropriate directions can be given by the Court to the Central Government to invoke and exercise those powers with such modulations as are called for in the facts and circumstances of this case.

(Paras 60 and 66)

Indian Council for Enviro-Legal Action v. *Union of India*, (1995) 3 SCC 77 : (1995) 5 Scale 578, *relied on*

Further, in this case, there is a clear violation of law and disobedience to the orders of the Supreme Court apart from the orders of the lawful authorities. In this respect it is distinct from *Oleum Gas Leak case*. The Supreme Court has to ensure the observance of law and of its orders as a part of enforcement of fundamental rights. That power cannot be disputed. If so, the Court is competent to make orders necessary for a full and effective implementation of its orders — and that includes the imposition and recovery of cost of all measures including remedial measures.

(Para 60)

However, in all the circumstances, it is appropriate that the task of determining the amount required for carrying out the remedial measures, its recovery/realisation and the task of undertaking the remedial measures is placed upon the Central Government in the light of the provisions of the Environment (Protection) Act, 1986. It is, of course, open to the Central Government to take the help and assistance of State Government, the Rajasthan Pollution Control Board or such other agency or authority, as they think fit. It is but appropriate that an estimate of the cost of remedial measures be made now with notice to the respondents, which amount should be paid to Central Government and/or recovered from them by the Central Government. Other directions are also called for in the light of the facts and circumstances mentioned above.

(Paras 67 and 68)

[*See* 'Directions' in para 70]

Suggested Case Finder Search Text:

(1) environment or ecology or pollution or (hazardous near substance*)

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Search again:

(compensation or costs or directions)
(2) (pil or "public interest litigation") (standing or maintainabl*)
(3) (rylands or "strict liability") not criminal

D. Constitution of India — Arts. 32 and 21, 48-A & 51-A(g) — PIL — Environmental pollution — Central Govt. directed to consider and examine the advisability of treating chemical industries as a category apart for scrutinising their establishments and functioning more rigorously and allowing these industries to be established in arid area (most of them being water-intensive industries); establishment of environment courts; strengthening the

Page: 217

environment protection machinery both at the Centre and the States and providing them more teeth; personal accountability of the industrial units for their lapses and negligence and formation of environmental audit directed to be considered and examined by Central Govt. — Environment (Protection) Act, 1986, Ss. 3 to 5

[Paras 70(4), (6) and (7)]

E. Constitution of India — Art. 32 — PIL — Costs — Actions of voluntary bodies in furtherance of public interest deserve encouragement — Hence while allowing the public interest writ petition respondents directed to pay Rs 50,000 by way of costs to the petitioner — Supreme Court Rules, 1966, Or. 41

(Para 71)

R-M/15795/C

Advocates who appeared in this case:

Altaf Ahmed, Additional Solicitor General, Harish N. Salve, K.N. Bhat and P.P. Malhotra, Senior Advocates (M.C. Mehta, Ms Seema Midha, K.R.R. Pillai, P.R. Seetharaman, R.P. Wadhwani, K.S. Rohtagi, M.K. Aggarwal, Ms Aparna Rohtagi, Mukul Mudgal, Aruneshwar Gupta, S.B. Wad, Surya Kant, Ms Sushma Suri and Wasim A. Qadri, Advocates, with them) for the appearing parties.

Chronological list of cases cited ***in para(s)***

1. (1995) 3 SCC 77 : (1995) 5 Scale 578, *Indian Council for Enviro-Legal Action* v. *Union of India* — 43, 60

2. (1995) 2 GLR 1210 : (1995) 2 GLH 352, *Pravinbhai Jashbhai Patel* v. *State of Gujarat* — 4, 46

3. (1994) 2 WLR 53 : (1994) 1 All ER 53, *Cambridge Water Co. Ltd.* v. *Eastern Counties Leather, plc* — 63

4. (1994) 68 Aus LJ 331, *Burnie Port Authority* v. *General Jones Pty Ltd.* — 64

5. (1991) 4 SCC 584, *Union Carbide Corpn.* v. *Union of India* — 46, 59

6. (1987) 1 SCC 395 : 1987 SCC (L&S) 37, *M.C. Mehta* v. *Union* — 38, 43, 46, 58, 59, 60, 61,

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of India 65, 66, 69

7. (1885) 29 Ch D 115 : (1881-5) All ER Rep 688, *Ballard* v. *Tomlinson* 63

8. (1868) LR 3 HL 330 : (1861-73) All ER Rep 1, *Rylands* v. *Fletcher* 58, 59, 61, 63, 64

The Judgment of the Court was delivered by

B.P. JEEVAN REDDY, J.—

Writ Petition (C) No. 967 of 1989

1. This writ petition filed by an environmentalist organisation brings to light the woes of people living in the vicinity of chemical industrial plants in India. It highlights the disregard, nay, contempt for law and lawful authorities on the part of some among the emerging breed of entrepreneurs, taking advantage, as they do, of the country's need for industrialisation and export earnings. Pursuit of profit has absolutely drained them of any feeling for fellow human beings — for that matter, for anything else. And the law seems to have been helpless. Systemic defects? It is such instances which have led many people in this country to believe that disregard of law pays and that the consequences of such disregard will never be visited upon them — particularly, if they are men with means. Strong words indeed — but nothing less would reflect the deep sense of hurt, the hearing of this case has instilled in us. The facts of the case will bear out these opening remarks.

2. Bichhri is a small village in Udaipur District of Rajasthan. To its north is a major industrial establishment, Hindustan Zinc Limited, a public sector concern. That did not affect Bichhri. Its woes began somewhere in 1987 when the fourth respondent herein, Hindustan Agro Chemicals Limited started producing certain chemicals like Oleum (said to be the concentrated form of sulphuric acid) and Single Super Phosphate. The real calamity occurred when a sister concern, Silver Chemicals (Respondent 5), commenced production of 'H' acid in a plant located within the same complex. 'H' acid was meant for export exclusively. Its manufacture gives rise to enormous quantities of highly toxic effluents — in particular, iron-based and gypsum-based sludge — which if not properly treated, pose grave threat to Mother Earth. It poisons the earth, the water and everything that comes in contact with it. Jyoti Chemicals (Respondent 8) is another unit established to produce 'H' acid, besides some other chemicals. Respondents 6 and 7 were established to produce fertilizers and a few other products.

3. All the units/factories of Respondents 4 to 8 are situated in the same complex and are controlled by the same group of individuals. All the units are what may be called "chemical industries". The complex is located within the limits of Bichhri village.

4. Because of the pernicious wastes emerging from the production of 'H' acid, its manufacture is stated to have been banned in the western countries. But the need of 'H' acid continues in the West. That need is catered to by the industries like the Silver Chemicals and Jyoti Chemicals in this part of the world. (A few other units producing 'H' acid have been established in Gujarat, as would be evident from the decision of the Gujarat High Court in *Pravinbhai Jashbhai Patel* v. *State of Gujarat*[1], a decision

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rendered by one of us, B.N. Kirpal, J. as the Chief Justice of that Court.) Silver Chemicals is stated to have produced 375 MT of 'H' acid. The quantity of 'H' acid produced by Jyoti Chemicals is not known. It says that it produced only 20 MT, as trial production, and no more. Whatever quantity these two units may have produced, it has given birth to about 2400-2500 MT of highly toxic sludge (iron-based sludge and gypsum-based sludge) besides other pollutants. Since the toxic untreated waste waters were allowed to flow out freely and because the untreated toxic sludge was thrown in the open in and around the complex, the toxic substances have percolated deep into the bowels of the earth polluting the aquifers and the subterranean supply of water. The water in the wells and the streams has turned dark and dirty rendering it unfit for human consumption. It has become unfit for cattle to drink and for irrigating the land. The soil has become polluted rendering it unfit for cultivation, the mainstay of the villagers. The resulting misery to the villagers needs no emphasis. It spread disease, death and disaster in the village and the surrounding areas. This sudden degradation of earth and water had an echo in Parliament too. An Hon'ble Minister said, action was

Page: 219

being taken, but nothing meaningful was done on the spot. The villagers then rose in virtual revolt leading to the imposition of Section 144 CrPC by the District Magistrate in the area and the closure of Silver Chemicals in January 1989. It is averred by the respondents that both the units, Silver Chemicals and Jyoti Chemicals have stopped manufacturing 'H' acid since January 1989 and are closed. We may assume it to be so. Yet the consequences of their action remain — the sludge, the long-lasting damage to earth, to underground water, to human beings, to cattle and the village economy. It is with these consequences that we are to contend with in this writ petition.

5. The present social action litigation was initiated in August 1989 complaining precisely of the above situation and requesting for appropriate remedial action. To the writ petition, the petitioner enclosed a number of photographs illustrating the enormous damage done to water, cattle, plants and to the area in general. A good amount of technical data and other material was also produced supporting the averments in the writ petition.

Counter-affidavits of the Respondents

6. On notice being given, counter-affidavits have been filed by the Government of India, Government of Rajasthan, Rajasthan Pollution Control Board (RPCB) and Respondents 4 to 8. Since the earliest *counter-affidavit* in point of time is that of RPCB, we shall refer to it in the first instance. It was filed on 26-10-1989. The following are the averments:

(*a*) Re Hindustan Agro Chemicals Limited (R-4): The unit obtained "No Objection Certificate" from the PCB for manufacturing sulphuric acid and alumina sulphate. The Board granted clearance subject to certain conditions. Later "No Objection Certificate" was granted under the Water (Prevention and Control of Pollution) Act, 1974 (Water Act) and Air (Prevention and Control of Pollution) Act, 1981 (Air Act), again subject to certain conditions. However, this unit changed its product without clearance from the Board. Instead of sulphuric acid, it started manufacturing Oleum and Single Super Phosphate (SSP). Accordingly, consent was refused to the unit on 16-2-1987. Directions were also issued to close down the unit.

(*b*) Re Silver Chemicals (R-5): This unit was promoted by the fourth respondent without obtaining "No Objection Certificate" from the Board for the manufacture of

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'H' acid. The waste water generated from the manufacture of 'H' acid is highly acidic and contains very high concentration of dissolved solids along with several dangerous pollutants. This unit was commissioned in February 1988 without obtaining the prior consent of the Board and accordingly, notice of closure was served on 30-4-1988. On 12-5-1988, the unit applied for consent under Water and Air Acts which was refused. The Government was requested to issue directions for cutting off the electricity and water

to this unit but no action was taken by the Government. The unit was found closed on the date of inspection, viz., 2-10-1989.

(*c*) Re Rajasthan Multi Fertilizers (R-6): This unit was installed without obtaining prior "No Objection Certificate" from the Board and without even applying for consent under Water and Air Acts. Notice was served on this unit on 20-2-1989. In reply whereto, the Board was informed that the unit was closed since last three years and that electricity has also been cut off since 12-2-1988.

(*d*) Re Phosphates India (R-7): This unit was also established without obtaining prior "No Objection Certificate" from the Board nor did it apply for consent under the Water and Air Acts. When notice dated 20-2-1989 was served upon this unit, the Management replied that this unit was closed for a long time.

(*e*) Re Jyoti Chemicals (R-8): This unit applied for "No Objection Certificate" for producing ferric alum. "No Objection Certificate" was issued imposing various conditions on 8-4-1988. The "No Objection Certificate" was withdrawn on 30-5-1988 on account of non-compliance with its conditions. The consent applied for under Water and Air Acts by this unit was also refused. Subsequently, on 9-2-1989, the unit applied for fresh consent for manufacturing 'H' acid. The consent was refused on 30-5-1989. The Board has been keeping an eye upon this unit to ensure that it does not start the manufacture of 'H' acid. On 2-10-1989, when the unit was inspected, it was found closed.

7. The Board submitted further (in its counter-affidavit) that the sludge lying in the open in the premises of Respondents 4 to 8 ought to be disposed of in accordance with the provisions contained in the Hazardous Wastes (Management and Handling) Rules, 1989 framed under Environment (Protection) Act, 1986. According to the Board, the responsibility for creating the said hazardous situation was squarely that of Respondents 4 to 8. The Board enclosed several documents to its counter in support of the averments contained therein.

8. *The Govt. of Rajasthan filed its counter-affidavit* on 20-1-1990. It made a curious statement in para 3 to the following effect:

"(T)hat the State Government is *now* aware of the pollution of underground water being caused by liquid effluents from the firms arrayed as Respondents 4 to 8 in the writ petition. Therefore, the State Government has initiated action through the Pollution Control Board to check further spread of pollution."

The State Government stated that the water in certain wells in Bichhri village and some other surrounding villages has become unfit for drinking by human beings and cattle, though in some other wells, the water remains unaffected.

9. *The Ministry of Environment and Forests, Government of India filed its counter* on 8-2-1990. In their counter, the Government of India stated that Silver Chemicals was merely granted a Letter of Intent but it never applied

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Page: 221

for conversion of the Letter of Intent into industrial licence. Commencing production before obtaining industrial licence is an offence under Industries (Development and Regulation) Act, 1951. So far as Jyoti Chemicals is concerned, it is stated that it has not approached the Government at any time even for a Letter of Intent. The Government of India stated that in June 1989, a study of the situation in Bichhri village and some other surrounding villages was conducted by the Centre for Science and Environment. A copy of their report is enclosed to the counter. The report states the consequences emanating from the production of 'H' acid and the manner in which the resulting wastes were dealt with by Respondents 4 to 8 thus:

> "The effluents are very difficult to treat as many of the pollutants present are refractory in nature. Setting up such highly polluting industry in a critical groundwater area was essentially ill-conceived. The effluents seriously polluted the nearby drain and overflowed into Udaisagar main canal, severely corroding its cement-concrete lined bed and banks. The polluted waters also seriously degraded some agricultural land and damaged standing crops. On being ordered to contain the effluents, the industry installed an unlined holding pond within its premises and resorted to spraying the effluent on the nearby hill slope. This only resulted in extensive seepage and percolation of the effluents into groundwater and their spread down the aquifer. Currently about 60 wells appear to have been significantly polluted but every week a few new wells, down the aquifer start showing signs of pollution. This has created serious problems for water supply for domestic purposes, cattle-watering crop irrigation and other beneficial uses, and it has also caused human illness and even death, degradation of land and damage to fruit, trees and other vegetation. There are serious apprehensions that the pollution and its harmful effects will spread further after the onset of the monsoon as the water percolating from the higher parts of the basin moves down carrying the pollutants lying on the slopes — in the holding pond and those already underground."

10. Each of the *Respondents 4 to 8 filed separate counter-affidavits*. All the affidavits filed on behalf of these respondents are sworn to by Lt. Gen. M.L. Yadava, who described himself as the President of each of these units. In the counter-affidavit filed on behalf of the fourth respondent, it is stated that it is in no way responsible for the situation complained of. It is engaged in the manufacture of sulphuric acid and had commenced its operations on 6-1-1987. It has been granted "No Objection Certificates" from time to time. The consent obtained from RPCB is valid up to 15-8-1988. Application for extension of consent has already been filed. This counter-affidavit was filed on 18-1-1990.

11. In the counter-affidavit filed on behalf of the fifth respondent (Silver Chemicals), it is stated that the manufacture of 'H' acid which was commenced in February 1988 has been completely stopped after January 1989. The respondent is fully conscious of the need to conserve and protect

Page: 222

environment and is prepared fully to cooperate in that behalf. It is ready to comply with any stipulations or directions that may be made for the purpose. It, however, submitted that the real culprit is Hindustan Zinc Limited. The Archaeological Department of the Government of Rajasthan had issued environmental clearance for its unit (rather surprising statement). "No Objection Certificates" had also been issued

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by the Executive Engineer (Irrigation), Udaipur Division and the Wild Life Warden. So far as the requirement of 'consent' under Water and Air Acts is concerned, it merely stated that it had applied for it. Its closure in January 1989 was on account of promulgation of an order under Section 144 CrPC by the District Magistrate in view of widespread agitation by the villagers against its functioning.

12. In the counter-affidavit filed on behalf of the sixth respondent (Rajasthan Multi Fertilizers), it is stated that it commenced production on 14-3-1982 and closed down in December 1985. Electrical connection to it was disconnected on 13-2-1988. It was submitted that since it is a small-scale industry, no consent was asked for from anyone. It denied that it was causing any pollution, either ground, air or water.

13. In the counter-affidavit filed on behalf of the seventh respondent (Phosphates India), it is stated that this unit commenced production on 15-5-1988 but was closed on and with effect from 1-9-1988 for want of support from the Central Government in the form of subsidies. It submitted that it has merged with the fourth respondent in 1987-88.

14. In the counter-affidavit filed on behalf of the eighth respondent (Jyoti Chemicals), it is stated that it has no electrical connection, that it had commenced production in April 1987 and closed down completely in January 1989. It is stated that the unit produced 'H' acid to an extent of 20 MT as a trial measure for one month with the permission of the Industries Department. It is no longer manufacturing 'H' acid and, therefore, is not responsible for causing any pollution. It is further submitted that it is a small-scale industry and was registered with the District Industry Centre, Udaipur for the manufacture of ferric alum and 'H' acid. It began its operation simultaneously with the fifth respondent, Silver Chemicals, and several of the clearances are common to both, as both of them are located together. The trial production of 'H' acid, it is stated, took place in January 1987.

15. *Hindustan Zinc Limited* was impleaded as the ninth respondent at the instance of Respondents 4 to 8. It has *filed a counter-affidavit* denying that it is responsible in any manner for causing any pollution in Bichhri village or the surrounding areas. According to it, its plants are situated downstream, towards north of Bichhri village. We do not think it necessary to refer to this affidavit in any detail inasmuch as we are not concerned, in this writ petition, with the pollution, if any, caused by the ninth respondent in other villages but only with the pollution caused by Respondents 4 to 8 in Bichhri or surrounding villages.

Orders passed and steps taken during the period 1989-1992

16. The first considered order made, after hearing the parties, by this Court is of 11-12-1989. Under this order, the court requested the National Environmental Engineering Research Institute (NEERI) to study the situation in and around Bichhri village and submit their report "as to the choice and scale of the available remedial alternatives". NEERI was requested to suggest both short-term and long-term measures required to combat the hazard already caused. Directions were also made for *supply of drinking water* to affected villages by the State of Rajasthan. The RPCB was directed to make available to the court the Report it had prepared concerning the situation in Bichhri village.

17. On the next date of hearing, i.e., 5-3-1990, the court took note of the

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statements made on behalf of Respondents 4 to 8 that they have completely stopped the manufacture of 'H' acid in their plants and that they did not propose to resume its manufacture. The court also took note of the petitioner's statement that though the manufacture of 'H' acid may have been stopped, a large quantity of highly dangerous effluent waste/sludge has accumulated in the area and that unless properly treated, stored and removed, it constitutes a serious danger to the environment. Directions were given to the RPCB to arrange for its transportation, treatment and safe storage according to the technically accepted procedures for disposal of chemical wastes of that kind. All reasonable expenses for the said operation were to be borne by Respondents 4 to 8 (hereinafter referred to in this judgment as the 'respondents'). So far as the polluted water in the wells was concerned, the court noted the offer made by the learned counsel for the respondents that they will themselves undertake the de-watering of the wells. The RPCB was directed to inspect and indicate the number and location of the wells to be de-watered.

18. The matter was next taken up on 4-4-1990. It was brought to the notice of the court that no meaningful steps were taken for removing the sludge as directed by this Court in its order dated 5-3-1990. Since the monsoon was about to set in, which would have further damaged the earth and water in the area, the court directed the respondents to immediately remove the sludge from the open spaces where it was lying and store it in safe places to avoid the risk of seepage of toxic substances into the soil during the rainy season. The respondents were directed to complete the task within five weeks therefrom.

19. It is not really necessary to refer to the contents of the various orders passed in 1990 and 1991, i.e., subsequent to the order dated 4-4-1990 for the present purposes. Suffice it to say that the respondents did not comply with the direction to store the sludge in safe places. The de-watering of wells did not prove possible. There was good amount of bickering between the respondents on one side and the RPCB and the Ministry of Environment and Forests on the other. They blamed each other for lack of progress in the

matter of removal of sludge. Meanwhile, years rolled by and the hazard continued to rise. NEERI submitted an interim report. (We are, however, not referring to the contents of this interim report inasmuch as we would be referring to the contents of the final report presently after referring to a few more relevant orders of this Court.)

20. On 17-2-1992, this Court passed a fairly elaborate order observing that Respondents 5 to 8 are responsible for discharging the hazardous industrial wastes; that the manufacture of 'H' acid has given rise to huge quantities of iron sludge and gypsum sludge — approximately 2268 MT of gypsum-based sludge and about 189 MT of iron-based sludge; that while the respondents blamed Respondent 9 as the main culprit, Respondent 9 denied any responsibility therefor. The immediate concern, said the Court, was the appropriate remedial action. The report of the RPCB presented a disturbing picture. It stated that the respondents have deliberately spread the hazardous material/sludge all over the place which has only heightened the problem of its removal and that they have failed to carry out the order of this Court dated 4-4-1990. Accordingly, the court directed the Ministry of Environment and Forests, Government of India to depute its experts immediately to inspect the area to ascertain the existence and extent of gypsum-based and iron-based sludge, to suggest the handling and disposal procedures and to prescribe a package for its transportation and safe storage. The cost of such storage and transportation was to be recovered from the

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respondents.

21. Pursuant to the above order, a team of experts visited the area and submitted a report along with an affidavit dated 30-3-1992. The report presented a highly disturbing picture. It stated that the sludge was found inside a shed and also at four places outside the shed but within the premises of the complex belonging to the respondents. It stated further that sludge has been mixed with soil and at many places it is covered with earth. A good amount of sludge was said to be lying exposed to sun and rain. The report stated:

> "Above all, the extent of pollution in groundwater seems to be very great and the entire aquifer may be affected due to the pollution caused by the industry. The organic content of the sludge needs to be analysed to assess the percolation property of the contents from the sludge. It is also possible that the iron content in the sludge may be very high which may cause the reddish colouration. As the mother liquor produced during the process (with pH-1) was highly acidic in nature and was indiscriminately discharged on land by the unit, it is possible that this might have eroded soil and caused the extensive damage. It is also possible that the organic contents of the mother liquor would have gone into soil with water together with the reddish colour."

The report also suggested the mode of disposal of sludge and measures for reconditioning the soil.

22. In view of the above report, the court made an order on 6-4-1992 for entombing the sludge under the supervision of the officers of the Ministry of

Environment and Forests, Government of India. Regarding revamping of the soil, the court observed that for this purpose, it might become necessary to stop or suspend the operation of all the units of the respondent but that, the court said, requires to be examined further.

23. The work of entombment of sludge again faced several difficulties. While the respondents blamed the government officers for the delay, the government officials blamed the said respondents of non-cooperation. Several orders were passed by this Court in that behalf and ultimately, the work commenced.

Orders passed in 1993, filing of Writ Petition (C) No. 76 of 1994 by Respondent 4 and the orders passed therein

24. With a view to find out the connection between the wastes and sludge resulting from the production of 'H' acid and the pollution in the underground water, the court directed on 20-8-1993, that samples should be taken of the entombed sludge and also of the water from the affected wells and sent for analysis. Environment experts of the Ministry of Environment and Forests were asked to find out whether the pollution in the well water was on account of the said sludge or not. Accordingly, analysis was conducted and the experts submitted the Report on 1-11-1993. Under the heading 'Conclusion', the report stated:

> "5.0 *Conclusion*
>
> 5.1 On the basis of the observations and analysis results, it is concluded beyond doubt that the sludge inside the entombed pit is the contaminated one as evident from the number of parameters analysed.
>
> 5.2 The groundwater is also contaminated due to discharge of H-acid plant effluent as well as H-acid sludge/contaminated soil leachates as shown in the photographs and also supported by the results. The analysis results revealed good

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correlation between the colour of well water and H-acid content in it. The analysis results show high degree of impurities in sludge/soil and also in well water *which is a clear indication of contamination of soil and groundwater due to disposal of H-acid waste."*

The report which is based upon their inspection of the area in September 1993 revealed many other alarming features. It represents a commentary on the attitude and actions of the respondents. In para 2, under the heading "Site Observations and Collection of Sludge/Contaminated Soil Samples", the following facts are stated:

"2.1. The Central team, during inspection of the premises of M/s HACL, observed that *H-acid sludge (iron/gypsum) and contaminated soil are still lying at different places, as shown in Fig. 1, within the industrial premises* (Photograph 1) which are the leftovers. The area, where the solar evaporation pond was existing with H-acid sludge dumped here and there, was observed to have been levelled with borrowed soil (Photograph 2). It was difficult to ascertain whether the

sludge had been removed before filling. However, there are visual evidences of contaminated soil in the area.

2.2 As reported by the Rajasthan Pollution Control Board (RPCB) representatives, *about 720 tonnes out of the total contaminated soil and sludge scraped from the sludge dump sites is disposed of in six lined entombed pits* covered by lime/flyash mix, brick soling and concrete (Photographs 3 and 4). *The remaining scraped sludge and contaminated soil was lying near the entombed pits for want of additional disposal facility*. However, during the visit, the left over sludge and contaminated soil could not be traced at site. Inspection of the surrounding area revealed that *a huge heap of foreign soil of 5 metre height (Photograph 5) covering a large area, as also indicated in Fig. 1, was raised on the slopy ground at the foothill within the industry premises*. The storm water run-off pathway over the area showed indication of H-acid sludge leachates coming out of the heap. Soil in the area was sampled for analysis.

2.3 *M/s HACL has a number of other industrial units which are operating within the same premises without valid consents* from the Rajasthan Pollution Control Board (RPCB). These plants are sulphuric acid (H_2SO_4), fertilizer (SSP) and vegetable oil extraction. *The effluent of these units are not properly treated and the untreated effluent particularly from the acid plant is passing through the sludge dump area playing havoc* (Photograph 7). The final effluent was collected at the outlet of the factory premises during operation of these units, at the time of groundwater monitoring in September 1993, by the RPCB. Its quality was observed to be highly acidic (pH: 1.08, Conductivity: 37,100 mg/1, SO_4: 21,000 mg/1, Fe: 392 mg/1, COD: 167 mg/1) which was also revealed in the earlier visits of the Central teams. However, these units were not in operation during the present visit."

Under para 4.2.1, the report stated inter alia:

"The sludge samples from the surroundings of the (presently non-existent) solar evaporation and the contaminated soil due to seepage from the newly raised dump site also exhibited very high values of the above-mentioned parameters. This revealed that the contaminated soil is buried under the new dump found by the team."

25. So much for the waste disposal by the respondents and their continuing good conduct! To the same effect is the report of the RPCB which is dated 30-10-1993.

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26. In view of the aforesaid reports, all of which unanimously point out the consequences of the 'H' acid production, the manner in which the highly corrosive waste water (mother liquor) and the sludge resulting from the production of 'H' acid was disposed of and the continuing discharge of highly toxic effluents by the remaining units even in the year 1993, the authorities (RPCB) passed orders closing down, in exercise of their powers under Section 33-A of the Water Act, the operation of the Sulphuric Acid

Plant and the solvent extraction plant including oil refinery of the fourth respondent with immediate effect. Orders were also passed directing disconnection of electricity supply to the said plants. The fourth respondent filed Writ Petition (C) No. 76 of 1994 in this Court, under Article 32 of the Constitution, questioning the said orders in January 1994. The main grievance in this writ petition was that without even waiting for the petitioner's (Hindustan Agro Chemicals Limited) reply to the show-cause notices, orders of closure and disconnection of electricity supply were passed and that this was done by the RPCB with a mala fide intent to cause loss to the industry. It was also submitted that sudden closure of its plants is likely to result in disaster and, may be, an explosion and that this consideration was not taken into account while ordering the closure. In its Order dated 7-3-1994, this Court found some justification in the contention of the industry that the various counter-affidavits filed by the RPCB are self -contradictory. The Board was directed to adopt a constructive attitude in the matter. By another order dated 18-3-1994, the RPCB was directed to examine the issue of grant of permission to restart the industry or to permit any interim arrangement in that behalf. On 8-4-1994, a 'consent' order was passed whereunder the industry was directed to deposit a sum of Rupees sixty thousand with RPCB before 11-4-1994 and the RPCB was directed to carry on the construction work of storage tank for storing and retaining ten days' effluents from the Sulphuric Acid Plant. The construction of temporary tank was supposed to be an interim measure pending the construction of an ETP on permanent basis. The order dated 28-4-1994 noted the report of the RPCB stating that the construction of temporary tank was completed on 26-4-1994 under its supervision. The industry was directed to comply with such other requirements as may be pointed out by RPCB for prevention and control of pollution and undertake any work required in that behalf forthwith. Thereafter, the matter went into a slumber until 13-10-1995.

NEERI Report

27. At this juncture, it would be appropriate to refer to the report submitted by NEERI on the subject of "Restoration of Environmental Quality of the affected area surrounding Village Bichhri due to past Waste Disposal Activities". This report was submitted in April 1994 and it states that it is based upon the study conducted by it during the period November 1992 to February 1994. Having regard to its technical competence and reputation as an expert body on the subject, we may be permitted to refer to its report at some length.

28. At p. 7, the report mentions the industrial wastes emerging from the manufacture of 'H' acid. It reads:

> "Solid wastes generated from H-acid manufacturing process are:
>
> Gypsum sludge produced during the neutralisation of acidic solution with lime after nitration stage (around 6 tonnes/tonne of H-acid manufactured)

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Iron sludge produced during the reduction stage (around 0.5 tonnes/tonne of H-acid manufactured)

Gypsum sludge contains mostly calcium sulphate along with sodium salts and organics. Iron sludge constitutes unreacted iron powder, besides ferric salts and organics.

It is estimated that, for each tonne of H-acid manufactured, about 20 m^3 of highly corrosive waste water was generated as mother liquor, besides the generation of around 2.0 m^3 of wash water. The mother liquor is characterised by low pH (around 2.0) and high concentration of total dissolved solids (80-280 g/L). High COD of the waste water (90 g/L) could be attributed to organics formed during various stages of manufacture. These include naphthalene trisulphonic acid, nitro naphthalene sulphonic acid, Koch acid and H-acid, besides several other intermediates."

29. At pp. 8 and 9, the report describes the manner in which the sludge and other industrial wastes were disposed of by the respondents. It states inter alia:

"The total quantities of waste water and that of sludge generated were around 8250 m^3 and 2440 tonnes respectively for a production of 375 tonnes by M/s Silver Chemicals Ltd. and M/s Jyoti Chemicals Ltd....

Majority of sludge brought back from disposal sites located outside the plant was transferred inside a covered shed.

The sludge lying in the plant premises was entombed in the underground pit by RPCB as per the directions of the Hon'ble Supreme Court. It may be mentioned that *only 720 MT of sludge out of the estimated quantity of 2440 MT could be entombed as the capacity of the underground tanks provided by the industry for the purpose was only to that extent.*

Remaining sludge and sludge-mixed soil were, however, present in the plant premises as these could not be transferred into underground tanks. It has also been observed that only sludge above the soil was removed from the six sites and transferred to the plant site. Sub-surface soil of these sites appears to have been contaminated as the soil has reddish colour akin to that of the sludge.

A fertilizer plant (single superphosphate), a sulphuric acid plant and an oil extraction and oil refining plant were in operation in the same premises where H-acid was earlier manufactured. *The acidic waste water (around pH 1.0) presently generated from these units was flowing over the abandoned dump site. This leaches the sludge-mixed soil from the abandoned dump site and the contaminated water flows by gravity towards east and finds its way into a nullah flowing through the compound and conveys the contaminated water to an irrigation canal which originates from Udaisagar Lake (Pate 1.4)*."

(emphasis added)

30. At p. 10, the report mentions the six dump sites outside the 'H' acid plant premises where the sludge was lying in the open. At pp. 26 and 27, the

report states on the basis of VES investigations that while certain wells were found contaminated, others were not. At p. 96, the report states thus:

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"DAMAGE TO CROPS AND TREES

The field surveys in contaminated fields in *Zones I and II showed that no crops were coming in the fields particularly in low-lying areas*. On some elevated areas, crops like jowar, maize were growing; however the growth and yield were very poor.

Further it was also observed that even trees like eucalyptus planted in contaminated fields show leaf burning and stunted growth. Many old trees which were badly affected due to contamination are still growing under stress conditions as a result of soil contamination.

The top soils at the old dump sites outside the plant premises are still contaminated and require de-contamination before the land is used for other purposes.

It was observed that even after the operation of hauling the sludge back to the industry premises, some sludge-mixed soil was still lying in the premises of a primary school (Table 1.1), which needs de-contamination."

31. In Chapter 6, the report mentions the remedial measures. Para 6.1, titled INTRODUCTION, states:

"As could be seen from the data reported in Chapters 4 and 5, *the groundwater and soils within 2 kms from the plant have been contaminated*. After critically scrutinising the data, it was concluded that there is an *urgent need to work out a de-contamination strategy* for the affected area. This strategy includes the de-contamination of the soil, contaminated groundwater and abandoned dump sites. This chapter details the remedial measures that can be considered for implementation to restore the environmental quality of the affected area."

32. The chapter then sets out the various remedial measures, including land treatment, soil washing, revegetation, control over the flow of the contaminated water to adjoining lands through canals, leaching of soluble salts, design of farm to development of agro-forestry and/or forestry plantation with salt tolerant crops/plants and groundwater de-contamination. Inter alia, the report states:

"The entire contaminated area comprising of 350 ha of contaminated land and six abandoned dump sites outside the industrial premises has been found to be ecologically fragile due to reckless past disposal activities practised by M/s Silver Chemicals Ltd. and M/s Jyoti Chemicals Ltd. Accordingly, it is suggested that the whole of the contaminated area be developed as a green belt at the expense of M/s Hindustan Agrochemicals Ltd. during the monsoon of 1994."

33. Under para 6.3.2, the report suggests "De-contamination Alternatives for Groundwater" including bioremediation, degradation of H-

acid by *Azotobacter Vinelandii*, isolation of bacterial population from H-acid contaminated soil and several other methods.

34. Under para 6.4.2, the report mentions the several de-contamination alternatives including containment of contaminated soil, surface control, groundwater control, leachate collection and treatment, gas migration control and direct waste treatment.

35. At pp. 157 and 158, the report mentions the continuing discharge of effluents in an illegal and dangerous manner. It reports:

"It was also observed by NEERI's team during the current study that the industry *has not provided adequate effluent treatment facilities* and the waste

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waters (pH<1.5) from the existing plants (sulphuric acid, fertilizer, and oil extraction) are being discharged, without treatment, on land within the plant premises. This indiscriminate and wilful disposal activity is *further aggravating the contamination problem in the area. Acidic effluent leaches the pollutants from the dumped sludge and the contaminated soil and facilitates their penetration through the ground* and thereby increasing the concentration of sulphates and dissolved solids in groundwater. *What is most serious is the fact that the industry produced chlorosulfonic acid for a few months during late 1992 which is a hazardous and toxic substance as per MEF Notification* titled 'Manufacture, Storage and Import of Hazardous Chemical Rules, 1989' and even floated public shares for the manufacture of this obnoxious chemical. *The production was however ceased due to the intervention of the Rajasthan Pollution Control Board in December 1992 as the industry was operating without obtaining site clearance, No Objection Certificate (NOC)/Consent from the concerned appropriate regularity (regulatory?) authorities and without providing for any pollution-control measures*. It is, therefore, essential for M/s Hindustan Agrochemicals Ltd. to comply with these requirements for carrying out the present industrial activities. *The abatement of further contamination warrants the closure of all industrial operations till an appropriate effluent treatment plant is installed*, and certified by RPCB for its functionality in keeping with the provisions of Water Act."

The report adds:

"The Industry management in the past (during 1988-89) has shown scant respect for Pollution Control and Environment Protection Acts. Not only this, the management *continues industrial activity producing obnoxious waste waters and dumping the same without any treatment, contaminating land and groundwater without any concern for ecology and public health*. It is necessary that the provisions of relevant legislations are imposed on the industry to avoid environmental damage and harm to public welfare."

(emphasis added)

36. We do not think that the above report requires any emphasis at our hands. It speaks for itself — and it speaks volumes of the "high regard" the respondents have for law!

Page: 231

37. From p. 179 onwards, the report refers to the damage to the crops and the land and to the psychological and mental torture inflicted upon the villagers by the respondents and suggests that the principle of "Polluter Pays" should be applied in this case inasmuch as "*the incident involved deliberate release of untreated acidic process waste water and negligent handling of waste sludge knowing fully well the implication of such acts*". The report suggests that compensation should be paid under two heads, viz., (*a*) for the losses due to damage and (*b*) towards the cost of restoration of environmental quality. It then works out the total cost of restoration of environmental quality at Rs 3738.5 lakhs — i.e., Rs 37.385 crores.

38. Para 7.4 states the conclusions flowing from the material in Chapter 6 thus:

"The cost of damage to be disbursed to the affected villagers is estimated at Rs 342.8 lakhs and remediation of impacted well waters and soil at Rs 3738.5 lakhs. This cost needs to be borne by the management of the industry in keeping with the Polluter Pays principle and the doctrine of Strict/Absolute liability, as applied to Shri

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Page 18 Wednesday, July 26, 2023
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Ram Food and Fertilizers Industry in the case of *Oleum leak*[2] in 1985."

Report of RPCB submitted in January 1996 during the final hearing of these matters

39. When all these matters were posted before the court on 13-10-1995, we realised that the matter requires to be heard on a priority basis. Having regard to the voluminous data gathered by this Court and the several orders passed from time to time, the matter was listed for regular hearing. We heard all the parties at length on 10th, 11th, 16th and 17th January, 1996. We have been taken through the voluminous record. Submissions have also been made on the questions of law arising herein.

40. At the end of the first day of regular hearing, we made an order calling upon the RPCB to send a team of high officials to the spot and report to us the latest position on the following aspects:

(*i*) Whether the factories of Silver Chemicals, Rajasthan Multi Fertilizers and Jyoti Chemicals are still working and whether the machinery installed in the said plant is still existing? (This information was required to check the statement of the respondents that the said units are lying closed since last several years.)

(*ii*) To report whether the factory or factories of Respondent 4, Hindustan Agrochemicals Limited, are working and if they are working, what are the products being manufactured by them? The Board was also directed to report whether the seventh respondent, Phosphate India, which was said to have merged with the fourth respondent, is having a separate factory and if so, what is being produced therein?

(*iii*) The approximate quantity of sludge — whether "iron sludge" or "gypsum sludge" — lying in the area. The report was to indicate what quantity was entombed pursuant to the orders of this Court and whether any further sludge was lying in the area or in the premises of the respondents' complex, its approximate quantity and the time, effort and cost required to remove the same.

(*iv*) The Board was also to take samples of the water in wells and tanks in the area and have them analysed and tell us whether it is fit for drinking by cattle and/or fit for irrigation purposes.

41. Accordingly, the RPCB officials visited the site and have filed a report dated 16-1-1996 along with an affidavit. The report discloses the following facts:

(1) The two units, Silver Chemicals and Jyoti Chemicals, do not exist now. There is no machinery. A godown and a Ferric Alum Plant have been constructed at the site of the said plant. The Ferric Alum Plant was not in operation at the time of inspection though plant and machinery for manufacturing it was found installed therein. Certain old stock of Ferric Alum was also found lying within the plant premises.

(2) Hindustan Agrochemicals Limited (R-4) has seven industrial plants, viz., Rajasthan Multi Fertilizers [manufacturing Granulated Single Super Phosphate (GSSP)], a Sulphuric Acid Plant, a Chlorosulphonic Acid Plant, Edible Oil Solvent Extraction Plant, Edible Oil Refinery and a Ferric Alum Plant (known as M/s Jyoti Chemicals), all of which are located within the same premises. All these seven plants were found not operating on the date of inspection by the RPCB officials though in many cases the machinery and the other equipment was in place.

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So far as the sludge still remaining in the area is concerned, the report stated:

> "3. Village Bichhri and other adjoining areas were visited by the undersigned officials to know whether gypsum and iron sludge is still lying in the aforesaid area. In area adjoining the irrigation canal, sludge mixed with soil were found on an area of about 3000 sq.ft. The area was covered with foreign soil. Sample of the sludge-mixed soil was collected for the perusal of the Hon'ble Court. Entire premises of M/s Hindustan Agrochemicals Ltd. was also inspected and sludge mixed with soil was observed in a large area. It was further observed that fresh soil in the varying depth has been spread over in most of the area. In view of the fact that sludge was mixed with the soil and difficult to separate out of the soil it is very difficult to estimate the exact quantity of the sludge required to be removed. Samples of sludge mixed with soil were collected from different parts of this area after serving due notices under Environment Protection Act, 1986."

So far as the water in the wells was concerned, the report mentioned that they took samples from the wells from Bichhri and other surrounding villages, i.e., from thirty-two different locations and that water in sixteen

locations was found to "contain colour of varying intensities ranging from very dark brown to light pink which apparently shows that these wells/handpumps are still polluted".

42. Shri K.N. Bhat, learned counsel for the respondents, however, submitted that the RPCB officials have throughout been hostile to the respondents and that, therefore, the reports submitted by them should not be acted upon. He also submitted that respondents have had no opportunity to file objections to the said report or to produce material to contradict the statements made therein. While taking note of these submissions, we may, however, refer to the letter dated 13-1-1996 written by the fourth respondent to the RPCB. In this letter, the particulars of the stocks remaining in each of its seven plants are mentioned along with the date of the last production in each of those plants. The last dates of production are the following: Sulphuric Acid Plant — 10-11-1995, SSP Plant (Phosphate India) — 11-11-1995, GSSP Plant (Rajasthan Multi Fertilizers) — 7-7-1995, Solvent Extraction Plant and Refinery — 2-12-1993, Jyoti Chemicals — October 1990 and Chlorosulphonic Acid Plant — 29-9-1995. It is worthy of note that these dates are totally at variance with the dates of closure mentioned in the counter-affidavits filed by these units in 1990-91.

Contentions of the parties

43. Shri M.C. Mehta, learned counsel appearing for the petitioner, brought to our notice the several reports, orders and other material on record. He submitted that the abundant material on record clearly establishes the culpability of the respondents for the devastation in Village Bichhri and surrounding areas and their responsibility and obligation to properly store the remaining sludge, stop discharge of all untreated effluents by taking necessary measures and defray the total cost required for remedial measures as suggested by NEERI (Rupees forty crores and odd). Learned counsel suggested that in view of the saga of repeated and continuous violation of law and lawful orders on the part of the respondents, they must be closed forthwith. So far as the legal propositions are concerned, the learned counsel relied strongly upon the Constitution Bench decision in *M.C. Mehta* v. *Union of India* (*Oleum Gas Leak case*[2]) as well as the recent order of this Court in *Indian Council for Enviro-Legal Action* v. *Union of India*[3]. Learned counsel also invited our attention to quite a few foreign decisions

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and text books on the subject of environment. Shri Altaf Ahmad, the learned Additional Solicitor General appearing for the Union of India, also stressed the need for urgent appropriate directions to mitigate and remedy the situation on the spot in the light of the expert reports including the one made by the Central team of experts.

44. The learned counsel for the State of Rajasthan, Shri Aruneshwar Gupta, expressed the readiness of the State Government to carry out and

enforce such orders as this Court may think fit and proper in the circumstances.

45. Shri K.B. Rohatgi, learned counsel for the RPCB, invited our attention to the various orders passed, action taken, cases instituted and reports submitted by the Board in this matter. He submitted that until recently the Board had no power to close down any industry for violation of environmental laws and that after conferment of such power, they did pass orders of closure. He denied the allegations of mala fides or hostile intent on the part of the Board towards the respondents. Learned counsel lamented that despite its best efforts, the Board has not yet been successful in eradicating the pollution in the area and hence asked for stringent orders for remedying the appalling conditions in the village due to the acts of the respondents.

46. Shri K.N. Bhat, learned counsel for the respondents, made the following submissions:

(1) The respondents are private corporate bodies. They are not 'State' within the meaning of Article 12 of the Constitution. A writ petition under Article 32 of the Constitution, therefore, does not lie against them.

(2) The RPCB has been adopting a hostile attitude towards these respondents from the very beginning. The reports submitted by it or obtained by it are, therefore, suspect. The respondents had no opportunity to test the veracity of the said reports. If the matter had been fought out in a properly constituted suit, the respondents would have had an opportunity to cross-examine the experts to establish that their reports are defective and cannot be relied upon.

(3) Long before the respondents came into existence, Hindustan Zinc Limited was already in existence close to Bichhri village and has been discharging toxic untreated effluents in an unregulated manner. This had affected the water in the wells, streams and aquifers. This is borne out by the several reports made long prior to 1987. Blaming the respondents for the said pollution is incorrect as a fact and unjustified.

(4) The respondents have been cooperating with this Court in all matters and carrying out its directions faithfully. The report of the RPCB dated 13-11-1992 shows that the work of entombment of the sludge was almost over. The report states that the entire sludge would be stored in the prescribed manner within the next two days. In view of this report, the subsequent report of the Central team, RPCB and NEERI cannot be accepted or relied upon. There are about 70 industries in India manufacturing 'H' acid. Only the units of the respondents have been picked upon by the Central and State authorities while taking no action against the other units. Even in the matter of disposal of sludge, the directions given for its disposal in the case of other units are not as stringent as have been prescribed in the case of respondents. The decision of the Gujarat High Court in *Pravinbhai Jashbhai Patel*[1] shows

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that the method of disposal prescribed there is different and less elaborate than the one prescribed in this case.

(5) The reports submitted by the various so-called expert committees that sludge is still lying around within and outside the respondents' complex and/or that the toxic wastes from the Sulphuric Acid Plant are flowing through and leaching the sludge and creating a highly dangerous situation is untrue and incorrect. The RPCB itself had constructed a temporary ETP for the Sulphuric Acid Plant pursuant to the orders of this Court made in Writ Petition (C) No. 76 of 1994. Subsequently, a permanent ETP has also been constructed. There is no question of untreated toxic discharges from this plant leaching with sludge. There is no sludge and there is no toxic discharge from the Sulphuric Acid Plant.

(6) The case put forward by the RPCB that the respondents' units do not have the requisite permits/consents required by the Water Act, Air Act and the Environment (Protection) Act is again unsustainable in law and incorrect as a fact. The respondents' units were established before the amendment of Section 25 of the Water Act and, therefore, did not require any prior consent for their establishment.

(7) The proper solution to the present problem lies in ordering a comprehensive judicial enquiry by a sitting Judge of the High Court to find out the causes of pollution in this village and also to recommend remedial measures and to estimate the loss suffered by the public as well as by the respondents. While the respondents are prepared to bear the cost of repairing the damage, if any, caused by them, the RPCB and other authorities should be made to compensate for the huge losses suffered by the respondents on account of their illegal and obstructionist policy adopted towards them.

(8) The decision in *Oleum Gas Leak case*[2] has been explained in the opinion of Ranganath Misra, C.J., in the decision in *Union Carbide Corpn.* v. *Union of India*[4]. The law laid down in *Oleum Gas Leak case*[2] is at variance with the established legal position in other Commonwealth countries.

47. Shri Bhat suggested that in the larger interests of environment, industry and public, this Court may direct the Government of India to constitute, by proper legislation, environment courts all over the country — which courts alone should be empowered to deal with such cases, to give appropriate directions including orders of closure of industries wherever necessary, to make necessary technical and scientific investigations, to suggest remedial measures and to oversee their implementation. Proceedings by way of a writ in this Court under Article 32 or in the High Court under Article 226, the learned counsel submitted, are not appropriate to deal with such matters, involve as they do several disputed questions of fact and technical issues.

48. Before we proceed to deal with the submissions of the learned counsel, it would be appropriate to notice the relevant provisions of law.

Relevant statutory provisions

49. Article 48-A is one of the Directive Principles of State Policy. It says that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country. Article 51-A sets out the fundamental duties of the

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citizens. One of them is "(*g*) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;"

50. The problem of increasing pollution of rivers and streams in the country — says the Statement of Objects and Reasons appended to the Bill which became the Water (Prevention and Control of Pollution) Act, 1974 — attracted the attention of the State legislatures and Parliament. They realised the urgency of ensuring that domestic and industrial effluents are not allowed to be discharged into water courses without adequate treatment and that pollution of rivers and streams was causing damage to the country's economy. A committee was set up in 1962 to draw a draft enactment for prevention of water pollution. The issue was also considered by the Central Council of Local Self-Government in September 1963. The Council suggested the desirability of having a single enactment for the purpose. A Draft Bill was prepared and sent to various States. Several expert committees also made their recommendations meanwhile. Since an enactment on the subject was relatable to Entry 17 read with Entry 6 of List II in the Seventh Schedule to the Constitution — and, therefore, within the exclusive domain of the States — the State Legislatures of Gujarat, Kerala, Haryana and Mysore passed resolutions as contemplated by Article 252 of the Constitution enabling Parliament to make a law on the subject. On that basis, Parliament enacted the Water (Prevention and Control of Pollution) Act, 1974. (The State of Rajasthan too passed the requisite resolution.) Section 24(1) of the Water Act provides that:

> "24. (1) Subject to the provisions of this section,—
>
> (*a*) no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any stream or well…."

Section 25(1), before it was amended by Act 53 of 1988, provided that:

> "25. (1) Subject to the provisions of this section, no person shall, without the previous consent of the State Board, bring into use any new or altered outlet for the discharge of sewage or trade effluent into a stream or well or begin to make any new discharge of sewage or trade effluent into a stream or well."

As amended by Act 53 of 1988, Section 25 now reads:

> "25. (1) Subject to the provisions of this section, no person shall, without the previous consent of the State Board,—

> (*a*) establish or take any steps to establish any industry, operation or process, or any treatment and disposal system or an extension or addition thereto, which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land (such discharge being hereafter in this section referred to as 'discharge of sewage'); or
>
> (*b*) bring into use any new or altered outlets for the discharge of sewage; or
>
> (*c*) begin to make any new discharge of sewage…."

(It is stated that the Rajasthan Assembly passed resolution under Article 252 of the Constitution adopting the said Amendment Act vide Gazette Notification dated 9-5-1990.) Section 33 empowers the Pollution Control Board to apply to the court, not inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the First Class, to restrain any person causing pollution if the said pollution is likely to prejudicially

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affect water in a stream or a well. Section 33-A, which has been introduced by Amendment Act 53 of 1988, empowers the Board to order the closure of any industry and to stop the electricity, water and any other service to such industry if it finds such a direction necessary for effective implementation of the provisions of the Act. Prior to the said Amendment Act, the Pollution Control Board had no such power and the course open to it was to make a recommendation to the Government to pass appropriate orders including closure.

51. The Air (Prevention and Control of Pollution) Act, 1981 contains similar provisions.

52. In the year 1986, Parliament enacted a comprehensive legislation, Environment (Protection) Act. The Act *defines 'environment'* to include "water, air and land and the interrelationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property". The preamble to the Act recites that the said Act was made pursuant to the decisions taken at the United Nations Conference on Human Environment held at Stockholm in June 1972 in which India also participated. Section 3 empowers the Central Government "*to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment* and preventing, controlling and abating environmental pollution". Sub-section (2) elucidates the several powers inhering in the Central Government in the matter of protection and promotion of environment. Section 5 empowers the Central Government to issue appropriate directions to any person, officer or authority to further the objects of the enactment. Section 6 confers rule-making power upon the Central Government in respect of matters referred to in Section 3. Section 7 says that "no person carrying on any industry, operation or process shall discharge or emit or permit to be discharged or emitted any environmental pollutant in excess of such standards as may be prescribed".

Page: 238

53. The Central Government has made the Hazardous Wastes (Management and Handling) Rules, 1989 in exercise of the power conferred upon it by Section 6 of the Environment (Protection) Act prescribing the manner in which the hazardous wastes shall be collected, treated, stored and disposed of.

Consideration of the submissions

54. Taking up the objections urged by Shri Bhat first, we find it difficult to agree with them. This writ petition is not really for issuance of appropriate writ, order or directions against the respondents but is directed against the Union of India, Government of Rajasthan and RPCB to compel them to perform their statutory duties enjoined by the Acts aforementioned on the ground that their failure to carry out their statutory duties is seriously undermining the right to life (of the residents of Bichhri and the affected area) guaranteed by Article 21 of the Constitution. If this Court finds that the said authorities have not taken the action required of them by law and that their inaction is jeopardising the right to life of the citizens of this country or of any section thereof, it is the duty of this Court to intervene. If it is found that the respondents are flouting the provisions of law and the directions and orders issued by the lawful authorities, this Court can certainly make appropriate directions to ensure compliance with law and lawful directions made thereunder. This is a social action litigation on behalf of the villagers of Bichhri whose right to life, as elucidated by this Court in several decisions, is invaded and seriously infringed by the respondents as is

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established by the various reports of the experts called for, and filed before, this Court. If an industry is established without obtaining the requisite permission and clearances and if the industry is continued to be run in blatant disregard of law to the detriment of life and liberty of the citizens living in the vicinity, can it be suggested with any modicum of reasonableness that this Court has no power to intervene and protect the fundamental right to life and liberty of the citizens of this country. The answer, in our opinion, is self-evident. We are also not convinced of the plea of Shri Bhat that RPCB has been adopting a hostile attitude towards his clients throughout and, therefore, its contentions or the reports prepared by its officers should not be relied upon. If the respondents establish and operate their plants contrary to law, flouting all safety norms provided by law, the RPCB was bound to act. On that account, it cannot be said to be acting out of animus or adopting a hostile attitude. Repeated and persistent violations call for repeated orders. That is no proof of hostility. Moreover, the reports of RPCB officials are fully corroborated and affirmed by the reports of the Central team of experts and of NEERI. We are also not prepared to agree with Shri Bhat that since the report of NEERI was prepared at the instance of RPCB, it is suspect. This criticism is not only unfair but is also uncharitable to the officials of NEERI who have no reason to be inimical to the respondents. If, however, the actions of the respondents invite the concern of the experts and if they depict the correct situation in their reports, they cannot be accused of any bias. Indeed, it is this Court that asked NEERI to suggest remedial measures and it is in compliance with

Page: 239

those orders that NEERI submitted its interim report and also the final report. Similarly, the objection of Shri Bhat that the reports submitted by the NEERI, by the Central team (experts from the Ministry of Environment and Forests, Government of India) and RPCB cannot be acted upon is equally unacceptable. These reports were called by this Court and several orders passed on the basis of those reports. It was never suggested on behalf of Respondents 4 to 8 that unless they are permitted to cross-examine the experts or the persons who made those reports, their reports cannot be acted upon. This objection, urged at this late stage of proceedings — after a lapse of several years — is wholly unacceptable. The persons who made the said reports are all experts in their field and under no obligation either to the RPCB or for that matter to any other person or industry. It is in view of their independence and competence that their reports were relied upon and made the basis of passing orders by this Court from time to time.

55. Now coming to the question of alleged pollution by Hindustan Zinc Limited (R-9), it may be that Respondent 9 is also responsible for discharging untreated effluents at one or the other point of time but that is not the issue we are concerned with in these writ petitions. These writ petitions are confined to the pollution caused in Bichhri village on account of the activities of the respondent. No report among the several reports placed before us in these proceedings says that Hindustan Zinc Limited is responsible for the pollution at Bichhri village. Shri Bhat brought to our notice certain reports stating that the discharges from Hindustan Zinc Limited were causing pollution in certain villages but they are all downstream, i.e., to the north of Bichhri village and we are not concerned with the pollution in those villages in these proceedings. The bringing in of Hindustan Zinc Limited in these proceedings is, therefore, not relevant. If necessary, the pollution, if any, caused by Hindustan Zinc Limited can be the subject-matter of a separate proceeding.

56. We may now deal with the contentions of Shri Bhat based upon the affidavit of

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RPCB dated 13-11-1992 which has been repeatedly and strongly relied upon by the learned counsel in support of his submission that the entire sludge has been properly stored by or at the expense of his clients. It is on the basis of this affidavit that Shri Bhat says that the subsequent reports submitted showing the existence of sludge within and outside their complex should not be accepted or acted upon. Let us turn to the affidavit of RPCB dated 13-11-1992 and see how far does it support Shri Bhat's contention. It is in para 2(*b*) that the sentence, strongly relied upon by Shri Bhat occurs, viz., "remaining work is likely to be completed by 15-11-1992". For a proper appreciation of the purport of the said sentence, it would be appropriate to read the entire para 2(*b*), which is to the following effect:

> "(*b*) that all the six tanks have been entombed with brick toppings. Roofing is complete on all tanks which have also been provided with proper outlets for the exit of gases which may form as a result of possible chemical reactions in the sludge mass. The tanks have also been

provided with reinforced concrete to prevent drooping of the roof. Remaining work is likely to be completed by 15-11-1992."

We find it difficult to read the said sentence as referring to the storage of the remaining about 1700 MT of sludge. When the storage of 720 MT itself took up all the six tanks provided by the respondent, where was the remaining 1700 tonnes stored? Except relying upon the said sentence repeatedly, Shri Bhat has not been able to tell us where this 1700 MT has been stored, whether in tanks and if so, who constructed the tanks and when and how were they covered and sealed. He is also not able to tell us on what dates the remaining sludge was stored. It is evident that the aforesaid sentence occurring in clause 2(*b*) refers to the proper sealing and completion of the said tanks wherein 720 MT of sludge was stored. If, in fact, the said 1700 MT has also been entombed, it was not difficult for the respondents to give the particulars of the said storage. We are, therefore, unable to agree with Shri Bhat that the subsequent reports which repeatedly and uniformly speak of the presence of sludge within and outside the complex of the respondents should not be accepted. It may be recalled that the report of the team of Central experts was submitted on 1-11-1993 based upon the inspection made by them in September/October 1993. To the same effect is the affidavit of RPCB dated 30-10-1993 and the further affidavit dated 1-12-1993. These reports together with the report of NEERI clearly establish that huge quantities of sludge were still lying around either in the form of mounds or placed in depressions, or spread over the contiguous areas and covered with local soil to conceal its existence. It is worth reiterating that the said sludge is only part of the pernicious discharges emanating from the manufacture of 'H' acid. The other part, which is unfortunately not visible now (except in its deleterious effects upon the soil and underground water) is the "mother liquor" produced in enormous quantities which has either flowed out or percolated into the soil.

57. So far as the responsibility of the respondents for causing the pollution in the wells, soil and the aquifers is concerned, it is clearly established by the analysis report referred to in the report of the Central experts' team dated 1-11-1993 (p. 1026 of Vol. II). Indeed, number of orders passed by this Court, referred to hereinbefore, are premised upon the finding that the respondents are responsible for the said pollution. It is only because of the said reason that they were asked to defray the cost of removal and storage of sludge. It is precisely for this reason that, at one stage, the respondents had also undertaken the de-watering of polluted wells. Disclaiming the

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Page 26 Wednesday, July 26, 2023
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responsibility for the pollution in and around Bichhri village, at this stage of proceedings, is clearly an afterthought. We accordingly hold and affirm that the respondents alone are responsible for all the damage to the soil, to the underground water and to Village Bichhri in general, damage which is eloquently portrayed in the several reports of the experts mentioned hereinabove. NEERI has worked out the cost for repairing the damage at more than Rupees forty crores. Now, the question is

whether and to what extent can the respondents be made responsible for defraying the cost of remedial measures in these proceedings under Article 32. Before we advert to this question, it may perhaps be appropriate to clarify that so far as removal of remaining sludge and/or the stoppage of discharge of further toxic wastes are concerned, it is the absolute responsibility of the respondents to store the sludge in a proper manner (in the same manner in which 720 MT of sludge has already been stored) and to stop the discharge of any other or further toxic wastes from its plants including Sulphuric Acid Plant and to ensure that the wastes discharged do not flow into or through the sludge. Now, turning to the question of liability, it would be appropriate to refer to a few decisions on the subject.

58. In *Oleum Gas Leak case*[2], a Constitution Bench discussed this question at length and held thus: (SCC pp. 420-21, paras 31-32)

> "We are of the view that an enterprise which is engaged in a hazardous or inherently dangerous industry which poses a potential threat to the health and safety of the persons working in the factory and residing in the surrounding areas owes an absolute and non-delegable duty to the community to ensure that no harm results to anyone on account of hazardous or inherently dangerous nature of the activity which it has undertaken. The enterprise must be held to be under an obligation to provide that the hazardous or inherently dangerous activity in which it is engaged must be conducted with the highest standards of safety and if any harm results on account of such activity, the enterprise must be absolutely liable to compensate for such harm and it should be no answer to the enterprise to say that it had taken all reasonable care and that the harm occurred without any negligence on its part. Since the persons harmed on account of the hazardous or inherently dangerous activity carried on by the enterprise would not be in a position to isolate the process of operation from the hazardous preparation of substance or any other related element that caused the harm the enterprise must be held strictly liable for causing such harm as a part of the social cost of carrying on the hazardous or inherently dangerous activity. If the enterprise is permitted to carry on an hazardous or inherently dangerous activity for its profit, the law must presume that such permission is conditional on the enterprise absorbing the cost of any accident arising on account of such hazardous or inherently dangerous activity as an appropriate item of its overheads. Such hazardous or inherently dangerous activity for private profit can be tolerated only on condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all those who suffer on account of the carrying on of such hazardous or inherently dangerous activity regardless of whether it is carried on carefully or not. … We would therefore hold that where an enterprise is engaged in a hazardous or inherently dangerous activity and harm results to anyone on account of an accident in the operation of such

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hazardous or inherently dangerous activity resulting, for example, in escape of toxic gas the enterprise is strictly and absolutely liable to compensate all those who are affected by the accident and such liability is not subject to any of the exceptions which operate vis-à-vis the tortious principle of strict liability under the rule in *Rylands* v. *Fletcher*[5].

> We would also like to point out that the measure of compensation in the kind of cases referred to in the preceding paragraph must be correlated to the magnitude and capacity of the enterprise because such compensation must have a deterrent effect. The larger and more prosperous the enterprise, the greater must be the amount of compensation payable by it for the harm caused on account of an accident in the carrying on of the hazardous or inherently dangerous activity by the enterprise."

59. Shri Bhat, however, points out that in the said decision, the question whether the industry concerned therein was a 'State' within the meaning of Article 12 and, therefore, subject to the discipline of Part III of the Constitution including Article 21 was left open and that no compensation as such was awarded by this Court to the affected persons. He relies upon the observations in the concurring opinion of Ranganath Misra, C.J., in *Union Carbide Corpn.*[4] The learned Chief Justice referred in the first instance, to the propositions enunciated in *Oleum Gas Leak case*[2] and then made the following observations in paras 14 and 15: (SCC pp. 607-08)

> "14. In *M.C. Mehta case*[2], no compensation was awarded as this Court could not reach the conclusion that Shriram (the delinquent company) came within the meaning of 'State' in Article 12 so as to be liable to the discipline of Article 21 and to be subjected to a proceeding under Article 32 of the Constitution. Thus what was said was essentially obiter.
>
> 15. The extracted part of the observations from *M.C. Mehta case*[2] perhaps is a good guideline for working out compensation in the cases to which the ratio is intended to apply. The statement of the law ex facie makes a departure from the accepted legal position in *Rylands* v. *Fletcher*[5]. We have not been shown any binding precedent from the American Supreme Court where the ratio of *M.C. Mehta decision*[2] has in terms been applied. In fact Bhagwati, C.J. clearly indicates in the judgment that his view is a departure from the law applicable to western countries."

60. The majority judgment delivered by M.N. Venkatachaliah, J. (on behalf of himself and two other learned Judges) has not expressed any opinion on this issue. We on our part find it difficult to say, with great respect to the learned Chief Justice, that the law declared in *Oleum Gas Leak case*[2] is obiter. It does not appear to be unnecessary for the purposes of that case. Having declared the law, the Constitution Bench directed the parties and other organisations to institute actions on the basis of the law so

declared.[**] Be that as it may, we are of the considered opinion that even if it is assumed (for the sake of argument) that this Court cannot award damages against the respondents in these proceedings that does not mean that the Court cannot direct the Central Government to determine and recover the cost of remedial measures from the respondents. Section 3 of the Environment (Protection) Act, 1986 expressly empowers the Central Government (or its delegate, as the case may be) to "*take all such measures as it deems necessary or expedient for the purpose of protecting and*

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improving the quality of environment…". Section 5 clothes the Central Government (or its delegate) with the power to issue directions for achieving the objects of the Act. Read with the wide definition of 'environment' in Section 2(*a*), Sections 3 and 5 clothe the Central Government with all such powers as are "necessary or expedient for the purpose of protecting and improving the quality of the environment". The Central Government is empowered to take all measures and issue all such directions as are called for for the above purpose. In the present case, the said powers will include giving directions for the removal of sludge, for undertaking remedial measures and also the power to impose the cost of remedial measures on the offending industry and utilise the amount so recovered for carrying out remedial measures. This Court can certainly give directions to the Central Government/its delegate to take all such measures, if in a given case this Court finds that such directions are warranted. We find that similar directions have been made in a recent decision of this Court in *Indian Council for Enviro-Legal Action*[3]. That was also a writ petition filed under Article 32 of the Constitution. Following is the direction:

> "It appears that the Pollution Control Board had identified as many as 22 industries responsible for the pollution caused by discharge of their effluents into Nakkavagu. They were responsible to compensate to farmers. It was the duty of the State Government to ensure that this amount was recovered from the industries and paid to the farmers."

It is, therefore, idle to contend that this Court cannot make appropriate directions for the purpose of ensuring remedial action. It is more a matter of form.

61. Shri K.N. Bhat submitted that the rule of absolute liability is not accepted in England or other Commonwealth countries and that the rule evolved by the House of Lords in *Rylands* v. *Fletcher*[5] is the correct rule to be applied in such matters. Firstly, in view of the binding decision of this Court in *Oleum Gas Leak case*[2], this contention is untenable, for the said decision expressly refers to the rule in *Rylands*[5] but refuses to apply it saying that it is not suited to the conditions in India. Even so, for the sake of completeness, we may discuss the rule in *Rylands*[5] and indicate why that rule is inappropriate and unacceptable in this country. The rule was first stated by Blackburn, J. (Court of Exchequer Chamber) in the following words: (All ER p. 7)

> "We think that the true rule of law is that the person who, for his own purposes, brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and, if he does not do so, he is prima facie answerable for all the damage which is the natural consequence of its escape. He can excuse himself by showing that the escape was owing to the plaintiff's default, or perhaps, that the escape was the consequence of vis major, or the act of God; … and it seems but reasonable and just that the neighbour who has brought something on his own property which was not naturally there, harmless to others so long as it is confined to his own property, but which he knows will be mischievous if it gets on his neighbour's, should be obliged to make good the damage which ensues if he does not succeed in confining it to his own property."

62. The House of Lords, however, added a rider to the above statement, viz., that the user by the defendant should be a "non-natural" user to attract the rule. In other words, if the user by the defendant is a natural user of the land, he would not be liable for damages. Thus, the twin tests — apart from the proof of damage to the plaintiff by

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the act/negligence of the defendants — which must be satisfied to attract this rule are 'foreseeability' and 'non-natural' user of the land.

63. The rule in *Rylands*[5] has been approved by the House of Lords in the recent decision in *Cambridge Water Co. Ltd.* v. *Eastern Counties Leather, plc*[6]. The plaintiff, Cambridge Water Company, was a statutory corporation engaged in providing public water supply within a certain area including the city of Cambridge. It was lifting water from a bore well situated at some distance from Sawstyn. The defendant-Company Eastern Leather, was having a tannery in Sawstyn. Tanning necessarily involves degreasing of pelts. For that purpose, the defendant was using an organo chlorine called PCE. PCE was stored in a tank in the premises of the defendant. The plaintiff's case was that on account of the PCE percolating into the ground, the water in its well became contaminated and unfit for human consumption

and that on that account it was obliged to find an alternative source at a substantial cost. It sued the defendant for the resulting damages. The plaintiff based his claim on three alternative grounds, viz., negligence, nuisance and the rule in *Rylands*[5]. The trial Judge (High Court) dismissed the action in negligence and nuisance holding that the defendant could not have reasonably foreseen that such damage could occur to the plaintiff. So far as the rule in *Rylands*[5] was concerned, the trial Judge held that the user by the defendant was not a non-natural user and hence, it was not liable for damages. On appeal, the Court of Appeal declined to decide the matter on the basis of the rule in *Rylands*[5]. It relied strongly upon the ratio in *Ballard* v. *Tomlinson*[7] holding that no person having a right to use a common source is entitled to contaminate that source so as to prevent his neighbour from having a full value of his right of appropriation. The Court of Appeal also opined that the defendant's use of the land was not a natural use. On appeal by the defendant, the House of Lords allowed the appeal holding that *foreseeability* of the harm of the relevant type by the defendant was a pre-requisite to the right to recover damages both under the heads of *nuisance* and also under the rule in *Rylands*[5] and since that was not established by the plaintiff, it has to fail. The House of Lords, no doubt, held that the defendant's use of the land was a non-natural use *but dismissed the suit*, as stated above, *on the ground that the plaintiff has failed to establish that pollution of their water supply by the solvent used by the defendant in his premises was in the circumstances of the case foreseeable by the defendant*.

64. The Australian High Court has, however, expressed its disinclination to treat the rule in *Rylands*[5] as an independent head for claiming damages or as a rule rooted in the law governing the law of nuisance in *Burnie Port Authority* v. *General Jones Pty Ltd.*[8] The respondent, General Jones Limited, had stored frozen vegetables in three cold storage rooms in the building owned by the appellant, Burnie Port Authority (Authority). The remaining building remained under the occupation of the Authority. The Authority wanted to extend the building. The extension work was partly done by the Authority itself and partly by an independent contractor (Wildridge and Sinclair Pty. Ltd.). For doing its work, the contractor used a certain insulating material called EPS, a highly inflammable substance. On account of negligent handling of EPS, there was a fire which inter alia damaged the rooms in which General Jones had stored its vegetables. On an action by General Jones, the Australian High Court held by a majority that the rule in *Rylands*[5] having attracted many difficulties, uncertainties, qualifications and exceptions, should now be seen, for the purposes of Australian Common Law, as absorbed by the principles of ordinary *negligence*. The Court held

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further that under the rules governing negligence, if a person in control of a premises, introduces a dangerous substance to carry on a dangerous activity, or allows another to do one of those things, owes a duty of reasonable care to

avoid a reasonably foreseeable risk of injury or damage to the person or property of another. In a case where a person or the property of that other is lawfully in a place outside the premises, the duty of care varies in degree according to the magnitude of the risk involved and extends to ensuring that such care is taken. Applying the said principle, the court held that the authority allowed the independent contractor to introduce or retain a dangerous substance or to engage in a dangerous activity in its premises which substance and activity caused a fire that destroyed the goods of General Jones. The evidence, the court held, established that the independent contractor's work was a dangerous activity in that it involved real and foreseeable risk of a serious conflagration unless special precautions were taken. In the circumstances, it was held that *the authority owed a non-delegable duty of care to General Jones to ensure that its contractor took reasonable steps to prevent the occurrence of a fire and the breach of that duty attracted liability pursuant to the ordinary principles of negligence for the damage sustained by the respondent*.

65. On a consideration of the two lines of thought (one adopted by the English courts and the other by the Australian High Court), we are of the opinion that any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country. We are convinced that the law stated by this Court in *Oleum Gas Leak case*[2] is by far the more appropriate one — apart from the fact that it is binding upon us. (We have disagreed with the view that the law stated in the said decision is *obiter*.) According to this rule, once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity *irrespective* of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on. In the words of the Constitution Bench, such an activity: (SCC p. 421, para 31)

> "... can be tolerated only on condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all those who suffer on account of the carrying on of such hazardous or inherently dangerous activity regardless of whether it is carried on carefully or not".

The Constitution Bench has also assigned the reason for stating the law in the said terms. It is that the enterprise (carrying on the hazardous or inherently dangerous activity) alone has the resource to discover and guard against hazards or dangers — and not the person affected *and* the practical difficulty (on the part of the affected person) in establishing the absence of reasonable care or that the damage to him was foreseeable by the enterprise.

66. Once the law in *Oleum Gas Leak case*[2] is held to be the law applicable, it follows, in the light of our findings recorded hereinbefore, that Respondents 4 to 8 are absolutely liable to compensate for the harm caused by them to the villagers in the affected area, to the soil and to the underground water and hence, they are bound to take all necessary measures to remove the sludge and other pollutants lying in the affected area (by affected area, we mean the area of about 350 ha indicated in the sketch at

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Page: 247

p. 178 of NEERI report) and also to defray the cost of the remedial measures required to restore the soil and the underground water sources. Sections 3 and 4 of Environment (Protection) Act confers upon the Central Government the power to give directions of the above nature and to the above effect. Levy of costs required for carrying out remedial measures is implicit in Sections 3 and 4 which are couched in very wide and expansive language. Appropriate directions can be given by this Court to the Central Government to invoke and exercise those powers with such modulations as are called for in the facts and circumstances of this case.

67. The question of liability of the respondents to defray the costs of remedial measures can also be looked into from another angle, which has now come to be accepted universally as a sound principle, viz., the "Polluter Pays" principle.[9]

> "The Polluter Pays principle demands that the financial costs of preventing or remedying damage caused by pollution should lie with the undertakings which cause the pollution, or produce the goods which cause the pollution. Under the principle it is not the role of Government to meet the costs involved in either prevention of such damage, or in carrying out remedial action, because the effect of this would be to shift the financial burden of the pollution incident to the taxpayer. The 'Polluter Pays' principle was promoted by the Organisation for Economic Cooperation and Development (OECD) during the 1970s when there was great public interest in environmental issues. During this time there were demands on Government and other institutions to introduce policies and mechanisms for the protection of the environment and the public from the threats posed by pollution in a modern industrialised society. Since then there has been considerable discussion of the nature of the Polluter Pays principle, but the precise scope of the principle and its implications for those involved in past, or potentially polluting activities have never been satisfactorily agreed.
>
> Despite the difficulties inherent in defining the principle, the European Community accepted it as a fundamental part of its strategy on environmental matters, and it has been one of the underlying principles of the four Community Action Programmes on the Environment. The current Fourth Action Programme [(1987) OJC 328/1] makes it clear that 'the cost of preventing and eliminating nuisances must in principle be borne by the polluter', and the Polluter Pays principle has now been incorporated into the European Community Treaty as part of the new articles on the environment which were introduced by the Single European Act of 1986. Article 130-R(2) of the Treaty states that environmental considerations are to play a part in all the policies of the community, and that action is to be based on three principles: the need

Page: 248

for preventive action; the need for environmental damage to be rectified at source; and that the polluter should pay."

Thus, according to this principle, the responsibility for repairing the damage is that of the offending industry. Sections 3 and 5 empower the Central Government to give directions and take measures for giving effect to this principle. In all the circumstances of the case, we think it appropriate that the task of determining the amount required for carrying out the remedial measures, its recovery/realisation and

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the task of undertaking the remedial measures is placed upon the Central Government in the light of the provisions of the Environment (Protection) Act, 1986. It is, of course, open to the Central Government to take the help and assistance of State Government, RPCB or such other agency or authority, as they think fit.

68. The next question is what is the amount required for carrying out the necessary remedial measures to repair the damage and to restore the water and soil to the condition it was in before the respondents commenced their operations. The report of NEERI has worked out the cost at more than Rupees forty crores. The estimate of cost of remedial measures is, however, not a technical matter within the expertise of NEERI officials. Moreover, the estimate was made in the year 1994. Two years have passed by since then. Situation, if at all, must have deteriorated further on account of the presence of — and dispersal of the sludge — in and around the complex of the respondents by them. They have been discharging other toxic effluents from their other plants, as reported by NEERI and the Central team. It is but appropriate that an estimate of the cost of remedial measures be made now with notice to the respondents, which amount should be paid to Central Government and/or recovered from them by the Central Government. Other directions are also called for in the light of the facts and circumstances mentioned above.

Conclusions

69. From the affidavits of the parties, orders of this Court, technical reports and other data, referred to above (even keeping aside the latest report of the RPCB), the following facts emerge:

(I) Silver Chemicals (R-5) and Jyoti Chemicals (R-8) had manufactured about 375 MT of 'H' acid during the years 1988-89. This had given rise to about 8250 m^3 of waste water and 2440 tonnes of sludge (both iron-based and gypsum-based). The waste water had partly percolated into the earth in and around Bichhri and part of it had flowed out. Out of 2440 tonnes of sludge, about 720 tonnes has been stored in the pits provided by the respondents. The remaining sludge is still there either within the area of the complex of the respondents or outside their complex. With a view to conceal it from the eyes of the inspection teams and other authorities, the respondents have dispersed it all over the area and covered it with earth. In some places, the sludge is lying in mounds. The story of entombing the entire quantity of sludge is untrue.

The units manufacturing 'H' acid — indeed most of the units of the respondents — had started functioning, i.e., started manufacturing

various chemicals without obtaining requisite clearances/consents/licences. They did not instal any equipment for treatment of highly toxic effluents discharged by them. They continued to function even after and in spite of the closure orders of the RPCB. They never did carry out the orders of this Court fully, (e.g., entombing the sludge) nor did they fulfil the undertaking given by them to the court (in the matter of removal of sludge and de-watering of the wells). In spite of repeated reports of officials and expert bodies, they persisted in their illegal course of action in a brazen manner, which exhibits their contempt for law, for the lawful authorities and the courts.

(II) That even after the closure of 'H' acid plant, the fourth respondent had not taken adequate measures for treating the highly toxic waste water and other wastes emanating from the Sulphuric Acid Plant. The untreated highly toxic waste water

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was found — by NEERI as well as the Central team — flowing through the dumps of iron/gypsum sludge creating a highly potent mix. The letter of the fourth respondent dated 13-1-1996, shows that the Sulphuric Acid Plant was working till 10-11-1995. An assertion is made before us that permanent ETP has also been constructed for the Sulphuric Acid Plant in addition to the temporary tank which was constructed under the orders of this Court. We express no opinion on this assertion, which even if true, is valid only for the period subsequent to April 1994.

(III) The damage caused by the untreated highly toxic wastes resulting from the production of 'H' acid — and the continued discharge of highly toxic effluent from the Sulphuric Acid Plant, flowing through the sludge (H-acid waste) — is indescribable. It has inflicted untold misery upon the villagers and long lasting damage to the soil, to the underground water and to the environment of that area in general. The report of NEERI contains a sketch, at p. 178, showing the area that has been adversely affected by the production of 'H' acid by the respondents. The area has been divided into three zones on the basis of the extent of contamination. A total area of 350 ha has become seriously contaminated. The water in the wells in that area is not fit for consumption either by human beings or cattle. It has seriously affected the productivity of the land. According to NEERI report, Rupees forty crores is required for repairing the damage caused to men, land, water and the flora.

(IV) This court has repeatedly found and has recorded in its orders that it is the respondents who have caused the said damage. The analysis reports obtained pursuant to the directions of the court clearly establish that the pollution of the wells is on account of the wastes discharged by Respondents 4 to 8, i.e., production of 'H' acid. The report of the environment experts dated 1-11-1993 has already been referred to hereinbefore. Indeed, several orders of this Court referred to *supra* are also based upon the said finding.

(V) Sections 3 and 5 of the Environment (Protection) Act, 1986, apart from other provisions of Water and Air Acts, empower the Government to make all such directions and take all such measures as are necessary or expedient for protecting and promoting the 'environment', which expression has been defined in very wide and expansive terms in Section 2(*a*) of the Environment (Protection) Act. This power includes the power to prohibit an activity, close an industry, direct and/or carry out remedial measures, and wherever necessary impose the cost of remedial measures upon the offending industry. The principle "Polluter Pays" has gained almost universal recognition, apart from the fact that it is stated in absolute terms in *Oleum Gas Leak case*[2]. The law declared in the said decision is the law governing this case.

Directions

70. Accordingly, the following directions are made:

1. The Central Government shall determine the amount required for carrying out the remedial measures including the removal of sludge lying in and around the complex of Respondents 4 to 8, in the area affected in Village Bichhri and other adjacent villages, on account of the production of 'H' acid and the discharges from the Sulphuric Acid Plant of Respondents 4 to 8. Chapters VI and VII in NEERI report (submitted in 1994) shall be deemed to be the show-cause notice issued by

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Page 34 Wednesday, July 26, 2023
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the Central Government proposing the determination of the said amount. Within six weeks from this day, Respondents 4 to 8 shall submit their explanation, along with such material as they think appropriate in support of their case, to the Secretary, Ministry of Environment and Forests, Government of India, (MEF). The Secretary shall thereupon determine the amount in consultation with the experts of his Ministry within six weeks of the submission of the explanation by the said respondents. The orders passed by the Secretary, (MEF) shall be communicated to Respondents 4 to 8 — and all concerned — and shall also be placed before this Court. Subject to the orders, if any, passed by this Court, the said amount shall represent the amount which Respondents 4 to 8 are liable to pay to improve and restore the environment in the area. For the purpose of these proceedings, the Secretary, (MEF) and Respondents 4 to 8 shall proceed on the assumption that the affected area is 350 ha, as indicated in the sketch at p. 178 of NEERI report. In case of failure of the said respondents to pay the said amount, the same shall be recovered by the Central Government in accordance with law. The factories, plant, machinery and all other immovable assets of Respondents 4 to 8 are attached herewith. The amount so determined and recovered shall be utilised by the MEF for carrying out all necessary remedial measures to restore the soil, water sources and the environment in general of the affected area to its former state.

2. On account of their continuous, persistent and insolent violations of law, their attempts to conceal the sludge, their discharge of toxic

effluents from the Sulphuric Acid Plant which was allowed to flow through the sludge, and their non-implementation of the orders of this Court — all of which are fully borne out by the Expert Committee's reports and the findings recorded hereinabove — Respondents 4 to 8 have earned the dubious distinction of being characterised as "rogue industries". They have inflicted untold misery upon the poor, unsuspecting villagers, de-spoiling their land, their water sources and their entire environment — all in pursuance of their private profit. They have forfeited all claims for any consideration by this Court. Accordingly, we herewith order the closure of all the plants and factories of Respondents 4 to 8 located in Bichhri village. The RPCB is directed to seal all the factories/units/plants of the said respondents forthwith. So far as the Sulphuric Acid Plant is concerned, it will be closed at the end of one week from today, within which period Respondent 4 shall wind down its operations so as to avoid risk of any untoward consequences, as asserted by Respondent 4 in Writ Petition (C) No. 76 of 1994. It is the responsibility of Respondent 4 to take necessary steps in this behalf. The RPCB shall seal this unit too at the end of one week from today. The reopening of these plants shall depend upon their compliance with the directions made and obtaining of *all* requisite permissions and consents from the relevant authorities. Respondents 4 to 8 can apply for directions in this behalf after such compliance.

3. So far as the claim for damages for the loss suffered by the villagers in the affected area is concerned, it is open to them or any organisation on their behalf to institute suits in the appropriate civil court. If they file the suit or suits in *forma pauperis*, the State of Rajasthan shall not oppose their applications for leave to sue in *forma pauperis*.

4. The Central Government shall consider whether it would not be appropriate, in the light of the experience gained, that chemical industries are treated as a category apart. Since the chemical industries are the main culprits in the matter of polluting the environment, there is every need for scrutinising their establishment

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and functioning more rigorously. No distinction should be made in this behalf as between a large-scale industry and a small-scale industry or for that matter between a large-scale industry and a medium-scale industry. All chemical industries, whether big or small, should be allowed to be established only after taking into consideration all the environmental aspects and their functioning should be monitored closely to ensure that they do not pollute the environment around them. It appears that most of these industries are water-intensive industries. If so, the advisability of allowing the establishment of these industries in arid areas may also require examination. Even the existing chemical industries may be subjected to such a study and if it is found on such scrutiny that it is necessary to take any steps in the interests of environment, appropriate directions in that behalf may be issued under Sections 3 and 5 of the

Environment Act. The Central Government shall ensure that the directions given by it are implemented forthwith.

5. The Central Government and the RPCB shall file quarterly reports before this Court with respect to the progress in the implementation of Directions 1 to 4 aforesaid.

6. The suggestion for establishment of environment courts is a commendable one. The experience shows that the prosecutions launched in ordinary criminal courts under the provisions of the Water Act, Air Act and Environment Act never reach their conclusion either because of the workload in those courts or because there is no proper appreciation of the significance of the environment matters on the part of those in charge of conducting of those cases. Moreover, any orders passed by the authorities under Water and Air Acts and the Environment Act are immediately questioned by the industries in courts. Those proceedings take years and years to reach conclusion. Very often, interim orders are granted meanwhile which effectively disable the authorities from ensuring the implementation of their orders. All this points to the need for creating environment courts which alone should be empowered to deal with all matters, civil and criminal, relating to environment. These courts should be manned by legally trained persons/judicial officers and should be allowed to adopt summary procedures. This issue, no doubt, requires to be studied and examined in depth from all angles before taking any action.

7. The Central Government may also consider the advisability of strengthening the environment protection machinery both at the Centre and the States and provide them more teeth. The heads of several units and agencies should be made personally accountable for any lapses and/or negligence on the part of their units and agencies. The idea of an environmental audit by specialist bodies created on a permanent basis with power to inspect, check and take necessary action not only against erring industries but also against erring officers may be considered. The idea of an environmental audit conducted periodically and certified annually, by specialists in the field, duly recognised, can also be considered. The ultimate idea is to integrate and balance the concern for environment with the need for industrialisation and technological progress.

71. Respondents 4 to 8 shall pay a sum of Rupees fifty thousand by way of costs to the petitioner which had to fight this litigation over a period of over six years with its own means. Voluntary bodies, like the petitioner, deserve encouragement wherever their actions are found to be in furtherance of public interest. The said sum shall be

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Page 36 Wednesday, July 26, 2023
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deposited in this Court within two weeks from today. It shall be paid over to the petitioner.

72. Writ Petition (C) No. 967 of 1989 is allowed with the above directions with costs as specified hereinabove.

Writ Petition (C) No. 76 of 1994

73. In view of the decision in Writ Petition (C) No. 967 of 1989, the writ petition is dismissed.

74. No costs.

Writ Petition (C) No. 94 of 1990

75. In view of the decision in Writ Petition (C) No. 967 of 1989, no separate orders are necessary in this petition. The writ petition is accordingly dismissed.

76. No costs.

Writ Petition (C) No. 824 of 1993

77. In view of the decision in Writ Petition (C) No. 967 of 1989, no separate orders are necessary in this petition. The writ petition is accordingly dismissed.

78. No costs.

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† Under Article 32 of the Constitution of India

[1] (1995) 2 GLR 1210 : (1995) 2 GLH 352

[2] *M.C. Mehta* v. *Union of India*, (1987) 1 SCC 395 : 1987 SCC (L&S) 37

[3] (1995) 3 SCC 77 : (1995) 5 Scale 578

[4] (1991) 4 SCC 584

[5] (1868) LR 3 HL 330 : (1861-73) All ER Rep 1

** A distinction between the *Oleum Gas Leak case* and the present case may be noticed. That was not a case where the industry was established or was being operated contrary to law as in the present case. That was also not a case where the orders of lawful authorities and courts were violated with impunity as in this case. In this case, there is a clear violation of law and disobedience to the orders of this Court apart from the orders of the lawful authorities. The facts stated above and findings recorded by us hereinafter bear it out. This Court has to ensure the observance of law and of its orders as a part of enforcement of fundamental rights. That power cannot be disputed. If so, a question may arise why is this Court not competent to make orders necessary for a full and effective implementation of its orders — and that includes the imposition and recovery of cost of all measures including remedial measures. Above all, the Central Government has the power under the provisions of Sections 3 and 5 of the Environment (Protection) Act, 1986 to levy and recover the cost of remedial measures — as we shall presently point out. If the Central Government omits to do that duty, this Court can certainly issue appropriate directions to it to take necessary measures. Is it not open to the court, in an appropriate situation, to award damages against private parties as part of relief granted against public authorities. This is a question upon which we do not wish to express any opinion in the absence of a full debate at the Bar.

[6] (1994) 2 WLR 53 : (1994) 1 All ER 53

[7] (1885) 29 Ch D 115 : (1881-5) All ER Rep 688

[8] (1994) 68 Aus LJ 331

[9] (Historic Pollution — Does the Polluter Pay? by Carolyn Shelbourn — Journal of Planning and Environmental Law, Aug. 1974 issue.)

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(1996) 5 Supreme Court Cases 647

(BEFORE KULDIP SINGH, FAIZAN UDDIN AND K. VENKATASWAMI, JJ.)

VELLORE CITIZENS' WELFARE FORUM . . Petitioner;

Versus

UNION OF INDIA AND OTHERS . . Respondents.

Writ Petition (C) No. 914 of 1991[†], decided on August 28, 1996

A. Constitution of India — Arts. 32, 21, 47, 48-A, 51-A(g) — Environmental pollution by tannery industries — While the industries are vital for country's development, but having regard to pollution caused by them, principle of Sustainable Development has to be adopted as a balancing concept — Precautionary Principle and Polluter Pays Principle acceptable as part of the law of the country and should be implemented — Precautionary environmental measures should be taken by State Govt. and statutory authorities and lack of scientific certainty cannot be a ground for postponing such measures where there are serious threats to ecology — Onus on polluter industries to prove that their actions were environmentally benign — Polluter industries liable to pay compensation to individuals affected as well as to make good the ecological damage — Discharge of untreated effluent by tanneries in State of T.N. rendering river water unfit for human consumption, contaminating the subsoil water and spoiling the physico-chemical properties of the soil making it unfit for agricultural purposes — Held, such industries cannot be permitted to continue their operation unless they set up pollution control devices — Such industries liable to compensate for the past pollution generated by them — Pollution fine of Rs 10,000 imposed on each tannery — Amount to be deposited in Environment Protection Fund which shall be utilised for compensating the affected persons and restoring the ecological balance — Environment (Protection) Act, 1986 — Ecology — Damage to — Compensation

B. Ecology — Environment (Protection) Act, 1986 — S. 3(3) — Authority under — Directed to be constituted by Central Govt. before 30-9-1996 — Authority to be headed by a retired High Court Judge — Authority to have all powers necessary to deal with the situation created by the polluting industries — Authority also to implement the Precautionary Principle and the principle of Polluter Pays — Authority to compute compensation payable by the polluting industries to individuals affected and that payable for restoring the damage it caused to the environment — Authority also to frame a scheme in consultation with expert bodies like NEERI, Central Board and State Board for reversing the ecological damage and environmental pollution

C. Constitution of India — Arts. 32, 226 & 21 — PIL — Ecology — Green Bench — Environmental pollution caused by tanneries in State of T.N. — Suitable directions issued by Supreme Court — However, instead of itself monitoring the matter any further Madras High Court advised to constitute a Green Bench to deal with all the environmental matters — Such Green Benches already functioning in some other High Courts

D. International Law — Customary international law — If not contrary to the municipal law, deemed to be incorporated in domestic law

E. Judicial activism — Inaction on the part of the Govt. to set up regulatory/adjudicatory statutory authorities as directed by the Act makes it imperative for the Court to pass suitable necessary directions

Page: 648

Held :

Though the leather industry is of vital importance to the country as it generates foreign exchange

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and provides employment avenues it has no right to destroy the ecology, degrade the environment and pose as a health-hazard. It cannot be permitted to expand or even to continue with the present production unless it tackles by itself the problem of pollution created by the said industry.

(Para 9)

The traditional concept that development and ecology are opposed to each other is no longer acceptable. "Sustainable Development" is the answer. In the international sphere, "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.

(Para 10)

"The Precautionary Principle" and "the Polluter Pays Principle" are essential features of "Sustainable Development". The "Precautionary Principle" — in the context of the municipal law — means:

(i) Environmental measures — by the State Government and the statutory authorities — must anticipate, prevent and attack the causes of environmental degradation.

(ii) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.

"The Polluter Pays Principle" has been held to be a sound principle. The "Polluter Pays Principle" as interpreted by the Supreme Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of "Sustainable Development" and as such the polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology. Apart from the constitutional mandate to protect and improve the environment there are plenty of post-independence legislations on the subject. In view of the constitutional and statutory provisions it must be held that the Precautionary Principle and the Polluter Pays Principle are part of the environmental law of the country.

(Paras 11 to 14)

Indian Council for Enviro-Legal Action v. *Union of India*, (1996) 3 SCC 212 : JT (1996) 2 SC 196, *relied on*

Even otherwise, once these principles are accepted as part of the customary international law there would be no difficulty in accepting them as part of the domestic law. The rules of customary international law which are not contrary to the municipal law shall be deemed to have been incorporated in the domestic law and shall be followed by the courts of law.

(Para 15)

A.D.M. v. *Shivakant Shukla*, (1976) 2 SCC 521 : AIR 1976 SC 1207; *Jolly George Varghese* v. *Bank of Cochin*, (1980) 2 SCC 360 : AIR 1980 SC 470; *Gramophone Co. of India Ltd.* v. *Birendra Bahadur Pandey*, (1984) 2 SCC 534 : 1984 SCC (Cri) 313 : AIR 1984 SC 667, *relied on*

The constitutional and statutory provisions protect a person's right to fresh air, clean water and pollution-free environment, but the source of the right is the

inalienable common law right of clean environment. Our legal system having been founded on the British common law the right of a person to a pollution-free environment is a part of the basic jurisprudence of the land.

(Paras 16 and 17)

Commentaries on the Laws of England of Sir William Blackstone Vol. III, Fourth Edn. published in 1876. Chapter XIII, *relied on*

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The Environment Act contains useful provisions for controlling pollution. The main purpose of the Act is to create an authority or authorities under Section 3(3) of the Act with adequate powers to control pollution and protect the environment. It is a pity that till date no authority has been constituted by the Central Government. The work which is requiredy to be done by an authority in terms of Section 3(3) read with other provisions of the Act is being done by the Supreme Court and the other courts in the country. It is high time that the Central Government realises its responsibility and statutory duty to protect the degrading environment in the country. If the conditions in the five districts of Tamil Nadu, where tanneries are operating, are permitted to continue then in the near future all rivers/canals shall be polluted, underground waters contaminated, agricultural lands turned barren and the residents of the area exposed to serious diseases. It is, therefore, necessary for the Supreme Court to direct the Central Government to take immediate action under the provisions of the Environment Act.

(Para 20)

There are more than 900 tanneries operating in the five districts of Tamil Nadu. Some of them may, by now, have installed the necessary pollution control measures; they have been polluting the environment for over a decade and in some cases even for a longer period. The Supreme Court has in various orders indicated that these tanneries are liable to pay pollution fine. The polluters must compensate the affected persons and also pay the cost of restoring the damaged ecology.

(Para 21)

The Board has the power under the Environment Act and the Rules to lay down standards for emissions or discharge of environmental pollutants. Rule 3(2) of the Rules even permits the Board to specify more stringent standards from those provided under the Rules. The NEERI having justified the standards stipulated by the Board, it is directed that these standards are to be maintained by the tanneries and other industries in the State of Tamil Nadu.

(Para 24)

[Keeping in view the above position the Supreme Court gave specific directions in para 25.]

However, it is not necessary for the Supreme Court to monitor these mattes any further. The Madras High Court would be in a better position to monitor these matters hereinafter. Therefore, the Chief Justice of the Madras High Court is directed to constitute a Special Bench — "Green Bench" — to deal with this case and other environmental matters. However, it would be open to the Bench to pass any appropriate order/orders keeping in view the directions issued by "Green Benches" already functioning in Calcutta, Madhya Pradesh and some other High Courts.

(Para 26)

R-M/T/16616/C

Advocates who appeared in this case:

R. Mohan, V.A. Bobde, Kapil Sibal, M.R. Sharma, V.C. Mahajan and S.S. Ray, Senior Advocates (K.R.R. Pillai, M.C. Mehta, Ms Seema Midha, V.G. Pragasam, Vijay Panjwani, S. Sukumaran, Sudhir Walia, A.T.M. Sampath, M.S. Dahiya, Sudhir Walia, Roy Abraham, Sm. Baby Krishna, P. Sukumar, Praveen Kumar, Romesh C. Pathak, M.A. Krishnamoorthy, V. Krishnamurthi, Ms Anil Katiyar, Ms Indra Sawhney, Deepak Divan, S.M. Jadhav, A.V. Rangam, Zafarullah Khan, Shahid Rizvi, Shakil Ahmed Syed, Jaideep Gupta and Sanjay Hegde, Advocates, with them) for the appearing parties.

Chronological list of cases cited ***on page(s)***

1. (1996) 3 SCC 212 : JT (1996) 2 SC 196, *Indian Council for Enviro-Legal Action* v. *Union of India* 658*g-h*

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2. (1984) 2 SCC 534 : 1984 SCC (Cri) 313 : AIR 1984 SC 667, *Gramophone Co. of India Ltd.* v. *Birendra Bahadur Pandey* 660*e*

3. (1980) 2 SCC 360 : AIR 1980 SC 470, *Jolly George Varghese* v. *Bank of Cochin* 660*d-e*

4. (1976) 2 SCC 521 : AIR 1976 SC 1207, *A.D.M.* v. *Shivakant Shukla* 660*d-e*

The Judgment of the Court was delivered by

KULDIP SINGH, J.— This petition — public interest — under Article 32 of the Constitution of India has been filed by Vellore Citizens' Welfare Forum and is directed against the pollution which is being caused by enormous discharge of untreated effluent by the tanneries and other industries in the State of Tamil Nadu. It is stated that the tanneries are discharging untreated effluent into agricultural fields, roadsides, waterways and open lands. The untreated effluent is finally discharged in River Palar which is the main source of water supply to the residents of the area. According to the petitioner the entire surface and subsoil water of River Palar has been polluted resulting in non-availability of potable water to the residents of the area. It is stated that the tanneries in the State of Tamil Nadu have caused environmental degradation in the area. According to the preliminary survey made by the Tamil Nadu Agricultural University Research Centre, Vellore nearly 35,000 hectares of agricultural land in the tanneries belt has become either partially or totally unfit for cultivation. It has been further stated in the petition that the tanneries use about 170 types of chemicals in the chrome tanning processes. The said chemicals include sodium chloride, lime, sodium sulphate, chlorium (*sic*) sulphate, fat, liquor, ammonia and sulphuric acid besides dyes which are used in large quantities. Nearly 35 litres of water is used for processing one kilogram of finished leather, resulting in dangerously enormous quantities of toxic effluents being let out in the open by the tanning industry. These effluents have spoiled the physico-chemical properties of the soil and have contaminated groundwater by percolation. According to the petitioner an independent survey conducted by Peace Members, a non-governmental organisation, covering 13 villages of Dindigul and Peddiar Chatram Anchayat Unions, reveals that 350 wells out of total of 467 used for drinking and irrigation purposes have been polluted. Women and children have to walk miles to get drinking water. Legal Aid and Advice Board of Tamil Nadu requested two lawyers namely, M.R. Ramanan and P.S. Subramanium to visit the area and submit a report indicating the extent of pollution caused by the tanneries. Relevant part of the report is as under:

> "As per the Technical Report dated 28-5-1983 of the hydrological investigations carried out in Solur village near Ambur it was noticed that 176 chemicals including acids were contained in the tannery effluents. If 40 litres of water with chemicals are required for one kilo of leather, with the production of 200 tons of leather per day at present and likely to

be increased multifold in the next four to five years with the springing up of more tanneries like mushroom in and around Ambur town, the magnitude of the effluent water used with chemicals and acids let out daily can be shockingly imagined. … The effluents are let out from the tanneries in the nearby lands, then to Goodar and Palar

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rivers. The lands, the rivulet and the river receive the effluents containing toxic chemicals and acids. The subsoil water is polluted ultimately affecting not only arable lands, wells used for agriculture but also drinking-water wells. The entire Ambur town and the villages situated nearby do not have good drinking water. Some of the influential and rich people are able to get drinking water from a far-off place connected by a few pipes. During rainy days and floods, the chemicals deposited into the rivers and lands spread out quickly to other lands. The effluents thus let out affect cultivation; either crops do not come up at all or if produced the yield is reduced abnormally too low. … The tanners have come to stay. The industry is a foreign exchange earner. But one moot point is whether at the cost of the lives of lakhs of people with increasing human population the activities of the tanneries should be encouraged on monetary considerations. We find that the tanners have absolutely no regard for the healthy environment in and around their tanneries. The effluents discharged have been stored like a pond openly in most of the places adjacent to cultivable lands with easy access for the animals and the people. The Ambur Municipality, which can exercise its powers as per the provisions of the Madras District Municipalities Act, 1920 (5 of 1920) more particularly under Sections 226 to 231, 249 to 253 and 338 to 342 seems to be a silent spectator. Probably it does not want to antagonise the highly influential and stupendously rich tanners. The powers given under Section 63 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) have not been exercised in the case of tanneries in Ambur and the surrounding areas."

2. Along with the affidavit dated 21-7-1992 filed by Deputy Secretary to Government, Environment and Forests Department of Tamil Nadu, a list of villages affected by the tanneries has been attached. The list mentions 59 villages in the three divisions of Thirupathur, Vellore and Ranipet. There is acute shortage of drinking water in these 59 villages and as such alternative arrangements were being made by the Government for the supply of drinking water.

3. In the affidavit dated 9-1-1992 filed by Member Secretary, Tamil Nadu Pollution Control Board (the Board), it has been stated as under:

> "It is submitted that there are 584 tanneries in North Arcot Ambedkar District vide Annexures 'A' and 'D', out of which 443 tanneries have applied for consent of the Board. The Government were concerned with the treatment and disposal of effluent from tanneries. The Government gave time up to 31-7-1985 to tanneries to put up Effluent Treatment Plant (ETP). So far 33 tanneries in North Arcot

Ambedkar District have put up Effluent Treatment Plants. The Board has stipulated standards for the effluent to be disposed of by the tanneries."

4. The affidavits filed on behalf of the State of Tamil Nadu and the Board clearly indicate that the tanneries and other polluting industries in the State of Tamil Nadu are being persuaded for the last about 10 years to control the pollution generated by them. They were given option either to construct common effluent treatment plants for a cluster of industries or to set up individual pollution control devices. The Central Government agreed to give substantial subsidy for the construction of Common Effluent Treatment Plants (CETPs). It is a pity that till date most of the tanneries operating in the State of Tamil Nadu have not taken any step to control the pollution caused by the discharge of effluent. This Court on 1-5-1995 passed a detailed order. In the said order this Court noticed various earlier orders passed by this Court and

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finally directed as under:

"Mr R. Mohan, the learned Senior Counsel for the Tamil Nadu Pollution Control Board, has placed before us a consolidated statement dividing the 553 industries into three parts. The first part in Statement 1 and the second part in Statement 2 relate to those tanneries who have set up the Effluent Treatment Plants either individually or collectively to the satisfaction of the Tamil Nadu Pollution Control Board. According to the report placed on the record by the Board, these industries in Statements 1 and 2 have not achieved the standard or have not started functioning to the satisfaction of the Board. So far as the industries in Statements 1 and 2 are concerned, we give them three months' notice from today to complete the setting up of Effluent Treatment Plant (either individually or collectively) failing which they shall be liable to pollution fine on the basis of their past working and also liable to be closed. We direct the Tamil Nadu Pollution Control Board to issue individual notices to all these industries within two weeks from today. The Board is also directed to issue a general notice on three consecutive days in a local newspaper which has circulation in the district concerned.

So far as the 57 tanneries listed in Statement III (including 12 industries who have filed writ petition, numbers of which have been given above) are concerned, these units have not installed and commissioned the Effluent Treatment Plants despite various orders issued by this Court from time to time. Mr R. Mohan, the learned Senior Counsel appearing for Tamil Nadu Pollution Control Board, states that the Board has issued separate notices to these units directing them to set up the Effluent Treatment Plants. Keeping in view the fact that this Court has been monitoring the matter for the last about four years and various orders have been issued by this Court from time to time, there is no justification to grant any further time to these industries. We, therefore, direct the 57 industries listed hereunder to be closed with immediate effect. … We direct the District Collector and the Senior Superintendent of Police of the district to have our orders complied with

Page: 653

immediately. Both these officers shall file a report in this Court within one week of the receipt of the order.

We give opportunity to these 57 industries to approach this Court as and when any steps towards the setting up of Effluent Treatment Plants and their commissioning have been taken by these industries. If any of the industries wish to be relocated to some other area, they may come out with a proposal in that respect."

5. On 28-7-1995 this Court suspended the closure order in respect of seven industries mentioned therein for a period of eight weeks. It was further observed as under:

"Mr G. Ramaswamy, the learned Senior Advocate appearing for some of the tanneries in Madras, states that the setting up of the Effluent Treatment Plants is progressing satisfactorily. According to him several lakhs have already been spent and in a short time it would start operating. Mr Mohan, the learned counsel for the Tamil Nadu Pollution Control Board, states that the team of the Board will inspect the project and file a report by 3-8-1995."

6. This Court on 8-9-1995 passed the following order:

"The Tamil Nadu Pollution Control Board has filed its report. List No. I relates to about 299 industries. It is stated by Mr G. Ramaswamy, Mr Kapil Sibal and Mr G.L.

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Sanghi, the learned Senior Advocates appearing for these industries, that the setting up of the projects is in progress. According to the learned counsel Tamil Nadu Leather Development Corporation (TALCO) is in charge of the project. The learned counsel state that the project shall be completed in every respect within 3 months from today. The details of these industries and the projects undertaken by TALCO as per List No. I are as under. … We are of the view that it would be in the interest of justice to give a little more time to these industries to complete the project. Although the industries have asked for three months' time, we give them time till 31-12-1995. We make it clear that in case the projects are not completed by that time, the industries shall be liable to be closed forthwith. Apart from that, these industries shall also be liable to pollution fine for the past period during which they had been operating.

We also take this opportunity to direct TALCO to take full interest in these projects and have the projects completed within the time granted by us.

Mr Kapil Sibal, the learned counsel appearing for the tanneries, stated that Council for Indian Finished Leather Manufacturers' Export Association is a body which is collecting 5 per cent on all exports. This body also helps the tanneries in various respects. We issue notice to the Association to be present in this Court and assist this Court in all the matters pertaining to the leather tanneries in Madras. Mr Sampath takes notice.

Page: 654

So far as List No. II is concerned, it relates to about 163 tanneries (except M/s Vibgyor Tanners & Co., Kailasagiri Road, Mittalam-635 811, Ambur (via). The Pollution Control Board has inspected all these tanneries and placed its report before us. According to the report most of these tanneries have not even started primary work at the spot. Some of them have not even located the land. The tanneries should have themselves set up the pollution control devices right at the time when they started working. They have not done so. They are not even listening to various orders passed by this Court from time to time during the last more than 2 years. It is on the record that these tanneries are polluting the area. Even the water around the area where they are operating is not worth drinking. We give no further time to these tanneries. We direct all the following tanneries which are numbering about 162 to be closed with immediate effect."

It may be mentioned that this Court suspended the closure orders in respect of various industries from time to time to enable the said industries to install the pollution control devices.

7. This Court by the order dated 20-10-1995 directed the National Environmental Engineering Research Institute, Nagpur (NEERI) to send a team of experts to examine, in particular, the feasibility of setting up of CETPs for cluster of tanneries situated at different places in the State of Tamil Nadu where the work of setting up of the CETPs has not started and also to inspect the existing CETPs including those where construction work was in progress. NEERI submitted its first report on 9-12-1995 and the second report on 12-2-1996. This Court examined the two reports and passed the following order on 9-4-1996:

"Pursuant to this Court's order dated December 15, 1995, NEERI has submitted Final Examination Report dated February 12, 1996 regarding CETPs constructed/under construction by the tanneries in various districts of the State of

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Tamil Nadu. A four-member team constituted by the Director, NEERI inspected the CETPs from January 27, 1996 to February 12, 1996. According to the report, at present, 30 CETP sites have been identified for tannery clusters in the five districts of Tamil Nadu viz., North Arcot Ambedkar, Erode Periyar, Dindigul Anna, Trichi and Chengai M.G.R. All the 30 CETPs were inspected by the team. According to the report, only 7 CETPs are under operation, while 10 are under construction and 13 are proposed. The following 7 CETPs are under operation:

1. M/s TALCO Ranipet Tannery Effluent Treatment Co. Ltd., Ranipet, District North Arcot Ambedkar.

2. M/s TALCO Ambur Tannery Effluent Treatment Co. Ltd., Thuthipet Sector, Ambur, District North Arcot Ambedkar.

3. M/s TALCO Vaniyambadi Tanners Enviro Control Systems Ltd., Vaniyambattu, Vaniyambadi, District North Arcot.

Page: 655

4. M/s Pallavaram Tanners Industrial Effluent Treatment Co., Chrompet Area, District Chengai MGR.

5. M/s Ranipet SIDCO Finished Leather Effluent Treatment Co. Pvt. Ltd., Ranipet, District North Arcot Ambedkar.

6. M/s TALCO Vaniyambadi Tanners Enviro Control Systems Ltd., Udayendiram, Vaniyambadi, District North Arcot Ambedkar.

7. M/s TALCO Pernambut Tannery Effluent Treatment Co. Ltd., Bakkalapalli, Pernambut, District North Arcot Ambedkar.

The CETPs mentioned at Sl. Nos. 5, 6 and 7 were commissioned in January 1996 and were on the date of report passing through stabilization period. The report indicates that so far as the above CETPs are concerned, although there is improvement in the performance, they are still not operating at their optimal level and are not meeting the standards as laid down by the Ministry of Environment and Forests and the Tamil Nadu Pollution Control Board for inland surface water discharge. The NEERI has given various recommendations to be followed by the above-mentioned units. We direct the units to comply with the recommendations of NEERI within two months from today. The Tamil Nadu Pollution Control Board shall monitor the directions and have the recommendations of the NEERI complied with. So far as the three units which are under stabilization are concerned, the NEERI Team may inspect the same and place a final report before this Court within the period of two months.

Apart from the tanneries which are connected with the above-mentioned 7 units, there are large number of other tanneries operating in the 5 districts mentioned above which have not set up any satisfactory pollution control devices. Mr Mohan, the learned counsel for the Tamil Nadu Pollution Control Board, states that notices were issued to all those tanneries from time to time directing them to set up the necessary pollution control devices. It is mandatory for the tanneries to set up the pollution control devices. Despite notices it has not been done. This Court has been monitoring these matters for the last about 4 years. There is no awakening or realisation to control the pollution which is being generated by these tanneries.

The NEERI has indicated the physico-chemical characteristics of groundwater from dug wells near tannery clusters. According to the report, water samples show that well waters around the tanneries are unfit for drinking. The report also shows

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Page 9 Thursday, July 06, 2023
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that the quality of water in Palar river downstream from the place where effluent is discharged is highly polluted. We, therefore, direct that all the tanneries in the districts of North Arcot Ambedkar, Erode Periyar, Dindigul Anna, Trichi and Chengai M.G.R. which are not connected with the seven CETPs mentioned above, shall be closed with immediate effect. None of these tanneries shall be permitted to operate till the time the CETPs are constructed to the satisfaction of the Tamil Nadu Pollution Control

Board. We direct the District Magistrate and the Superintendent of Police of the area concerned, to have all these tanneries closed with immediate effect. Mr Mehta has placed on record the report of Tamil Nadu Pollution Control Board. In Statement I of the Index, there is a list of 30 industries which have also not been connected with any CETPs. According to the report, these industries have not, till date set up pollution control devices. We direct the closure of these industries also. List is as under. … The Tamil Nadu Pollution Control Board has filed another report dated January 18, 1996 pertaining to 51 tanneries. There is dispute regarding the permissible limit of the quantity of total dissolved solids (TDS). Since the NEERI Team is visiting these tanneries, they may examine the TDS aspect also and advise this Court accordingly. Meanwhile, we do not propose to close any of the tanneries on the ground that it is discharging more than 2001 TDS.

The report indicates that except the 17 units, all other units are non-complaint units in the sense that they are not complying with the BOD standards. Excepting these 17 industries, the remaining 34 tanneries listed hereunder are directed to be closed forthwith. … We direct the District Magistrate and the Superintendent of Police of the area concerned to have all these industries mentioned above closed forthwith. The tanneries in the 5 districts of Tamil Nadu referred to in this order have been operating for a long time. Some of the tanneries are operating for a period of more than two decades. All this period, these tanneries have been polluting the area. Needless to say that the total environment in the area has been polluted. We issue show-cause notice to these industries through their learned counsel who are present in Court, why they be not subjected to heavy pollution fine. We direct the State of Tamil Nadu through the Industry Ministry, the Tamil Nadu Pollution Control Board and all other authorities concerned and also the Government of India through the Ministry of Environment and Forests, not to permit the setting up of further tanneries in the State of Tamil Nadu.

Copy of this order be communicated to the authorities concerned within three days. To come up for further consideration after the replies to the show-cause. There are a large number of tanneries in the State of Tamil Nadu which have set up individual pollution control devices and which according to the Tamil Nadu Pollution Control Board are operating satisfactorily. The fact, however, remains that all these tanneries are discharging the treated effluents within the factory precincts itself. We direct NEERI Team which is visiting this area to find out as to whether the discharge of the effluent on the land within the factory premises is permissible environmentally. *M/s Nandeem Tanning Company, Valayampet Vaniyambadi* is one of such industries. Copy of the report submitted by the Tamil Nadu Pollution Control Board be forwarded to the NEERI. NEERI may inspect this industry within ten days and file a report in this Court. Copy of this order be communicated to NEERI.

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Page 10 Thursday, July 06, 2023
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Matters regarding distilleries in the State of Tamil Nadu

The Tamil Nadu Pollution Control Board has placed on record the factual report regarding 6 distilleries mentioned in page 4 of the Index of its Report dated April 5, 1996. The learned counsel for the Board states that the Board shall issue necessary notices to these industries to set up pollution control devices to the satisfaction of the Board, failing which these distilleries shall be closed. The Pollution Control Board shall place a status report before this Court."

The NEERI submitted two further reports on 1-5-1996 and 11-6-1996 in respect of CETPs set up by various industries. The NEERI reports indicate that the physico-chemical characteristics of groundwater from dug wells in Ranipet, Thuthipeth, Valayambattu, Vaniyambadi and various other places do not conform to the limits prescribed for drinking purposes.

8. This Court has been monitoring this petition for almost five years. The NEERI, Board and the Central Pollution Control Board (Central Board) have visited the tanning and other industries in the State of Tamil Nadu several times. These expert bodies have offered all possible assistance to these industries. The NEERI reports indicate that even the seven operational CETPs are not functioning to its satisfaction. NEERI has made several recommendations to be followed by the operational CETPs. Out of the 30 CETP sites which have been identified for tannery clusters in the five districts of North Arcot Ambedkar, Erode Periyar, Dindigul Anna, Trichi and Chengai M.G.R., 7 are under operation, 10 are under construction and 13 are proposed. There are a large number of tanneries which are not likely to be connected with any CETP and are required to set up pollution control devices on their own. Despite repeated extensions granted by this Court during the last five years and prior to that by the Board the tanneries in the State of Tamil Nadu have miserably failed to control the pollution generated by them.

9. It is no doubt correct that the leather industry in India has become a major foreign exchange earner and at present Tamil Nadu is the leading exporter of finished leather accounting for approximately 80 per cent of the country's export. Though the leather industry is of vital importance to the country as it generates foreign exchange and provides employment avenues it has no right to destroy the ecology, degrade the environment and pose as a health-hazard. It cannot be permitted to expand or even to continue with the present production unless it tackles by itself the problem of pollution created by the said industry.

10. The traditional concept that development and ecology are opposed to each other is no longer acceptable. "Sustainable Development" is the answer. In the international sphere, "Sustainable Development" as a concept came to be known for the first time in the Stockholm Declaration of 1972. Thereafter, in 1987 the concept was given a definite shape by the World Commission on Environment and Development in its report called "Our Common Future". The Commission was chaired by the then Prime Minister of Norway, Ms G.H. Brundtland and as such the report is popularly known

as "Brundtland Report". In 1991 the World Conservation Union, United Nations Environment Programme and Worldwide Fund for Nature, jointly came out with a

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Page 11 Thursday, July 06, 2023
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document called "Caring for the Earth" which is a strategy for sustainable living. Finally, came the Earth Summit held in June 1992 at Rio which saw the largest gathering of world leaders ever in the history — deliberating and chalking out a blueprint for the survival of the planet. Among the tangible achievements of the Rio Conference was the signing of two conventions, one on biological diversity and another on climate change. These conventions were signed by 153 nations. The delegates also approved by consensus three non-binding documents namely, a Statement on Forestry Principles, a declaration of principles on environmental policy and development initiatives and Agenda 21, a programme of action into the next century in areas like poverty, population and pollution. During the two decades from Stockholm to Rio "Sustainable Development" has come to be accepted as a viable concept to eradicate poverty and improve the quality of human life while living within the carrying capacity of the supporting ecosystems. "Sustainable Development" as defined by the Brundtland Report means "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". We have no hesitation in holding that "Sustainable Development" as a balancing concept between ecology and development has been accepted as a part of the customary international law though its salient features have yet to be finalised by the international law jurists.

11. Some of the salient principles of "Sustainable Development", as culled out from Brundtland Report and other international documents, are Inter-Generational Equity, Use and Conservation of Natural Resources, Environmental Protection, the Precautionary Principle, Polluter Pays Principle, Obligation to Assist and Cooperate, Eradication of Poverty and Financial Assistance to the developing countries. We are, however, of the view that "The Precautionary Principle" and "The Polluter Pays Principle" are essential features of "Sustainable Development". The "Precautionary Principle" — in the context of the municipal law — means:

(*i*) Environmental measures — by the State Government and the statutory authorities — must anticipate, prevent and attack the causes of environmental degradation.

(*ii*) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

(*iii*) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.

12. "The Polluter Pays Principle" has been held to be a sound principle by this Court in *Indian Council for Enviro-Legal Action* v. *Union of India*[1]. The Court observed: (SCC p. 246, para 65)

"... we are of the opinion that any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country."

The Court ruled that: (SCC p. 246, para 65)

"... once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity *irrespective* of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity

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carried on".

Consequently the polluting industries are "absolutely liable to compensate for the harm caused by them to villagers in the affected area, to the soil and to the underground water and hence, they are bound to take all necessary measures to remove sludge and other pollutants lying in the affected areas". The "Polluter Pays Principle" as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of "Sustainable Development" and as such the polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology.

13. The Precautionary Principle and the Polluter Pays Principle have been accepted as part of the law of the land. Article 21 of the Constitution of India guarantees protection of life and personal liberty. Articles 47, 48-A and 51-A(*g*) of the Constitution are as under:

> "47. *Duty of the State to raise the level of nutrition and the standard of living and to improve public health*.—The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health.
>
> 48-A. *Protection and improvement of environment and safeguarding of forests and wildlife*.—The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.
>
> 51-A. (*g*) to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures."

Apart from the constitutional mandate to protect and improve the environment there are plenty of post-independence legislations on the subject but more relevant enactments for our purpose are: the Water (Prevention and Control of Pollution) Act, 1974 (the Water Act), the Air (Prevention and Control of Pollution) Act, 1981 (the Air Act) and the Environment (Protection) Act, 1986 (the Environment Act). The Water Act provides for the constitution of the Central Pollution Control Board by the

Central Government and the constitution of the State Pollution Control Boards by various State Governments in the country. The Boards function under the control of the Governments concerned. The Water Act prohibits the use of streams and wells for disposal of polluting matters. It also provides for restrictions on outlets and discharge of effluents without obtaining consent from the Board. Prosecution and penalties have been provided which include sentence of imprisonment. The Air Act provides that the Central Pollution Control Board and the State Pollution Control Boards constituted under the Water Act shall also perform the powers and functions under the Air Act. The main function of the Boards, under the Air Act, is to improve the quality of the air and to prevent, control and abate air pollution in the country. We shall deal with the Environment Act in the latter part of this judgment.

14. In view of the above-mentioned constitutional and statutory provisions we have no hesitation in holding that the Precautionary Principle and the Polluter Pays Principle are part of the environmental law of the country.

15. Even otherwise once these principles are accepted as part of the Customary

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International Law there would be no difficulty in accepting them as part of the domestic law. It is almost an accepted proposition of law that the rules of Customary International Law which are not contrary to the municipal law shall be deemed to have been incorporated in the domestic law and shall be followed by the courts of law. To support we may refer to Justice H.R. Khanna's opinion in *A.D.M.* v. *Shivakant Shukla*[2], *Jolly George Varghese case*[3] and *Gramophone Co. case*[4].

16. The constitutional and statutory provisions protect a person's right to fresh air, clean water and pollution-free environment, but the source of the right is the inalienable common law right of clean environment. It would be useful to quote a paragraph from Blackstone's commentaries on the Laws of England (*Commentaries on the Laws of England of Sir William Blackstone*) Vol. III, fourth edition published in 1876. Chapter XIII, "Of Nuisance" depicts the law on the subject in the following words:

> "Also, if a person keeps his hogs, or other noisome animals, or allows filth to accumulate on his premises, so near the house of another, that the stench incommodes him and makes the air unwholesome, this is an injurious nuisance, as it tends to deprive him of the use and benefit of his house. A like injury is, if one's neighbour sets up and exercises any offensive trade; as a tanner's, a tallow-chandler's, or the like; for though these are lawful and necessary trades, yet they should be exercised in remote places; for the rule is, 'sic utere tuo, ut alienum non leadas'; this

therefore is an actionable nuisance. And on a similar principle a constant ringing of bells in one's immediate neighbourhood may be a nuisance.

> ... With regard to other corporeal hereditaments; it is a nuisance to stop or divert water that used to run to another's meadow or mill; to corrupt or poison a watercourse, by erecting a dye-house or a lime-pit, for the use of trade, in the upper part of the stream; to pollute a pond, from which another is entitled to water his cattle; to obstruct a drain; or in short to do any act in common property, that in its consequences must necessarily tend to the prejudice of one's neighbour. So closely does the law of England enforce that excellent rule of gospel-morality, of 'doing to others, as we would they should do unto ourselves'."

17. Our legal system having been founded on the British common law the right of a person to a pollution-free environment is a part of the basic jurisprudence of the land.

18. The Statement of Objects and Reasons to the Environment Act, inter alia, states as under:

> "The decline in environmental quality has been evidenced by increasing pollution, loss of vegetal cover and biological diversity, excessive concentrations of harmful chemicals in the ambient atmosphere and in food-chains, growing risks of environmental accidents and threats to life-support systems. The world community's resolve to protect and enhance the environmental quality found expression in the decisions taken at the United Nations Conference on the Human Environment held in Stockholm in June 1972. The Government of India participated in the Conference and strongly voiced the environmental concerns. While several measures have been taken for environmental protection both before and after the Conference, the need for a general legislation further to implement the decisions of the Conference has become increasingly evident.
>
> Existing laws generally focus on specific types of pollution or on specific

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categories of hazardous substances. Some major areas of environmental hazards are not covered. There also exist uncovered gaps in areas of major environmental hazards. There are inadequate linkages in handling matters of industrial and environmental safety. Control mechanisms to guard against slow, insidious build-up of hazardous substances especially new chemicals in the environment, are weak. Because of a multiplicity of regulatory agencies, there is need for an authority which can assume the lead role for studying, planning and implementing long-term requirements of environmental safety and to give direction to, and coordinate a system of speedy and adequate response to emergency situations threatening the environment.

In view of what has been stated above, there is urgent need for the enactment of a general legislation on environmental protection which inter alia, should enable coordination of activities of the various regulatory agencies, creation of an authority or authorities with adequate

Page: 662

powers for environmental protection, regulation of discharge of environmental pollutants and handling of hazardous substances, speedy response in the event of accidents threatening the environment and deterrent punishment to those who endanger human environment, safety and health."

Sections 3, 4, 5, 7 and 8 of the Environment Act which are relevant are as under:

"3. *Power of Central Government to take measures to protect and improve environment*.—(1) Subject to the provisions of this Act, the Central Government shall have the power to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution.

(2) In particular, and without prejudice to the generality of the provisions of sub-section (1), such measures may include measures with respect to all or any of the following matters, namely—

(*i*) coordination of actions by the State Governments, officers and other authorities—

(*a*) under this Act, or the rules made thereunder; or

(*b*) under any other law for the time being in force which is relatable to the objects of this Act;

(*ii*) planning and execution of a nation-wide programme for the prevention, control and abatement of environmental pollution;

(*iii*) laying down standards for the quality of environment in its various aspects;

(*iv*) laying down standards for emission or discharge of environmental pollutants from various sources whatsoever:

Provided that different standards for emission or discharge may be laid down under this clause from different sources having regard to the quality or composition of the emission or discharge of environmental pollutants from such sources;

(*v*) restriction of areas in which any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards;

(*vi*) laying down procedures and safeguards for the prevention of accidents

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which may cause environmental pollution and remedial measures for such accidents;

(*vii*) laying down procedures and safeguards for the handling of hazardous substances;

(*viii*) examination of such manufacturing processes, materials and substances as are likely to cause environmental pollution;

(*ix*) carrying out and sponsoring investigations and research relating to problems of environmental pollution;

(*x*) inspection of any premises, plant, equipment, machinery, manufacturing or other processes, materials or substances and giving, by order, of such directions to such authorities, officers or persons as it may consider necessary to take steps for the prevention, control and abatement of environmental pollution;

(*xi*) establishment or recognition of environmental laboratories and institutes to carry out the functions entrusted to such environmental laboratories and institutes under this Act;

(*xii*) collection and dissemination of information in respect of matters relating to environmental pollution;

(*xiii*) preparation of manuals, codes or guides relating to the prevention, control and abatement of environmental pollution;

(*xiv*) such other matters as the Central Government deems necessary or expedient for the purpose of securing the effective implementation of the provisions of this Act.

(3) The Central Government may, if it considers it necessary or expedient so to do for the purposes of this Act, by order, published in the Official Gazette, constitute an authority or authorities by such name or names as may be specified in the order for the purpose of exercising and performing such of the powers and functions (including the power to issue directions under Section 5) of the Central Government under this Act and for taking measures with respect to such of the matters referred to in sub-section (2) as may be mentioned in the order and subject to the supervision and control of the Central Government and the provisions of such order, such authority or authorities may exercise the powers or perform the functions or take the measures so mentioned in the order as if such authority or authorities had been empowered by this Act to exercise those powers or perform those functions or take such measures.

4. *Appointment of officers and their powers and functions*.—(1) Without prejudice to the provisions of sub-section (3) of Section 3, the Central Government may appoint officers with such designations as it thinks fit for the purposes of this Act and may entrust to them such of the powers and functions under this Act as it may deem fit.

(2) The officers appointed under sub-section (1) shall be subject to the general control and direction of the Central Government or, if so directed by that Government, also of the authority or authorities, if any, constituted under sub-section (3) of Section 3 or of any other authority or officer.

5. *Power to give directions*.—Notwithstanding anything contained in any other law but subject to the provisions of this Act, the Central Government may, in the

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exercise of its powers and performance of its functions under this Act, issue directions in writing to any person, officer or any authority and such person, officer or authority shall be bound to comply with such directions.

Explanation.—For the avoidance of doubts, it is hereby declared that the power to issue directions under this section includes the power to direct—

(*a*) the closure, prohibition or regulation of any industry, operation or process; or

(*b*) stoppage or regulation of the supply of electricity or water or any other service.

7. *Persons carrying on industry, operation, etc., not to allow emission or discharge of environmental pollutants in excess of the standards*.—No person carrying on any industry, operation or process shall discharge or emit or permit to be discharged or emitted any environmental pollutant in excess of such standards as may be prescribed.

8. *Persons handling hazardous substances to comply with procedural safeguards*.—No person shall handle or cause to be handled any hazardous substance except in accordance with such procedure and after complying with such safeguards as may be prescribed."

19. Rules 3(1), 3(2) and 5(1) of the Environment (Protection) Rules, 1986 (the Rules) are as under:

"3. *Standards for emission or discharge of environmental pollutants*.—(1) For the purposes of protecting and improving the quality of the environment and preventing and abating environmental pollution, the standards for emission or discharge of environmental pollutants from the industries, operations or processes shall be as specified in Schedules I to IV.

3. (2) Notwithstanding anything contained in sub-rule (1), the Central Board or a State Board may specify more stringent standards from those provided in Schedules I to IV in respect of any specific industry, operation or process depending upon the quality of the recipient system and after recording reasons therefor in writing.

5. *Prohibition and restriction on the location of industries and the carrying on of processes and operations in different areas*.—(1) The Central Government may take into consideration the following factors while prohibiting or restricting the location of industries and carrying on of processes and operations in different areas—

(*i*) Standards for quality of environment in its various aspects laid down for an area.

(*ii*) The maximum allowable limits of concentration of various environmental pollutants (including noise) for an area.

(*iii*) The likely emission or discharge of environmental pollutants from an industry, process or operation proposed to be prohibited or restricted.

(*iv*) The topographic and climatic features of an area.

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Page 17 Thursday, July 06, 2023
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(*v*) The biological diversity of the area which, in the opinion of the Central Government needs to be preserved.

(*vi*) Environmentally compatible land use.

(*vii*) Net adverse environmental impact likely to be caused by an industry, process or operation proposed to be prohibited or restricted.

(*viii*) Proximity to a protected area under the Ancient Monuments and Archaeological Sites and Remains Act, 1958 or a sanctuary, National Park, game reserve or closed area notified as such under the Wild Life (Protection) Act, 1972 or places protected under any treaty, agreement or convention with any other country or countries or in pursuance of any decision made in any international conference, association or other body.

(*ix*) Proximity to human settlements.

(*x*) Any other factor as may be considered by the Central Government to be relevant to the protection of the environment in an area."

20. It is thus obvious that the Environment Act contains useful provisions for controlling pollution. The main purpose of the Act is to create an authority or authorities under Section 3(3) of the Act with adequate powers to control pollution and protect the environment. It is a pity that till date no authority has been constituted by the Central Government. The work which is required to be done by an authority in terms of Section 3(3) read with other provisions of the Act is being done by this Court and the other courts in the country. It is high time that the Central Government realises its responsibility and statutory duty to protect the degrading environment in the country. If the conditions in the five districts of Tamil Nadu, where tanneries are operating, are permitted to continue then in the near future all rivers/canals shall be polluted, underground waters contaminated, agricultural lands turned barren and the residents of the area exposed to serious diseases. It is, therefore, necessary for this Court to direct the Central Government to take immediate action under the provisions of the Environment Act.

21. There are more than 900 tanneries operating in the five districts of Tamil Nadu. Some of them may, by now, have installed the necessary pollution control measures; they have been polluting the environment for over a decade and in some cases even for a longer period. This Court has in various orders indicated that these tanneries are liable to pay pollution fine. The polluters must compensate the affected persons and also pay the cost of restoring the damaged ecology.

22. Mr M.C. Mehta, the learned counsel for the petitioner has invited our attention to the notification GOMs No. 213 dated 30-3-1989 which reads as under:

"In the government order first read above, the Government have ordered, among other things, that no industry causing serious water

pollution should be permitted within one kilometre from the embankments of rivers, streams, dams, etc. and that the Tamil Nadu Pollution Control Board should furnish a list of such industries to all local bodies. It has been suggested that it is necessary to have a sharper definition for water sources so that ephemeral water collections like rainwater ponds, drains, sewerages (bio-degradable) etc. may be excluded from the purview of the above order. The Chairman, Tamil Nadu Pollution Control Board has stated that the scope of the government order may be restricted to reservoirs, rivers and public drinking-water sources. He has also stated that there should be a complete

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ban on location of highly polluting industries within 1 kilometre of certain water sources.

2. The Government have carefully examined the above suggestions. The Government impose a total ban on the setting up of the highly polluting industries mentioned in Annexure I to this order within one kilometre from the embankments of the water sources mentioned in Annexure II to this order.

3. The Government also direct that under any circumstances if any highly polluting industry is proposed to be set up within one kilometre from the embankments of the water sources other than those mentioned in Annexure II to this order, the Tamil Nadu Pollution Control Board should examine the case and obtain the approval of the Government for it."

Annexure I to the notification includes distilleries, tanneries, fertilizer, steel plants and foundries as the highly polluting industries. We have our doubts whether the above-quoted government order is being enforced by the Tamil Nadu Government. The order has been issued to control pollution and protect the environment. We are of the view that the order should be strictly enforced and no industry listed in Annexure I to the order should be permitted to be set up in the prohibited area.

23. The learned counsel for the tanneries raised an objection that the standard regarding total dissolved solids (TDS) fixed by the Board was not justified. This Court by the order dated 9-4-1996 directed the NEERI to examine this aspect and give its opinion. In its report dated 11-6-1996 NEERI has justified the standards stipulated by the Board. The reasoning of the NEERI given in its report dated 11-6-1996 is as under:

"The total dissolved solids in ambient water have physiological, industrial and economic significance. The consumer's acceptance of mineralized water decreases in direct proportion to increased mineralization as indicated by Bruvold (1). High total dissolved solids (TDS), including chlorides and sulphates, are objectionable due to possible physiological effects and mineral taste that they impart to water. High levels of total dissolved solids produce laxative/cathartic/purgative effect in consumers. The requirement of soap and other detergents in household and industry is directly related to water hardness as brought

out by De Boer and Larsen (2). High concentration of mineral salts, particularly sulphates and chlorides, are also associated with costly corrosion damage in wastewater treatment systems, as detailed by Patterson and Banker (3). Of particular importance is the tendency of scale deposits with high TDS thereby resulting in high fuel consumption in boilers.

The Ministry of Environment and Forests (MEF) has not categorically laid down standards for inland surface water discharge for total dissolved solids (TDS), sulphates and chlorides. The decision on these standards rests with the respective State Pollution Control Boards as per the requirements based on local site conditions. The standards stipulated by the TNPCB are justified on the afore-referred considerations.

The prescribed standards of the TNPCB for inland surface water discharge can be met for tannery wastewaters cost effectively through proper implant control measures in tanning operation, and rationally designed and effectively operated wastewater treatment plants (ETPs and CETPs). Tables 3 and 5 depict the quality of

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groundwater in some areas around tanneries during peak summer period (3-6-1996 to 5-6-1996). Table 8 presents the data collected by TNPCB at individual ETPs indicating that TDS, sulphates and chloride concentrations are below the prescribed standards for inland surface water discharge. The quality of ambient waters needs to be maintained through the standards stipulated by TNPCB."

24. The Board has the power under the Environment Act and the Rules to lay down standards for emissions or discharge of environmental pollutants. Rule 3(2) of the Rules even permits the Board to specify more stringent standards from those provided under the Rules. The NEERI having justified the standards stipulated by the Board, we direct that these standards are to be maintained by the tanneries and other industries in the State of Tamil Nadu.

25. Keeping in view the scenario discussed by us in this judgment, we order and direct as under:

1. The Central Government shall constitute an authority under Section 3(3) of the Environment (Protection) Act, 1986 and shall confer on the said authority all the powers necessary to deal with the situation created by the tanneries and other polluting industries in the State of Tamil Nadu. The authority shall be headed by a retired Judge of the High Court and it may have other members — preferably with expertise in the field of pollution control and environment protection — to be appointed by the Central Government. The Central Government shall confer on the said authority the powers to issue directions under Section 5 of the Environment Act and for taking measures with respect to the matters referred to in clauses (*v*), (*vi*), (*vii*), (*viii*), (*ix*), (*x*) and (*xii*) of sub-section (2) of Section 3. The Central Government shall constitute the authority before September 30, 1996.

2. The authority so constituted by the Central Government shall implement the "Precautionary Principle" and the "Polluter Pays Principle". The authority shall, with the help of expert opinion and after giving opportunity to the polluters concerned assess the loss to the ecology/environment in the affected areas and shall also identify the individuals/families who have suffered because of the pollution and shall assess the compensation to be paid to the said individuals/families. The authority shall further determine the compensation to be recovered from the polluters as cost of reversing the damaged environment. The authority shall lay down just and fair procedure for completing the exercise.

3. The authority shall compute the compensation under two heads namely, for reversing the ecology and for payment to individuals. A statement showing the total amount to be recovered, the names of the polluters from whom the amount is to be recovered, the amount to be recovered from each polluter, the persons to whom the compensation is to be paid and the amount payable to each of them shall be forwarded to the Collectors/District Magistrates of the area concerned. The Collector/District Magistrate shall recover the amount from the polluters, if necessary, as arrears of land revenue. He shall disburse the compensation awarded by the authority to the affected persons/families.

4. The authority shall direct the closure of the industry owned/managed by a polluter in case he evades or refuses to pay the compensation awarded against him. This shall be in addition to the recovery from him as arrears of land revenue.

5. An industry may have set up the necessary pollution control device at present

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but it shall be liable to pay for the past pollution generated by the said industry which has resulted in the environmental degradation and suffering to the residents of the area.

6. We impose pollution fine of Rs 10,000 each on all the tanneries in the districts of North Arcot Ambedkar, Erode Periyar, Dindigul Anna, Trichi and Chengai M.G.R. The fine shall be paid before October 31, 1996 in the office of the Collector/District Magistrate concerned. We direct the Collectors/District Magistrates of these districts to recover the fines from the tanneries. The money shall be deposited, along with the compensation amount recovered from the polluters, under a separate head called "Environment Protection Fund" and shall be utilised for compensating the affected persons as identified by the authorities and also for restoring the damaged environment. The pollution fine is liable to be recovered as arrears of land revenue. The tanneries which fail to deposit the amount by October 31, 1996 shall be closed forthwith and shall also be liable under the Contempt of Courts Act, 1971.

7. The authority, in consultation with expert bodies like NEERI, Central Board, Board shall frame scheme/schemes for reversing the damage caused to the ecology and environment by pollution in the State of Tamil Nadu. The scheme/schemes so framed shall be executed by the State Government under the supervision of the Central Government. The

Page: 669

expenditure shall be met from the "Environment Protection Fund" and from other sources provided by the State Government and the Central Government.

8. We suspend the closure orders in respect of all the tanneries in the five districts of North Arcot Ambedkar, Erode Periyar, Dindigul Anna, Trichi and Chengai M.G.R. We direct all the tanneries in the above five districts to set up CETPs or Individual Pollution Control Devices on or before November 30, 1996. Those connected with CETPs shall have to install in addition the primary devices in the tanneries. All the tanneries in the above five districts shall obtain the consent of the Board to function and operate with effect from December 15, 1996. The tanneries who are refused consent or who fail to obtain the consent of the Board by December 15, 1996 shall be closed forthwith.

9. We direct the Superintendent of Police and the Collector/District Magistrate/Deputy Commissioner of the district concerned to close all those tanneries with immediate effect who fail to obtain the consent from the Board by the said date. Such tanneries shall not be reopened unless the authority permits them to do so. It would be open to the authority to close such tanneries permanently or to direct their relocation.

10. Government Order No. 213 dated March 30, 1989 shall be enforced forthwith. No new industry listed in Annexure I to the notification shall be permitted to be set up within the prohibited area. The authority shall review the cases of all the industries which are already operating in the prohibited area and it would be open to the authority to direct the relocation of any of such industries.

11. The standards stipulated by the Board regarding total dissolved solids (TDS) and approved by the NEERI shall be operative. All the tanneries and other industries in the State of Tamil Nadu shall comply with the said standards. The quality of ambient waters has to be maintained through the standards stipulated by the Board.

26. We have issued comprehensive directions for achieving the end result in this

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case. It is not necessary for this Court to monitor these matters any further. We are of the view that the Madras High Court would be in a better position to monitor these matters hereinafter. We, therefore, request the Chief Justice of the Madras High Court to constitute a Special Bench "Green Bench" to deal with this case and other environmental matters. We make it clear that it would be open to the Bench to pass any appropriate order/orders keeping in view the directions issued by us. We may mention that "Green Benches" are already functioning in Calcutta, Madhya Pradesh and some other High Courts. We direct the Registry of this Court to send the records to the Registry of the Madras High Court within one week. The High Court shall treat this matter as a petition under Article 226 of the Constitution of India and deal with it in accordance with law and also in terms of the directions issued by us. We give liberty to the parties to approach the High Court as and when necessary.

Page: 670

27. Mr M.C. Mehta has been assisting this Court to our utmost satisfaction. We place on record our appreciation for Mr Mehta. We direct the State of Tamil Nadu to pay Rs 50,000 towards legal fees and other out of pocket expenses incurred by Mr Mehta.

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† Under Article 32 of the Constitution of India

[1] (1996) 3 SCC 212 : JT (1996) 2 SC 196

[2] (1976) 2 SCC 521 : AIR 1976 SC 1207

[3] *Jolly George Varghese* v. *Bank of Cochin*, (1980) 2 SCC 360 : AIR 1980 SC 470

[4] *Gramophone Co. of India Ltd.* v. *Birendra Bahadur Pandey*, (1984) 2 SCC 534 : 1984 SCC (Cri) 313 : AIR 1984 SC 667

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(2005) 11 Supreme Court Cases 559 : 2004 SCC OnLine SC 1638

(*Record of Proceedings*)
(BEFORE Y.K. SABHARWAL AND D.M. DHARMADHIKARI, JJ.)

GOA FOUNDATION (I) . . Petitioner;
Versus
UNION OF INDIA . . Respondent.
Writ Petition (C) No. 460 of 2004, decided on December 17, 2004

Environment Protection and Pollution Control — Mining and Industries — Units operating without prior environmental clearance — Environmental impact clearance in terms of Notification S.O. 60(E) dt. 27-1-1994 [as purported to be modified by circular dated 14-5-2002 extending last date for application for environmental clearance to 31-3-2003] — 465 proposals made to Government by 31-3-2003, of which 95 only having been accorded approval — Union of India directed to supply information in respect of units operating in violation of said notification, steps taken regarding remaining proposals and other relevant facts in regard to compliance with said notification

M.C. Mehta v. *Union of India*, (2004) 12 SCC 118, *referred to*

D-M/31381/S

Advocates who appeared in this case:
Raj Panjwani and Ms Purnima Bhat, Advocates, for the Petitioner;
A. Sharan, Additional Solicitor General (Vikas Sharma and Anil Katiyar, Advocates), for the Respondent.

Chronological list of cases cited ***on page(s)***

1. (2004) 12 SCC 118, *M.C. Mehta* v. *Union of India* 559*g-h*

ORDER

1. We have perused the affidavit filed by Mr G.V. Subrahmanyam, Director, Ministry of Environment and Forests, dated 7-12-2004, along with which list of projects in the industry sector which have been accorded ex post facto environmental clearance up to 14-5-2004 has been annexed. As per the said list, 95 projects in the industry sector have been accorded ex post facto environmental clearance. The notification dated 27-1-1994, inter alia, prohibits construction work, preliminary or otherwise, relating to setting up of the project till environmental clearance is obtained. The nature of the projects to which the said notification applies has been indicated in the notification itself. The last extension granted by the Ministry of Environment and Forests to seek environment impact clearance was in terms of the circular dated 14-5-2002 whereunder the application had to be filed by 31-3-2003. The said circular has been commented upon by this Court in *M.C. Mehta* v. *Union of India*[1].

Page: 560

2. Our attention has been drawn by Mr Panjwani, learned counsel, to the answer

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given in Parliament by the Minister of State in the Ministry of Environment and Forests relating to the units operating without prior environmental clearance. The answer states that the Government had received 465 proposals for ex post facto environmental clearance by 31-3-2003 of which 249 are in the industry sector and 216 in the mining sector. Even if 95 projects in the industry sector, referred to above, are reduced from the aforesaid figure of 249, it will still leave many projects in the industry sector going on without clearance besides 216 projects in the mining sector. A copy of the answer given by the Minister on the floor of the House has been handed over by Mr Panjwani to learned Additional Solicitor General. Let learned Additional Solicitor General take instructions and file an affidavit as to the units operating in violation of the notification dated 27-1-1994, steps taken regarding the remaining proposals and the other relevant facts in regard to the compliance with the environmental impact assessment notification in letter and spirit. This shall be done by filing an affidavit within a period of four weeks.

3. The matter is adjourned.

Court Masters

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[1] (2004) 12 SCC 118 : JT (2004) 4 SC 181

Ed.: The said circular sought to extend the last date for seeking environmental clearance under Noti. No. S.O. 60(E) dated 27-1-1994, set out in para 35, pp. 156-60 thereof. The said circular has been held to be inefficacious. See para 37, pp. 160-61.

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(2011) 3 Supreme Court Cases 193 : 2011 SCC OnLine SC 213

In the Supreme Court of India

(BEFORE J.M. PANCHAL, DR B.S. CHAUHAN AND GYAN SUDHA MISRA, JJ.)

SHREE SIDHBALI STEELS LIMITED AND OTHERS . .
Petitioners;

Versus

STATE OF UTTAR PRADESH AND OTHERS . .
Respondents.

Writ Petition (C) No. 537 of 2000†, decided on January 20, 2011

A. **Electricity — Rebate — Nature and revocability of — Hill Development Rebate — Premature withdrawal of — Promissory estoppel, if any — 1996 Noti. granting hill development rebate of 33.33% to industries on total electricity bills from 1997-2002 as part of industrial policy framed by erstwhile State of U.P. — Petitioners establishing new industrial units in hill areas granted rebate — By 2000 Noti. benefit completely withdrawn — Legality — Held, on change in circumstances, Government can always reconsider the matter and can either curtail or withdraw benefit granted earlier — Rebate granted was, by definition, a freedom from an obligation which appellants otherwise were liable to discharge — Rebate granted was a concession granted by State Government so that beneficiaries of such concessions were not required to pay electricity tariff they were otherwise liable to pay during period of its grant — Right to enjoy the same was a defeasible one and was liable to be taken away or withdrawn in exercise of very power under which exemption was granted — Petitioners cannot raise plea of estoppel against 2000 Noti. withdrawing rebate as there can be no estoppel against delegated legislation (which is deemed to be a part of the statute) [Ed. : See *Shortnotes D, E* & *F*, below] — Decision in *Sant Steels case*, (2008) 2 SCC 777, overruled — Electricity (Supply) Act, 1948 — S. 49 — U.P. Electricity Reforms Act, 1999 (24 of 1999) — S. 24 — Administrative Law — Promissory estoppel — Inapplicability against delegated legislation (being part of the statute) — Government Grants and Largesse — Rebate — Nature and revocability of — Evidence Act, 1872, S. 115**

(Paras 42, 48, 51, 64 and 65)

B. **Constitution of India — Art. 14 — Notification withdrawing 33% hill development rebate granted to industrial units in hill areas — Validity — Held, petitioners had not been treated differently nor tariff sought to be recovered in any illegal or arbitrary manner — Hence, validity, upheld — U.P. Electricity Reforms Act, 1999 (24 of 1999), S. 24**

(Paras 64 and 65)

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C. **Constitution of India — Arts. 14, 19 and 32 — Maintainability — Parties/Standing — Incorporated company — Reiterated, a company not being a citizen has no fundamental right under Art. 19 — A company cannot maintain a petition under Art. 32 for enforcement of fundamental rights guaranteed under Art. 19 entity of a corporation is entirely separate from that of its shareholder, and applying the doctrine of piercing or lifting of veil it cannot be said that the petition by a corporation is a petition by the**

Page: 194

shareholder — However, companies entitled to claim right under Art. 14, which is available to "any person" — Corporate Laws — Companies Act, 1956, Ss. 34 and 41

(Para 25)

[**Ed.** : *See also* Art. 14, '(*a*)(2) Generally — 'Any person' — Meaning', pp. 702 et seq. in **Vol. 4**, and

Art. 19, '(*a*)(2)(*ii*) Generally — Standing — Who can complain — Standing of shareholder and company', pp. 13 et seq. in **Vol. 6**, *Complete Digest of Supreme Court Cases*, 2nd Edn.]

D. **Administrative Law — Promissory estoppel — Applicability — Nature and Scope — Invocation of the Doctrine — Change in policy decision — Estoppel against delegated legislation (which is deemed to be part of the statute), if any — Held, where public interest warrants, principles of promissory estoppel cannot be invoked — Government can change policy in public interest — Doctrine of promissory estoppel cannot be invoked for enforcement of a promise made contrary to law, because none can be compelled to act against notifications, which are in the nature of legislation**

E. **Administrative Law — Subordinate/Delegated legislation — Generally — Notifications — Power of modification/revocation/withdrawal — Implied existence of, in statutory provision granting notification-making power — Held, power to issue notification granting concession/exemption/rebate inherently carries with it power to withdraw, rescind, add to or modify an exemption notification, as per S. 21, General Clauses Act, 1897 — Decision by two-Judge Bench in *Sant Steels case*, (2008) 2 SCC 777 wherein notifications curtailing benefit to 17% were found contrary to S. 49, 1948 Act on principle of promissory estoppel, on ground that notification issued under S. 49, 1948 Act can be revoked/modified only if express provision was made for revocation/modification of said notification under S. 49 itself — Held, not correct proposition of law — Also, several larger Bench decisions not considered by Division Bench in *Sant Steels* — Hence, *Sant Steels case*, overruled — Electricity (Supply) Act, 1948 — S. 49 — Constitution of India — Art. 141 — Overruling of judgment — When warranted — General Clauses**

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Act, 1897, Ss. 14 and 21

F. **General Clauses Act, 1897 — Ss. 14 and 21 — Applicability, nature and scope — Notification granting concession/exemption/rebate — Withdrawal/revocation of — Held, power to issue notification granting rebate carries with it power to withdraw, rescind, add to or modify an exemption notification — Therefore, power to curtail and/or withdraw notification giving rebate is implied in provision itself — *Sant Steels case*, (2008) 2 SCC 777 overruled on this point — Taxation — Government Grants and Largesse — Concession/Exemption/Incentive/Rebate/Subsidy — Power of withdrawal — Electricity (Supply) Act, 1948, S. 49**

G. **General Clauses Act, 1897 — Generally — Object and applicability of**

Held :

The rule of promissory estoppel being an equitable doctrine has to be moulded to suit the particular situation. It is not a hard-and-fast rule but an elastic one, the objective of which is to do justice between the parties and to

Page: 195

extend an equitable treatment to them. This doctrine is a principle evolved by equity, to avoid injustice and though commonly named promissory estoppel, it is neither in the realm of contract nor in the realm of estoppel. For application of doctrine of promissory estoppel the promisee must establish that he suffered in detriment or altered his position by reliance on the promise.

(Para 32)

Normally, the doctrine of promissory estoppel is applied against the Government and defence based on executive necessity would not be accepted by the court. However, if it can be shown by the Government that having regard to the facts as they have subsequently transpired, it would be inequitable to hold the Government to the promise made by it, the court would not raise an equity in favour of the promisee and enforce the promise against the Government. Where public interest warrants, the principles of promissory estoppel cannot be invoked. The Government can change the policy in public interest. However, it is well settled that taking cue from this doctrine, the authority cannot be compelled to do something which is not allowed by law or prohibited by law. Doctrine of promissory estoppel cannot be invoked for enforcement of a promise made contrary to law, because none can be compelled to act against the statute [including delegated or subordinate legislation which is deemed to be a part of the parent statute]. Thus, the Government or public authority cannot be compelled to make a provision which is contrary to law.

(Para 33)

The purpose of the General Clauses Act is to place in one single statute different provisions as regards interpretations of words and legal principles which would

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otherwise have to be specified separately in many different Acts and Regulations. Whatever the General Clauses Act says whether as regards the meaning of words or as regards legal principles, has to be read into every statute to which it applies.

(Para 40)

The Electricity (Supply) Act, 1948 being a Central Act, the provisions of Sections 14 and 21 of the General Clauses Act, 1897 would be applicable thereto.

(Para 36)

Section 14, GCA, 1897 deals with the exercise of a power successively and has no relevance to the question whether the power claimed can at all be conferred. By Section 14 any power conferred by any Central enactment may be exercised from time to time as occasion arises, unless a different intention appears in the Act. There is no different intention in the Electricity (Supply) Act, 1948. Therefore, the power to issue a notification under Section 49 of the 1948 Act, can be exercised from time to time if circumstances so require.

(Para 37)

Section 21, GCA, 1897 is based on the principle that power to create includes the power to destroy and also the power to alter what is created. Section 21, amongst other things, specifically deals with power to add to, amend, vary or rescind the notifications. The power to rescind a notification is inherent in the power to issue the notification without any limitations or conditions. Section 21 embodies a rule of construction. The nature and extent of its application must be governed by the relevant statute which confers the power to issue the notification, etc. However, there is no manner of doubt that the exercise of power to make subordinate legislation includes the power to rescind the same. This is made clear by Section 21. On that analogy an administrative decision is revocable while a judicial decision is not revocable except in special circumstances. Exercise of power of a subordinate legislation will be prospective and cannot be retrospective unless the statute authorises such an exercise expressly or by necessary implication.

(Paras 38 and 40)

Page: 196

When by a Central Act power is given to the State Government to give some relief by way of concession and/or rebate to newly-established industrial units by a notification, the same can be curtailed and/or withdrawn by issuing another notification under the same provision and such exercise of power cannot be faulted on the ground of promissory estoppel. It would be too narrow a view to accept that chargeability once fixed cannot be altered. Since the charging provision in the Electricity (Supply) Act, 1948 is subject to the State Government's power to issue notification under Section 49 of the Act granting rebate, the State Government, in view of Section 21 of the General Clauses Act, can always withdraw, rescind, add

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to or modify an exemption notification. Further, power to curtail and/or withdraw the notification issued under Section 49 of the Electricity (Supply) Act, 1948 giving rebate is implied under Section 49 itself on proper interpretation of Section 21 of the General Clauses Act. Therefore, the power to curtail and/or withdraw the notification issued under Section 49 of the Electricity (Supply) Act, 1948, granting certain benefits, was available to the respondents.

(Paras 39 to 41)

The two-Judge Bench in *Sant Steels case*, (2008) 2 SCC 777 was of the view that notification issued under Section 49 of the 1948 Act can be revoked/modified only if express provision was made for the revocation/modification of the said notification under Section 49 itself and the Court found that as there was no such provision contained in Section 49, it was not open to revoke the same. Further, it added that the provisions of the General Clauses Act would be applicable in case of delegated legislation if withdrawal/curtailment of benefit was in larger public interest or if the legislation was enacted by the legislature authorising the Government to withdraw/curtail the benefit granted by a notification. Under the circumstances the two notifications curtailing the benefit to 17% were treated as contrary to Section 49 of the 1948 Act. The above statement of law is not accurate.

(Para 35)

The concept of the larger public interest introduced, before invocation of Section 21 of the General Clauses Act in *Sant Steels case*, in fact, amounts to amendment of the said provision, as Notifications dated 18-6-1998 and 25-1-1999, issued under Section 49 of the 1948 Act, as well as Notification dated 7-8-2000, issued under Section 24 of the U.P. Electricity Reforms Act, 1999, are in the nature of legislations and, therefore, the principle of promissory estoppel would not apply to them.

(Paras 35 and 43)

What is found is that several decisions some of which are rendered by a larger Bench were not considered in *Sant Steels case*. Hence, the same is overruled on this point. Thus, the petitioners in the present writ petition are not entitled to claim promissory estoppel against the Government and would not be entitled to any benefit on the basis of *Sant Steels case*.

(Para 50)

State of Rajasthan v. *J.K. Udaipur Udyog Ltd.*, (2004) 7 SCC 673; *Arvind Industries* v. *State of Gujarat*, (1995) 6 SCC 53, *relied on*

Shree Sidhbali Steels Ltd. v. *State of U.P.*, (2011) 3 SCC 217; *Shri Bakul Oil Industries* v. *State of Gujarat*, (1987) 1 SCC 31 : 1987 SCC (Tax) 74; *Kasinka Trading* v. *Union of India*, (1995) 1 SCC 274; *Shrijee Sales Corpn.* v. *Union of India*, (1997) 3 SCC 398, *referred to*

U.P. Power Corpn. Ltd. v. *Sant Steels and Alloys (P) Ltd.*, (2008) 2 SCC 777, *overruled*

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H. **Electricity — Tariff — Revision of — Contractual power of supplier in respect of — Terms and conditions of tariff agreement considered — Concession withdrawal — Challenge to — Unsustainability — Held, in view of terms and conditions stipulated in Cl. 7 of tariff agreement which explicitly reserved such power with supplier, petitioners precluded from challenging revision of tariff — There is no prohibition in agreement by which Electricity Board was bound to give 33.33% rebate to petitioners in all circumstances or precluded from changing tariff rates**

(Paras 53 to 55)

I. **Electricity (Supply) Act, 1948 — S. 49 — Tariff fixation — Power of, having regard to geographical position under S. 49 — Grant of hill development rebate to industries under — Absence of such power to Regulatory Commission under S. 24 of 1999 Act — Rebate withdrawn — Held, as power to fix/prescribe different rates of tariff in relation to geographical area is not provided, Regulatory Commission could not have issued such differential tariff giving rebate to certain industries set up having particular geographical location — U.P. Electricity Reforms Act, 1999 (24 of 1999), S. 24**

(Para 56)

J. **Administrative Law — Judicial Review — Exclusion of Judicial Review — Policy/Policy decision/Policy matter — Change in policy — Concession, withdrawal of — Scope of judicial review — Grant of concession to new industrial units not found by State Government to be in larger public interest — Held, policy of State Government in not granting rebate to industrial units situated in a particular area is basically a fiscal decision and in absence of arbitrariness or unreasonableness in policy, cannot be a subject-matter of judicial review — Electricity (Supply) Act, 1948 — S. 49 — U.P. Electricity Reforms Act, 1999 (24 of 1999), S. 24**

(Paras 58 to 60)

K. **Constitution of India — Art. 32 — Policy of State Government in not granting or continuing rebate to industrial units situated in a particular area is basically a fiscal decision — Held, thus, in absence of arbitrariness or unreasonableness therein, it cannot be a subject-matter of judicial review under Art. 32**

(Paras 58 to 60)

L. **Electricity — Tariff — Power of licensee to alter/modify tariff set by Electricity Regulatory Commission — Held, licensee under S. 24 of U.P. ERC Act, 1998 lacks power/authority to modify tariff determined by ERC — In case of any violation, licensee exposes itself to punishment under the Act —**

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Hence, licensee Power Corporation cannot be directed to amend or modify tariffs nor are petitioners entitled to seek any direction against licensee to amend or modify tariff as determined by ERC as it would amount to compelling them to act against the statute — U.P. Electricity Reforms Act, 1999 (24 of 1999) — Ss. 24 and 29 — Electricity Regulatory Commission Act, 1998, S. 29

(Paras 61 and 62)

Assn. of Industrial Electricity Users v. *State of A.P.*, (2002) 3 SCC 711; *W.B. Electricity Regulatory Commission* v. *CESC Ltd.*, (2002) 8 SCC 715; *BSES Ltd.* v. *Tata Power Co. Ltd.*, (2004) 1 SCC 195, *relied on*

Petition dismissed

B-D/47243/C

Page: 198

Advocates who appeared in this case:

Shanti Bhushan, Sudhir Kr. Gupta, M.L. Lohaty, R.K. Gupta, P.K. Sharma and Ms Gargi, Advocates, for the Petitioners;

Shail Kr. Dwivedi, Additional Advocate General, Pramod Swarup, Senior Advocate (Anuvrat Sharma, Ms Alka Sinha, Ameet Singh, R.K. Verma, A.P. Sahay, Ms Rachana Srivastava, Pradeep Misra and Suraj Singh, Advocates) for the Respondents.

Chronological list of cases cited ***on page(s)***

1. (2011) 3 SCC 217, *Shree Sidhbali Steels Ltd.* v. *State of U.P.* 204*a*

2. (2008) 2 SCC 777, *U.P. Power Corpn. Ltd.* v. *Sant Steels and Alloys (P) Ltd.* **(overruled)** 203*b*, 204*b*, 205*f*, 205*h*, 206*d-e*, 207*g-h*, 208*c-d*, 210*f*, 213*a*, 213*a-b*

3. (2004) 7 SCC 673, *State of Rajasthan* v. *J.K Udaipur Udyog Ltd.* 210*h*, 211*b*, 211*d-e*, 212*a*, 212*c-d*

4. (2004) 1 SCC 195, *BSES Ltd.* v. *Tata Power Co. Ltd.* 216*c*

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5. (2002) 8 SCC 715, *W.B. Electricity Regulatory Commission* v. *CESC Ltd.* 216*c*

6. (2002) 3 SCC 711, *Assn. of Industrial Electricity Users* v. *State of A.P.* 216*b-c*

7. (1997) 3 SCC 398, *Shrijee Sales Corpn.* v. *Union of India* 212*c*

8. (1995) 6 SCC 53, *Arvind Industries* v. *State of Gujarat* 212*e-f*

9. (1995) 1 SCC 274, *Kasinka Trading* v. *Union of India* 212*c*

10. (1987) 1 SCC 31 : 1987 SCC (Tax) 74, *Shri Bakul Oil Industries* v. *State of Gujarat* 212*c*

The Judgment of the Court was delivered by

J.M. PANCHAL, J.— By filing this petition under Article 32 of the Constitution, the ten petitioners which are private limited companies have prayed to issue a writ in the nature of mandamus or any other appropriate writ or order declaring Notification No. 1208/HC/UPPCL-V-1974/1204/2000 dated 7-8-2000 issued by U.P. Power Corporation Ltd., which was formerly known as U.P. State Electricity Board as illegal, arbitrary and violative of Articles 14, 19(1)(*g*) and 21 of the Constitution insofar as it denies the petitioners the hill development rebate of 33.33% on the total amount of electricity bills issued by the respondents for the remaining unexpired period of five years from the date of commencement of supply of electricity to the industrial units of the petitioners. The petitioners have also prayed to issue an appropriate writ in the nature of mandamus or any other appropriate writ, order or direction commanding the respondents to restore/give hill development rebate of 33.33% to the industrial units of the petitioners on the total amount of the electricity bills for the remaining unexpired period of five years.

2. The facts giving rise to the filing of this petition are as under : the petitioners are industrial units carrying on business of manufacturing iron rods, ingots and strips in furnaces/re-rolling mills in the hill area known as Kotdwar, State of Uttar Pradesh, now State of Uttarakhand. The industrial units of the petitioners were connected with power loads in the year 1996-1997 by the U.P. State Electricity Board which is now

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known as U.P. Power Corporation Ltd. The claim made by the petitioners is that from the

year 1986, the State Government, in order to develop hill areas and particularly zero industrial zones of hill areas as well as for inducing, encouraging and alluring new entrepreneurs declared various exhaustive industrial policies with the consent of U.P. State Electricity Board, Sales Tax Department and Industrial Department granting various incentives including rebate of 33.33% on the total amount of electricity bills to industrial units to be established in the hill areas of U.P.

3. The petitioners have averred that a new Industrial Policy dated 30-4-1990 was declared by the State Government assuring grant of 33.33% rebate on total amount of electricity bills to new entrepreneurs for a period of five years. The case of the petitioners is that the Government of U.P., pursuant to the aforesaid policy, issued an Order dated 16-10-1990 to U.P. SEB to implement all the instructions contained in the said industrial policy. The said policy, according to the petitioners was to remain in operation till 31-3-1995. The record shows that U.P. SEB by Notification dated 28-6-1996 modified the earlier notifications and extended the hill development rebate which was to expire on 31-3-1995 for a further period of next five years to be made available to the new industrial units which would be set up till 31-3-1997. The petitioners have claimed that the five years' period for which the petitioners were entitled to the hill development rebate of 33.33% on the total amount of electricity bills was to be over in the year 2001-2002.

4. What is asserted by the petitioners is that in view of the promises, assurances and guarantees given by the Government of U.P. through various industrial policies declared from time to time and accepted, operated as well as implemented by U.P. SEB through different gazette notifications, the industrial units of the petitioners were established in Kotdwar, District Pauri in the year 1996-1997. According to the petitioners on 3-1-1997 Respondent 2 Corporation brought out its electricity tariff to be levied on the consumers and it was inter alia stipulated that the promises made in the Industrial Policy declared by the U.P. Government on 30-4-1990 and Gazette Notification dated 28-6-1996 would continue to be available to the new entrepreneurs as before. The petitioners have mentioned that 33.33% rebate promised to the industrial units established in the hill areas was accordingly granted

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to the petitioners who had established their industrial units in the year 1996-1997.

5. Explaining as to why the respondents had promised to grant rebate of 33.33%, it is stated that, the rebate was meant to meet out extra expenditure incurred by the industrial units set up in hill areas in comparison to the industrial units established on plain and developed areas on account of various factors such as labour charges, maintenance cost, transportation of raw material, transportation of finished goods, availability of water, establishment charges, etc. The petitioners have averred that vide Notifications dated 18-6-1998 and 25-1-1999, issued by the respondent Corporation, uniform tariffs were introduced, which were seemingly innocuous but in fact had reduced the rebate from 33.33% to 17% and the result was that hill area units became less competitive and unviable in comparison to the units situated in developed areas.

6. The petitioners have mentioned that the two Notifications dated 18-6-1998/25-1-1999 levying the tariffs, were challenged by the petitioners before the High Court of Allahabad by way of filing CWPs Nos. 15292 and 15293 of 1999. The High Court vide judgment dated 25-5-2000 had allowed the writ petitions and struck down Clause 9(*a*) of the Notification dated 25-1-1999 and Clause 8(*a*) of the Notification dated 18-6-1998 holding that the petitioners were entitled to get HDR of 33.33% on the total bill till the period of five years from the date of commencement of supply of electricity to them was to come to an end. The record shows that the final judgment dated 25-5-2000 rendered by the High Court of Allahabad was challenged by U.P. Power Corporation Ltd. before this Court by way of filing SLPs Nos. 10665-66 of 2000 and this Court had initially passed an interim order dated 28-7-2000 directing the present industrial units of the petitioners to make payments of electricity bills as per Tariff Notification dated 25-1-1999. The claim made by the petitioners is that after passing of the abovementioned interim order dated 28-7-2000 the respondent had issued a new tariff by Notification dated 7-8-2000 and had increased exorbitantly the rate of charges and had completely withdrawn the hill development rebate which was made admissible under the industrial policy declared by the then Chief Minister in the year 1996 and continuously allowed by Respondent 2 till 18-6-1998/25-1-1999.

7. It is relevant to notice that the notification granting rebate was

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issued under Section 49 of the Electricity (Supply) Act, 1948, whereas the Notification dated 7-8-2000 whereby the rebate was completely withdrawn was issued under Section 24 of the Uttar Pradesh Electricity Reforms Act, 1999 which came into force with effect from 14-1-2000. The grievance made by the petitioners was that because of the interim order dated 28-7-2000 passed in SLPs Nos. 10665-66 of 2000, the respondents were not entitled to issue and/or introduce a new tariff by Notification dated 7-8-2000 increasing the rate of charges and completely withdrawing the hill development rebate but were entitled to levy tariff according to the Notification dated 25-1-1999. Therefore, they filed IA No. nil of 2000 in SLPs Nos. 10665-66 of 2000 seeking appropriate directions from the Court. The claim advanced by the petitioners is that the said IA was listed before the Court on 29-9-2000 and after hearing the parties, while adjourning the said IA for a period of two weeks the Bench hearing the IA had opined that the petitioners, if so advised, should file a writ petition challenging the new tariff/revised rates of power made applicable with effect from 9-8-2000 by the Notification dated 7-8-2000.

8. The petitioners have claimed that taking hint from the opinion expressed by this Court on 29-9-2000, the instant petition was filed. The petitioners have mentioned that by new Tariff Notification dated 7-8-2000, the respondents have completely withdrawn the assured, promised and guaranteed hill development rebate which had made it impossible for the petitioners to run their industrial units located in the hill areas and therefore the Notification dated 7-8-2000 should be regarded as illegal, arbitrary,

discriminatory and violative of the provisions of Articles 14, 19(1)(*g*) and 21 of the Constitution as well as contrary to the principles of promissory estoppel. The assertion made by the petitioners is that the respondents are bound to act as per their promise, solemnly made to the petitioners while inviting them to establish the industrial units in completely remote and underdeveloped areas of U.P.

9. The petitioners have further claimed that because of the tariff introduced by Notifications dated 18-6-1998/25-1-1999 out of 28 industrial units which were established on assurances given by the respondents, 15 industrial units were closed down and now only 13 industrial units of the petitioners are operating at present. It is mentioned that the new tariff introduced by Notification dated 7-8-2000 is contrary to the suggestions/recommendations made by the

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Uttar Pradesh Regulatory Commission established under the provisions of the Electricity Regulatory Commissions Act, 1998. Under the circumstances, the petitioners have filed the instant petition and claimed the reliefs to which reference is made earlier.

10. On service of notice Mr N.N. Srivastava, Deputy General Manager (Com.), U.P. Power Corporation Ltd. i.e. Respondent 2 herein, has filed an affidavit-in-opposition on behalf of Respondents 2 and 3 taking preliminary objections that the petition is not maintainable as no fundamental right of the petitioners, which are the companies, is violated. Respondent 2 has stated that since tariff was framed in exercise of statutory powers by a statutory body, the petition is not maintainable against exercise of this statutory power.

11. In the reply it is mentioned that there is a provision of filing review before the Commission in case the petitioners feel aggrieved but they are not justified in making grievance directly before this Court regarding introduction of new tariff rates and/or withdrawal of rebate by filing a writ petition under Article 32 of the Constitution. After mentioning that the agreement entered into by the petitioners with Respondent 2 Corporation contains a clause that the rates/tariff fixed/revised by the supplier i.e. the replying respondent, from time to time, would also be applicable to the petitioners, it is asserted that in view of the said clause, the petitioners are estopped from challenging the revision of the tariff made under statutory exercise of powers for greater public interest.

12. In the reply, Clause 7 of the agreement has been reproduced and it is claimed that the petition which is mainly based on the principle of promissory estoppel being thoroughly misconceived, should be dismissed at once. So far as the merits of the matter are concerned, it is stated that the Notification dated 7-8-2000 is neither illegal nor arbitrary nor discriminatory nor hit by the principle of promissory estoppel and the reliance placed upon the decision dated 25-5-2000 rendered by the High Court in Writ Petitions Nos. 15292-93 of 1999 is misconceived as the same is the subject-matter of challenge in the pending SLPs.

13. According to the reply, during the pendency of SLP filed by the respondent U.P. Power Corporation Ltd., the U.P. Electricity Regulatory

Commission framed a new tariff in exercise of statutory powers and directed the respondents to enforce the same and therefore the respondents who are bound to enforce the tariff, have enforced the same vide Notification dated 7-8-2000. It is claimed that tariff revision

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made under the statutory powers has nothing to do with the interim order dated 28-7-2000 passed by this Court in the SLPs filed by U.P. Power Corporation Ltd. and the High Court is wrong in allowing the writ petitions and directing that 33.33% rebate should be given to the petitioners, when the entire tariff is changed and total financial burden on the petitioners is less than 5% of tariff. After asserting that Kotdwar is practically situated in plain area and very near to Najibabad, it is stated that the claim of high cost advanced by the petitioners is not genuine.

14. In the reply it is emphasised that the tariff was revised to minimise the theft of electricity which was prevalent amongst large and heavy consumers like the petitioners and in fact rates enforced with effect from 18-6-1998 were more favourable to the petitioners but they were not satisfied with the said tariff and therefore had filed writ petition in the High Court from which SLPs Nos. 10665-66 of 2000 have arisen.

15. Another affidavit dated 26-12-2000 is also filed by Mr N.N. Srivastava clarifying certain aspects of the matter. In the additional reply, different provisions of the U.P. Electricity Regulatory Commission Act and the U.P. Electricity Reforms Act, 1999 are adverted to and it is claimed that in view of Section 7(*a*) of the Act, the tariff as framed by the U.P. State Electricity Board is applicable to the petitioners and they having undertaken to pay the electricity charges as per the rules/tariff determined by the U.P. State Electricity Board from time to time, the petition is not maintainable. It is also asserted in the reply that when the Regulatory Commission has held that no development rebate is to be given to a consumer, the Corporation has no authority at all to grant any development rebate and, therefore, the petitioners are not entitled to the reliefs claimed in the petition.

16. The petitioners have filed rejoinder to the counter-affidavits dated 3-11-2000 and 26-12-2000 filed on behalf of Respondents 2 and 3. In the rejoinder, they have reiterated their stand taken in the petition.

17. It may be mentioned that Civil Appeals Nos. 1215-16 of 2001 arising out of SLPs Nos. 10665-66 of 2000 with the instant Writ Petition No. 537 of 2000 were notified for final disposal before the Court on 20-9-2007. On the said date the appeals and the writ petition were called out for hearing and after hearing the parties at length the following order was passed by the Court on 20-9-2007:

> "*1*. Heard the parties at length. Hearing concluded. Judgment reserved.
>
> *2*. Mr A.M. Singhvi, learned Senior Counsel appearing on behalf of the appellants shall file a detailed affidavit showing the consumption

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of the units in hill areas getting this incentive up to 1997 and after that when the new tariff was introduced in 1998. He may file the affidavit to this effect within two weeks from today. It will be open for the respondents to file their reply within two weeks thereafter.

Writ Petition (C) No. 537 of 2000

3. Let this matter be listed after the disposal of Civil Appeals Nos. 1215-16 of 2001."

Thus the instant writ petition was detagged and directed to be listed after the disposal of Civil Appeals Nos. 1215-16 of 2001.

18. The decision in Civil Appeals Nos. 1215-16 of 2001 was pronounced on 10-12-2007 and it is reported in *U.P. Power Corpn. Ltd.* v. *Sant Steels and Alloys (P) Ltd.*[1] This Court by the said decision held that Notifications dated 28-6-1996 and 3-1-1997 wherein rebate was given were issued under Section 49 of the Electricity (Supply) Act, 1948 and they were in the nature of delegated legislation. It was further held that on the basis of principle of promissory estoppel, Respondent 2 i.e. U.P. Power Corporation Ltd. was not entitled to take away the benefit given to the industries. However, the Court made reference to the Uttar Pradesh Electricity Reforms Act, 1999 wherein no such benefit of rebate is recognised and held that the benefit of rebate cannot be extended after coming into force of the Uttar Pradesh Regulatory Reforms Act, 1999 i.e. after 14-1-2000 because estoppel cannot be claimed against the statute.

19. The findings recorded by this Court while disposing of Civil Appeals Nos. 1215-16 of 2001 made in SCC paras 34 and 36 of the decision, read as under : (SCC pp. 802-03)

"*34*. Dr. Singhvi, learned Senior Counsel for the appellant Corporation submitted that now the Act of 1999 has come into force and that Act does not recognise the concessions given to the hill areas and that this is a primary legislation i.e. the Act passed by the State Legislature. Therefore, to this extent we can accept the submission of Dr. Singhvi that since the Act of 1999 does not recognise such hill developmental benefits, therefore, from the date of passing of the Act of 1999 the said benefit cannot be accepted. We have stated above that there cannot be estoppel against a statute. Since such benefits have not been recognised by the Act of 1999, therefore, up to the date of coming into force of the Act of 1999, all the benefits which were being given to the respondent

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entrepreneurs shall be protected by invoking the principle of promissory estoppel but after coming into force of the Act of 1999, which is a primary legislation enacted by the State Legislature the benefits from the date the Act has come into force, cannot be made available to the respondents.

* * *

36. Therefore, as a result of our above discussion, we hold that the view taken by the Allahabad High Court on revoking (sic invoking) the principle of promissory estoppel is correct and the respondent units will be entitled to such benefits till the U.P. Electricity Reforms Act, 1999 came into force. Since after coming into force of the Act of 1999 no such concession has been granted, therefore, the concession shall survive till

Page: 204

the Act of 1999 came into force. The appeals are accordingly disposed of with no order as to costs."

20. On 20-1-2009[2] the Division Bench of this Court heard WP No. 537 of 2000, and referred the matter to a larger Bench on the question as to whether the rebate/concession granted to the petitioners from 1997 to 2002 should continue till 2002 or will cease to have effect after 14-1-2000, as was directed by the Division Bench in CAs Nos. 1215-16 of 2001 decided on 10-12-2007[1]. Pursuant to the said direction the petition is placed before the present larger Bench.

21. The proceedings of the case indicate that the writ petition was listed for hearing on 3-2-2010, when the Court directed the learned counsel for the State of Uttarakhand to seek instructions from the Government whether the State Government was inclined to extend the benefit of hill development rebate of 33.33% on total amount of electricity bills to the industrial units as was done by the erstwhile State Government of U.P. In response to the same, Mr Nitish Kumar Jha, Additional Secretary to the Government of Uttarakhand, has filed an affidavit dated 19-4-2010 mentioning that the concession/rebate by way of incentive was part of the policy framed by the then State Government of U.P. and the same was enforceable till the year 1997, but consequent upon enforcement of the U.P. Reorganisation Act, 2000, the hill areas of the erstwhile State of U.P. were carved out which now form part of the new State known as the State of Uttarakhand.

22. According to the affidavit, to accelerate the pace of industrial development in the remote and backward hill region and to remove economic backwardness of the hill region, by generating the

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employment opportunities with the possibility to check the brain drain from these areas and keeping in view the uneven geographic situation, environmental and social conditions, the Government of Uttarakhand has framed "Special Integration Industrial Development Policy" for hills and remote areas of Uttarakhand. The affidavit proceeds to state that the policy formulated by the State of Uttarakhand is an attempt to help and promote the establishment of industries based on the locally available resources with the coordinated and integrated industrial growth but so far as the power concession to new industrial units is concerned, the aforesaid policy does not provide for any concession to the steel industries established in the State as it is not considered necessary by the State to grant subsidy to the steel industries in the larger public interest. Along with the affidavit, the relevant extract of the aforesaid policy is produced as Annexure R-1 and it is mentioned that in view of lack of provision in the industrial development policy, the concession of hill development rebate of 33.33% granted earlier by the U.P. Government cannot be extended to the steel industries located in the State of Uttarakhand.

23. This Court has heard the learned counsel for the parties at length and in great detail. This Court has also considered the documents forming part of the petition and the authorities cited at the Bar for the guidance of the Court.

Page: 205

Though several authorities have been cited at the Bar on both the sides, this Court proposes to refer to only those decisions which in fact helped the Court in resolving the dispute raised in the petition.

24. The respondents have contended that the petitioners are companies incorporated under the Companies Act, 1956 and as companies do not have fundamental right under Article 19, the petitions filed under Article 32 should not be entertained by the Court. Therefore, the question which needs to be answered is whether the instant petition filed under Article 32 of the Constitution is maintainable.

25. A company not being a citizen has no fundamental right under Article 19. When a law infringes the fundamental right of a company, a shareholder cannot normally apply under Article 32 for enforcement of company's fundamental right as in the eye of the law the two are distinct entities. A corporation in law is equal to a natural person and has legal entity of its own. The entity of a corporation is entirely separate from that of its shareholder applying the doctrine of piercing

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or lifting of veil and it cannot be said that the petition by a corporation is a petition by the shareholder. It is important to mention that the petitioners are the companies registered under the provisions of the Companies Act, 1956. It is well settled that a company cannot maintain a petition under Article 32 of the Constitution for enforcement of fundamental rights guaranteed under Article 19 of the Constitution. A company, being not a citizen, has no fundamental rights under Article 19 of the Constitution. Nonetheless, the companies would be entitled to claim right under Article 14 of the Constitution and, therefore, it would be relevant to examine whether the respondents have committed breach of Article 14 by withdrawing the concession in electricity rates given/granted earlier.

26. The short question which now falls for decision of this Court is whether the hill development rebate of 33.33% on total amount of electricity bills under the industrial policy of the erstwhile State Government of U.P. granted to the writ petitioners will cease to have effect after 14-1-2000 when the U.P. Electricity Reforms Act, 1999 came into force or should continue thereafter, as can be seen from the decision in *U.P. Power Corpn. Ltd.* v. *Sant Steels and Alloys (P) Ltd.*[1]

27. Mr Shanti Bhushan, learned Senior Counsel for the writ petitioners submitted that the concessions in the bills for power supply were given to the industries set up in the hill areas in view of the direction given by the State Government in exercise of power under Section 78-A of the Act of 1948, pursuant to which necessary notifications granting concessions were issued and as acting upon the promises contained in those notifications, the private entrepreneurs had made huge investments and acted to their detriment and, therefore, now the respondents cannot wriggle out from those promises and are estopped from withdrawing those concessions.

28. Placing reliance on the observations made in para 30 of the reported decision in *U.P. Power Corpn. Ltd.* v. *Sant Steels and Alloys (P) Ltd.*[1] it was emphasised that therein the Court took notice of the fact that in the U.P.

Electricity Reforms Act, 1999 which came into force with effect from 14-1-2000 the benefit granted under the previous Act was neither specifically withdrawn nor was it stipulated that the said benefit would not be available after coming into force of the said Act with effect from 14-1-2000. Based on these observations, it was argued that in such a situation the principle of promissory estoppel which has been evolved by the courts which is based on public policy would not permit the

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State to revoke/withdraw the benefits already granted to the petitioners.

29. As noticed earlier, the civil appeals arising out of SLPs filed by U.P. State Power Corporation were notified for hearing with the instant writ petition. It is difficult to fathom the reason which prompted detagging of the writ petition when civil appeals were heard on merits. The petitioners could neither offer any plausible explanation nor could they point out the relevant circumstances which resulted into the detagging of the instant writ petition from the civil appeals. There is no manner of doubt that certain observations made in paras 34 and 36 quoted above from the reported decision are against the present petitioners but the Court also held that all the benefits which were being given to entrepreneurs shall stand protected before coming into force of the Act of 1999 on the principle of promissory estoppel. Therefore, this Court will have to consider the question whether the reasoning adopted by the Division Bench for coming to the said conclusion is legal, though it was made clear to all the learned counsel for the parties that the instant writ petition cannot be treated as an appeal against the decision dated 10-12-2007[1] rendered by the two learned Judges of this Court in Civil Appeals Nos. 1215-16 of 2001.

30. In view of the observations made by the Division Bench of this Court in the reported decisions, the questions that fall for consideration of this larger Bench are whether a benefit given by a statutory notification can be withdrawn by the Government by another statutory notification and whether the principles of promissory estoppel would be applicable in a case where concessions/rebates given by a statutory notification are subsequently withdrawn by another statutory notification.

31. It is an admitted position that the Notification dated 28-6-1996, granting rebate to the industries set up in hill areas, was issued in exercise of powers conferred by Section 49 of the Electricity (Supply) Act, 1948. By the said notification rebate in electricity charges to the extent of 33.33% was given to the industries, which were set up in the hill areas during the specified period. It is also an admitted position that thereafter, by Notifications dated 18-6-1998 and 25-1-1999, issued in exercise of the powers conferred by Section 49 of the Act of 1948, the percentage of rebate granted by the earlier notification was reduced to 17%. However, by Notification dated 7-8-2000 the benefit, which was granted to the industries set up in the hill areas regarding rebate in the electricity charges, was completely withdrawn. What is relevant to notice is that it is not in dispute that the Notification dated 7-8-2000 withdrawing the benefits granted earlier,

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was issued in exercise of powers conferred by Section 24 of the Uttar Pradesh Electricity Reforms Act, 1999. The abovementioned fact makes it evident that the benefits, which were granted and/or curtailed in exercise of statutory powers, were subsequently withdrawn in exercise of another statutory power conferred by another statute, namely, the Uttar Pradesh Electricity Reforms Act, 1999. In the light of the abovementioned facts, the question whether the principle of promissory estoppel would apply to exercise of statutory powers will have to be considered.

32. The doctrine of promissory estoppel is by now well recognised and well defined by a catena of decisions of this Court. Where the Government makes a promise knowing or intending that it would be acted on by the promisee and, in fact, the promisee, acting in reliance on it, alters his position, the Government would be held bound by the promise and the promise would be enforceable against the Government at the instance of the promisee notwithstanding that there is no consideration for the promise and the promise is not recorded in the form of a formal contract as required by Article 229 of the Constitution. The rule of promissory estoppel being an equitable doctrine has to be moulded to suit the particular situation. It is not a hard-and-fast rule but an elastic one, the objective of which is to do justice between the parties and to extend an equitable treatment to them. This doctrine is a principle evolved by equity, to avoid injustice and though commonly named promissory estoppel, it is neither in the realm of contract nor in the realm of estoppel. For application of the doctrine of promissory estoppel the promisee must establish that he suffered in detriment or altered his position by reliance on the promise.

33. Normally, the doctrine of promissory estoppel is being applied against the Government and defence based on executive necessity would not be accepted by the court. However, if it can be shown by the Government that having regard to the facts as they have subsequently transpired, it would be inequitable to hold the Government to the promise made by it, the court would not raise an equity in favour of the promisee and enforce the promise against the Government. Where public interest warrants, the principles of promissory estoppel cannot be invoked. The Government can change the policy in public interest. However, it is well settled that taking cue from this doctrine, the authority cannot be compelled to do something which is not allowed by law or prohibited by law. There is no promissory estoppel against the settled proposition of law. Doctrine of promissory estoppel cannot be

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invoked for enforcement of a promise made contrary to law, because none can be compelled to act against the statute. Thus, the Government or public authority cannot be compelled to make a provision which is contrary to law.

34. Having noticed the salient features of the principle of promissory estoppel it would be relevant to refer to certain observations made by the two-Judge Bench of this Court in *U.P. Power Corpn. Ltd.* v. *Sant Steels and Alloys (P) Ltd.*[1] In the said decision the Court has observed in SCC para 33 of the reported decision as under : (SCC p. 802)

> "*33*. … But, after survey of all these cases on the subject, the judicial consensus that emerges is that whenever the State has made a representation to the public and the public has acted on that representation and suffered economically or otherwise, then in that case the State should be estopped from withdrawing such benefit to the detriment of such people except in public interest or against the statute. So far as the public interest as involved in the present case is concerned, we have found that there was no overwhelming evidence to revoke the benefit granted to the industrial units in the hill areas. So far as the statute is concerned, the notification was issued under Section 49 of the Act of 1948 and the same was revoked under Section 49 of the Act of 1948 though there was no such provision contained in Section 49 that it will be open to the Corporation to revoke the same but could be possible by invoking the principle of the General Clauses Act. But in (sic case of) such delegated legislation such withdrawal could only be permitted if larger public interest is invoked or if the Act is passed by the legislature."

35. A critical analysis of the abovequoted passage makes it evident that the two-Judge Bench in *Sant Steels case*[1] was of the view that the notification issued under Section 49 of the Act of 1948 can be revoked/modified only if express provision was made for the revocation/modification of the said notification under Section 49 itself and the Court found that as there was no such provision contained in Section 49, it was not open to the Corporation to revoke the same. Further, though the Court made reference to the General Clauses Act, it added that the provisions of the General Clauses Act would be applicable in case of delegated legislation if withdrawal/curtailment of benefit was in larger public interest or if the legislation was enacted by

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the legislature authorising the Government to withdraw/curtail the benefit granted by a notification. Under the circumstances the two notifications curtailing the benefit to 17% were treated as contrary to Section 49 of the Act of 1948. On review of the law on the subject and the relevant statutory provisions, this Court finds that, for the reasons mentioned hereinafter, the above statement of law is not an accurate proposition of law.

36. It may be mentioned that the Electricity (Supply) Act, 1948 was enacted by Parliament to provide for the rationalisation of the production and supply of electricity and generally for taking measures conducive to electrical development. The Electricity (Supply) Act, 1948 being a Central Act, the provisions of Sections 14 and 21 of the General Clauses Act, 1897 would be applicable. Section 14 of the General Clauses Act, 1897 reads as under:

> "**14. *Powers conferred to be exercisable from time to time***.— (1) Where, by any Central Act or Regulation made after the commencement of this Act, any power is conferred, then, unless a different intention appears, that power may be exercised from time to time as occasion requires.
>
> (2) This section applies also to all Central Acts and Regulations made on or after the fourteenth day of January, 1887."

Whereas Section 21 of the General Clauses Act, 1897 reads as under:

> "**21. *Power to issue, to include power to add to, amend, vary or rescind, notifications, orders, rules or bye-laws***.— Where, by any Central Act or Regulation, a power to issue notifications, orders, rules or bye-laws is conferred, then that power includes a power, exercisable in the like manner and subject to the like sanction and conditions (if any) to add to, amend, vary or rescind any notifications, orders, rules or bye-laws so issued."

37. Section 14 deals with the exercise of a power successively and has no relevance to the question whether the power claimed can at all be conferred. By Section 14 of the General Clauses Act, 1897, any power conferred by any Central enactment may be exercised from time to time as occasion arises, unless a different intention appears in the Act. There is no different intention in the Electricity (Supply) Act, 1948. Therefore, the power to issue a notification under Section 49 of the Act of 1948, can be exercised from time to time if circumstances so require.

38. Section 21 is based on the principle that power to create

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includes the power to destroy and also the power to alter what is created. Section 21, amongst other things, specifically deals with power to add to, amend, vary or rescind the notifications. The power to rescind a notification is inherent in the power to issue the notification without any limitations or conditions. Section 21 embodies a rule of construction. The nature and extent of its application must be governed by the relevant statute which confers the power to issue the notification, etc. However, there is no manner of doubt that the exercise of power to make subordinate legislation includes the power to rescind the same. This is made clear by Section 21. On that analogy an administrative decision is revocable while a judicial decision is not revocable except in special circumstances. Exercise of power of a subordinate legislation will be prospective and cannot be retrospective unless the statute authorises such an exercise expressly or by necessary implication.

39. The principle laid down in Section 21 is of general application. The power to rescind mentioned in Section 21 is without limitations or conditions. It is not a power so limited as to be exercised only once. The power can be exercised from time to time having regard to the exigency of time. When by a Central Act power is given to the State Government to give some relief by way of concession and/or rebate to newly-established industrial units by a notification, the same can be curtailed and/or withdrawn by issuing another notification under the same provision and such exercise of power cannot be faulted on the ground of promissory estoppel.

40. It would be profitable to remember that the purpose of the General Clauses Act is to place in one single statute different provisions as regards interpretations of words and legal principles which would otherwise have to be specified separately in many different Acts and Regulations. Whatever the General Clauses Act says whether as regards the meaning of words or as regards legal principles, has to be read into every statute to which it applies. Further, power to curtail and/or withdraw the notification issued under Section 49 of the Electricity (Supply) Act, 1948 giving rebate is implied under Section 49 itself on proper interpretation of Section 21 of the General

Clauses Act. Therefore, this Court is of the firm opinion that, power to curtail and/or withdraw the notification issued under Section 49 of the Electricity (Supply) Act, 1948, granting certain benefits, was available to the respondents.

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41. By virtue of Sections 14 and 21 of the General Clauses Act, when a power is conferred on an authority to do a particular act, such power can be exercised from time to time and carries with it the power to withdraw, modify, amend or cancel the notifications earlier issued, to be exercised in the like manner and subject to like conditions, if any, attached with the exercise of the power. It would be too narrow a view to accept that chargeability once fixed cannot be altered. Since the charging provision in the Electricity (Supply) Act, 1948 is subject to the State Government's power to issue notification under Section 49 of the Act granting rebate, the State Government, in view of Section 21 of the General Clauses Act, can always withdraw, rescind, add to or modify an exemption notification. No industry can claim as of right that the Government should exercise its power under Section 49 and offer rebate and it is for the Government to decide whether the conditions are such that rebate should be granted or not.

42. There being nothing repugnant to raising of public revenue in exercise of sovereign power of the State to impose and collect taxes including electricity duty, in any provision of the Act of 1948 or the policy statement made in the notification granting rebate, the raising of public revenue by withdrawing or reducing exemption, cannot be said to be against the provisions of any statute. It is relevant to notice that the new industrial units, which were being established in the hill areas, could not have compelled the Government to exercise power under Section 49 of the Act of 1948 in their favour, for grant of rebate/concession in electricity tariff. Powers under Section 49 normally would be exercised by the State Government for industrial growth of an area and to generate employment opportunities for those who are residing in the area. However, on change in the circumstances, the Government can always reconsider the matter and can either curtail or withdraw the benefit granted earlier.

43. This Court finds that the proposition of law laid down by the two-Judge Bench in the decision in *Sant Steels case*[1] mentioned above is too wide and has tendency to make Section 21 of the General Clauses Act, 1897, inoperative. The concept of the larger public interest introduced, before invocation of Section 21 of the General Clauses Act, in fact, amounts to amendment of the said provision, as Notifications dated 18-6-1998 and 25-1-1999, issued under Section 49 of the Act of 1948, as well as Notification dated 7-8-2000, issued under Section 24 of the Uttar Pradesh Electricity Reforms Act, 1999, are in the nature of legislations and, therefore, the principle of promissory estoppel would not apply to them.

44. At this stage, it would be relevant to notice certain principles which have emerged from the reported decisions of this Court. In *State of Rajasthan* v. *J.K. Udaipur Udyog Ltd.*[3], pursuant to its fourth new

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industrial policy, the

State of Rajasthan had framed and notified the Rajasthan Sales Tax/Central Sales Tax Exemption Scheme for Industries, 1998 under Section 15 of the Rajasthan Sales Tax Act, 1994 and Section 8(5) of the Central Sales Tax Act. The Scheme was brought into force w.e.f. 1-4-1998. The Scheme inter alia provided for grant of exemption to industrial units from payment of sales tax on intra-State and inter-State sale of goods and by-products manufactured within the State of Rajasthan. The cement plants and units were also entitled to exemption at the flat rate of 25% for eleven years. Sick units were also granted such benefits.

45. The respondents before this Court in *Udaipur Udyog case*[3] were the companies manufacturing cement in different units in Rajasthan and were sick industrial companies. They had applied for exemption under the Scheme claiming benefits. On 20-2-1999, the Director of Industries had certified that the application of the respondents was complete. During the pendency of the application of the respondents for sanction, a corrigendum dated 30-9-1999 was issued by the Government replacing the words "new units at Sl. No. 1" in respect of the units covered by Sl. No. 4(*a*), with "new units at Sl. Nos. 1, 2 and 3 as the case may be". The result of the corrigendum was that sick cement units were placed under Sl. No. 4(*a*) on a par with new cement units under Sl. No. 3. The respondents submitted a representation to the Screening Committee that the corrigendum should not affect their case. The Screening Committee permitted the respondents to avail of the benefits available under the corrigendum. Consequently, no sanction and no eligibility certificate was ever issued to the respondents.

46. Since the respondents in *Udaipur Udyog case*[3] had been availing of the higher rates of exemption against Sl. No. 1, provisional assessment orders and notices were issued to the respondents over the differential sales tax. The respondents then approached the Rajasthan High Court. Their grievance was that their rights under the Scheme had crystallised w.e.f. the date of certification of their applications and could not have been taken away by the corrigendum with retrospective effect. A learned Single Judge of the High Court held that the respondents were right in contending that the impugned corrigendum amounted to amendment but further held that the Government was competent to modify the Scheme. However, it was held that the corrigendum would

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be applicable from 7-1-2000 i.e. the date of its publication in the Official Gazette. A Division Bench, while upholding the said decision, further held that the rights available to the respondents under the original Scheme were substantive rights and could not be affected adversely unless the subsequent notification clearly manifested an intention to do so. The Division Bench held that no such intention was manifested by the corrigendum and that the amendment was arbitrary and violative of Article 14 being discriminatory vis-à-vis other sick industries. It was also held that the amendment could not discriminate against sick cement plants which had not availed of the benefits of tax exemption earlier. It was concluded by the Division Bench that the benefits available to the respondents under the original Scheme were not affected by the corrigendum.

Page: 212

47. This Court while allowing the appeal has held as under in SCC para 25 of the reported decision in *Udaipur Udyog case*[3] : (SCC pp. 688 -89)

> "*25*. An exemption is by definition a freedom from an obligation which the exemptee is otherwise liable to discharge. It is a privilege granting an advantage not available to others. An exemption granted under a statutory provision in a fiscal statute has been held to be a concession granted by the State Government so that the beneficiaries of such concession are not required to pay the tax or duty they are otherwise liable to pay under such statute. The recipient of a concession has no legally enforceable right against the Government to grant of a concession except to enjoy the benefits of the concession during the period of its grant. This right to enjoy is a defeasible one in the sense that it may be taken away in exercise of the very power under which the exemption was granted. (See *Shri Bakul Oil Industries* v. *State of Gujarat*[4], *Kasinka Trading* v. *Union of India*[5] and *Shrijee Sales Corpn.* v. *Union of India*[6].)"

48. From the principle enunciated in the abovementioned decision in *Udaipur Udyog case*[3] there is no manner of doubt that the rebate which was granted to the petitioners, was, by definition, a freedom from an obligation which the appellants otherwise were liable to discharge. The rebate was a privilege granting an advantage which was not made available to others. The rebate granted under Section 49 of the Electricity (Supply) Act of 1948 was, therefore, a concession granted by the State Government so that the beneficiaries of such concessions

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were not required to pay the electricity tariff they were otherwise liable to pay under the said Act during the period of its grant. The petitioners, as recipients of a concession, accepted to enjoy the benefits of the concession during the period of its grant. This right to enjoy was a defeasible one in the sense that it was liable to be taken away or withdrawn in exercise of the very power under which the exemption was granted.

49. Again in *Arvind Industries* v. *State of Gujarat*[7] the Government had withdrawn a concession given to a new industry. The claim of the industry was that such a course was not open to the Government. It was claimed by the Government that the notification giving concession did not contain any promise that the benefits given to new industry would not be altered from time to time. While rejecting the claim of the industry as not tenable, this Court has held that the Government is entitled to grant exemption to industries having regard to the industrial policy of the Government, but it is equally free to modify its industrial policy and grant, modify or withdraw fiscal benefits from time to time. What is important to notice is that this Court has held that in such circumstances the principle of promissory estoppel would not be attracted.

Page: 213

50. What this Court finds is that several reported decisions some of which are rendered by the larger Bench were not considered by the Division Bench of this Court while delivering the judgment dated 10-12-2007[1] in Civil Appeals Nos. 1215-16 of 2001 in *Sant Steels case*[1]. The legal effect would be that the finding recorded by the Division Bench of this Court, in the abovementioned case that the Notifications dated 18-6-1998 and 25-1-1999 reducing the rate of rebate from 33.33% to 17% were bad in law will have to be regarded as not laying down correct proposition of law. Thus, the petitioners in the present writ petition are not entitled to claim promissory estoppel against the Government and would not be entitled to any benefit on the basis of the two-Judge Bench judgment of this Court referred to earlier.

51. From the above discussion, it is clear that the petitioners cannot raise plea of estoppel against the Notification dated 7-8-2000 reducing hill development rebate to 0% as there can be no estoppel against the statute.

52. The next question, which falls for determination of this Court is whether the term stipulated in the contract entered into between the

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petitioners and the U.P. State Electricity Board (now Corporation) stipulating that Respondent 2 would give 33.33% rebate to the petitioners, is legally enforceable and whether in view of the said term Respondent 2 precluded from changing the tariff rates.

53. It is pertinent to notice that before starting the industrial units, the petitioners had entered into an agreement with the then U.P. State Electricity Board. Clause 7 of this agreement provided that the rates/tariff fixed/revised by the supplier i.e. Respondent 2 from time to time, will be applicable to the petitioners. Clause 7 of the agreement reads as under:

> "7(*a*) The consumer shall pay for the supply of electric energy at the rates enforced by the supplier from time to time as may be applicable to the consumer.
>
> (*b*) The rate schedule applicable to the consumer at the time of execution of this agreement is annexed hereto as Annexure-2 H.V.-1.
>
> (*c*) The rate schedule abovementioned may, at the discretion of the supplier be revised by the supplier from time to time and in the case of revision the rate schedule so revised shall be applicable to the consumer.
>
> (*d*) Any levy such as sales tax, excise duty, electricity duty or any other charges by whatsoever name called by the Central, State Government or other competent authority on the electricity supplied to the consumer shall also be paid by the consumer."

54. Sub-clause (*a*) of Clause 7 of the agreement in most clear terms provided that the consumer i.e. the present petitioner shall pay for the supply of electric energy at the rates enforced by the supplier i.e. Respondent 2 herein from time to time. Though the rate schedule applicable at the time of execution of the agreement between the petitioners and Respondent 2 was annexed to the agreement, it was provided specifically again in sub-clause (*c*) of Clause 7 that the rate schedule abovementioned may, at the discretion of the supplier, be revised by the supplier from time to time and in case of

revision the rate schedule so revised shall be applicable to the consumer. It was also provided in the agreement that any levy such as sales tax, excise duty, electricity duty or any other charges by whatsoever name called by the Central or the State Government or other competent authority on the electricity supplied to the consumer shall also be paid by the consumer. Therefore, in view of the terms and

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conditions stipulated in Clause 7 of the agreement, this Court is of the firm opinion that the petitioners are precluded from challenging revision of the tariff in exercise of statutory powers conferred on Respondent 2 in the larger public interest.

55. This Court does not find any prohibition in the agreement by which Respondent 2 was bound to give 33.33% rebate to the petitioners in all the circumstances or was precluded from changing the tariff rates. The petitioners being parties to the agreement now cannot turn around and argue that Respondent 2 is bound to give 33.33% hill development rebate and can never change the tariff rates to the detriment of the petitioners. On the facts and in the circumstances of the case, therefore, this Court holds that Respondent 2 is not bound to give 33.33% hill development rebate to the petitioners for the period specified in the notification irrespective of change in the tariff rates.

56. Another question, which needs to be answered, is whether the court of law would be justified in interfering with the policy decision of the Government either to grant or not to grant rebate to certain industrial units. From the record of the case, it is evident that before 8-8-2000, the U.P. State Electricity Board had power to frame/fix tariff under Section 49 of the Electricity (Supply) Act, 1948. However, thereafter tariff was determined and is being determined by the U.P. Electricity Regulatory Commission under the provisions of the U.P. Electricity Reforms Act, 1999. What is relevant to notice is that earlier the U.P. State Electricity Board had power to make/fix a tariff other than the uniform tariff contemplated under Section 49(3) of the Act of 1948 for the electricity to be supplied to its consumers having regard to the geographical position of any area. However, this power was not conferred on the U.P. Electricity Regulatory Commission under the U.P. Electricity Reforms Act, 1999. As the power to fix/prescribe the different rates of tariff in relation to geographical area is not provided and/or is not available under Section 24 of the Act of 1999, this Court is of the opinion that the Regulatory Commission could not have issued such differential tariff giving rebate to certain industries set up having particular geographical location.

57. Mr Shanti Bhushan, learned counsel for the petitioners, argued that under Section 12 of the Act of 1999 the State Government was entitled to issue policy directions to the Regulatory Commission just as it had earlier power to issue policy directions to the U.P. State Electricity Board under Section 78 of the Act of 1948. It is true that the State Government has power to issue policy directions to the Commission under the new Act. Therefore, the next question which arises for consideration is whether such a policy direction in fact was given by the State Government to the Regulatory Commission and the

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answer is obviously "No".

58. There is no manner of doubt that the State Government could have issued direction regarding subsidy to be made available by the State Government to the licensee. However, on 3-2-2010, when the special leave petition was listed for hearing before this Court, the Court had directed the learned counsel for the State of Uttarakhand to seek instructions from the Government whether the State Government was still willing to extend subsidy of development rebate of 33.33% to the industrial units set up in hill area, as was done by the erstwhile State Government of Uttar Pradesh. Accordingly, the learned counsel for the State of Uttarakhand had taken appropriate instructions and as mentioned earlier, filed a short affidavit on 19-4-2010 for consideration of the Court. In the said affidavit it is specifically mentioned that with an objective to accelerate the pace of industrial development in remote and backward hill region and to remove economic backwardness of the hill region by generating the employment opportunities with the possibility to check the brain drain from this area and keeping in view the uneven geographical situation, the environmental and social conditions, the Government of Uttarakhand has framed "Special Integration Industrial Development Policy" for hills and remote areas of Uttarakhand, but as far as power concession to new industrial units is concerned, the aforesaid policy does not provide for any concession to the steel industries established in the State because it was not considered necessary in the larger public interest to grant such subsidy. In the said affidavit it is mentioned that in view of lack of provision in the industrial development policy, the concession of hill development rebate of 33.33% earlier granted by the Uttar Pradesh Government cannot be extended to the steel industries in the State of Uttarakhand.

59. Whether to grant rebate to certain industrial units located in an area is basically and essentially a policy decision. The policy decision as reflected in the affidavit dated 19-4-2010 filed by Nitesh Kumar Jha, Additional Secretary, Government of Uttarakhand, Department of Energy, is neither found to be unreasonable nor found to be arbitrary in any manner. The Special Integration Policy introduced by the State of Uttarakhand for hills and remote areas of Uttarakhand is not the subject -matter of challenge by the petitioners in the present writ petition. Grant of power concession to new industrial units is not found by the State Government to be in the larger public interest. This Court, while

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exercising powers under Article 32 of the Constitution, cannot substitute the opinion and/or view of the Government and come to the conclusion that power concession to new steel industries is in the larger public interest and, therefore, should be made available to the new steel industries. Such a course is not permissible at all. The policy having not been found either arbitrary, capricious or unreasonable, this Court cannot interfere with the policy decision of the State Government.

60. As observed earlier, there is nothing on record to show that any policy direction was given by the State of Uttarakhand to the Electricity Regulatory Commission to provide for rebate to industrial units situated in the hill area. The policy of the State Government in not granting rebate to industrial units situated in a particular area is basically a fiscal decision and in the absence of arbitrariness or unreasonableness in the said policy, it

cannot be the subject-matter of judicial review of this Court while exercising powers under Article 32 of the Constitution. Therefore, this Court holds that no case is made out by the petitioners to interfere with the said policy.

61. It will not be out of place to mention that in view of Section 29 of the Electricity Regulatory Commission Act, 1998, the licensee i.e. Respondent 2 has no authority to enforce any tariff other than the one approved by the Commission. In view of Section 24 of the U.P. Electricity Reforms Act, 1999 the licensee i.e. Respondent 2 lacks power/authority to modify the tariff determined by the Commission and in case of any violation, the licensee would be exposing itself to the punishment prescribed under Section 28 of the Act of 1999.

62. This Court in *Assn. of Industrial Electricity Users* v. *State of A.P.*[8] as well as in *W.B. Electricity Regulatory Commission* v. *CESC Ltd.*[9], and in *BSES Ltd.* v. *Tata Power Co. Ltd.*[10], has held that the licensee has no power to amend and/or modify the tariff determined by the Regulatory Commission. Grant of reliefs claimed by the petitioners would amount to compelling them to act against the statute. Such a course is not permissible while exercising powers under Article 32 of the Constitution. Thus Respondent 2 Corporation cannot be directed to amend or modify the tariffs determined by the Commission nor the petitioners would be entitled to seek any direction against the licensee to amend or modify the tariff determined by the Commission.

63. What is relevant to notice is that if the power to reduce the rebate to 17% is assumed to be available, then power to reduce the

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rebate to 0%, as is done by the Notification dated 7-8-2000, is also available. The petitioners have not challenged the previous judgment of the High Court wherein this Court has held that the rebate would not be available/cannot be given after coming into force of the U.P. Electricity Reforms Act, 1999. The petitioners have also not challenged the tariff rates made applicable from 16-9-2001 to 31-3-2002 vide Order dated 1 -9-2000 by the U.P. Electricity Regulatory Commission, wherein no rebate based on geographical area has been provided. The discussion made above makes it very clear that the petitioners have not been differently treated nor the tariff is sought to be recovered in any illegal or arbitrary manner. Under the circumstances, this Court does not find breach of the salutary provisions of Article 14 of the Constitution.

64. As no right guaranteed to the petitioners under Article 14 of the Constitution is found to have been breached, the present petition filed under Article 32 of the Constitution cannot be entertained and the petitioners are not entitled to the reliefs claimed in the instant petition. Therefore, the petitioners are precluded from challenging the Notification dated 7-8-2000 withdrawing the rebate in electricity rates.

65. For the foregoing reasons, the petition fails and is hereby dismissed. Rule is discharged. There shall be no order as to costs.

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† Under Article 32 of the Constitution of India

[1] (2008) 2 SCC 777

[2] *Shree Sidhbali Steels Ltd.* v. *State of U.P.*, (2011) 3 SCC 217

[3] (2004) 7 SCC 673

[4] (1987) 1 SCC 31 : 1987 SCC (Tax) 74

[5] (1995) 1 SCC 274

[6] (1997) 3 SCC 398

[7] (1995) 6 SCC 53 : AIR 1995 SC 2477

[8] (2002) 3 SCC 711

[9] (2002) 8 SCC 715

[10] (2004) 1 SCC 195

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(2011) 7 Supreme Court Cases 338 : 2011 SCC OnLine SC 897

In the Supreme Court of India

(BEFORE S.H. KAPADIA, C.J. AND AFTAB ALAM AND K.S.P. RADHAKRISHNAN, JJ.)

LAFARGE UMIAM MINING PRIVATE LIMITED . . Applicant;

T.N. GODAVARMAN THIRUMULPAD . . Petitioner;

Versus

UNION OF INDIA AND OTHERS . . Respondents.

IAs Nos. 1868, 2091, 2225-27, 2380, 2568 and 2937 in WP (C) No. 202 of 1995[†] with Transfer Petition (C) No. 277 of 2010, decided on July 6, 2011

A. **Environment Protection and Pollution Control — Mining —Environmental impact assessment — Factors to be considered — Active involvement and consent of locally affected populace — True nature of land — Methods of exploitation of natural resource(s) to be employed — Limestone mining project in Meghalaya — Ex post facto forest and environmental clearances granted by MoEF — Whether vitiated by non-application of mind and suppression of material facts by project proponent**

— At various stages MoEF seeking clarifications/information despite compliances by project proponent and despite issuance of certificates by various authorities — As per report of High-Powered Committee (HPC) appointed by MoEF, conditions imposed by MoEF substantially complied with by project proponent — Members of SAC, who opposed project, not residents of locality where project was proposed — Native tribals (who belonged to predominantly tribal State Meghalaya where project was proposed) deciding to lease out their community land in a village durbar because site was accessible by road and was on outskirts of forest, because project proponent would carry out scientific exploitation (in the background that unscientific mining was done by illegal private operators), less vegetation clearance stood involved, there were commercially viable limestone deposits, and because social welfare, health and employment opportunities for natives were associated with project — Native tribals of locality were satisfied with credentials of project proponent as they were already providing economic benefits to and undertaking welfare measures for them — Moreover, limestone mining had been going on for centuries in the area — Site was under karst topography with sporadic growth of few tree shrubs — 2007 survey by Forest Department indicating that number of trees having girth of more than 120 cm was less than 25 per acre — Thus the area did not come within definition of "forest" under S. 2(f), 1958 Act (local Forest Act), either

— Considering (1) the native tribals' participation in decision-making process, their correct appreciation and awareness of environmental concerns and sustainable development and their seeking development within statutory parameters and based on scientific methods, (2) nature of land,

Page: 339

accessibility and reports of various authorities, (3) proportional principles of intergenerational equity, (4) various facets of words "forests", "environment" and "development", and (5) that MoEF had reassured itself through reports and clarifications regarding environmental impact of project and had adopted the due diligence approach, held, the ex post facto forest and environmental clearances given by MoEF neither vitiated by non-application of mind nor suppression of material facts by project proponent — Since the area was not coming under "forest" and State Government treated it as falling outside forest area, there was no necessity to submit proposal for forest clearance under S. 2, 1980 Act — Therefore, stay of project vide order dt. 5-2-2010 of Supreme Court vacated and ex post facto clearances granted by MoEF upheld — Furthermore, native people of locality as also State officials like DFO correctly understood 1958 Act (local forest law) — Even according to Principal Chief Conservator of Forests, who was Chairperson of Expert Committee appointed by State Government, project proponent was not at fault because certificate indicating absence of forests was given by Khasi Hills Autonomous District Council (a constitutional authority)

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— Environment (Protection) Act, 1986 — S. 3 — Environmental clearance given under — Validity — Mines and Minerals (Development and Regulation) Act, 1957 — S. 5(1) — Environment (Protection) Rules, 1986 — R. 5(3)(d) — Constitution of India — Arts. 21 and 14 — Intergenerational equity and sustainable development — Mineral Concession Rules, 1960 — R. 37-A — Transfer of mining lease in prescribed format under

(Paras 77 to 121)

B. **Environment Protection and Pollution Control — United Khasi and Jaintia Hills Autonomous District (Management and Control of Forests) Act, 1958 (1 of 1959) — S. 2(f) — Expression and meaning of "forest" — Correct appreciation, clarified has to be as per girth and not merely tree counts**

(Paras 101 to 104)

C. **Environment Protection and Pollution Control — Forest (Conservation) Act, 1980 — S. 2 — "Prior approval" requirement under — When compliance required — Need for area concerned to be "forest"**

(Paras 80 to 93, 101 to 104, 111 and 112)

D. **Environment Protection and Pollution Control — Forest (Conservation) Rules, 1981 — R. 4 (as amended vide Letter dt. 25-11-1994) — Introduction of concept of "user agency" — Effect — Government's obligation or project proponent's obligation to obtain forest clearance under S. 2, Forest (Conservation) Act, 1980**

(Paras 80 to 93, 101 to 104, 111 and 112)

E. **Environment Protection and Pollution Control — Forests — Generally — "Forest" — What is — Relevance of local statute and local understanding thereof**

(Paras 80 to 93, 101 to 104, 111 and 112)

F. **Environment Protection and Pollution Control — Environmental Impact Assessment — Local understanding of issues, active involvement and consent of local populace (especially when it is comprised of tribals) — Benefits accruing to local populace and rehabilitation measures, if any, from development project concerned — Relevance of**

(Paras 77 to 80, 94 to 98, 103, 104, 111, 112, 117 and 120)

Page: 340

The present IAs were filed by the project proponent (a cement company) to expedite the processing of its application under Section 2, Forest (Conservation) Act, 1980 for operating a limestone mine. The applicant submitted that it had put in 10 years of effort in obtaining required approvals. But its efforts were frustrated as there arose a fresh doubt and conflict regarding nature of land being acquired as to whether it is forest land or not. And therefore, a stay on its mining operations was directed.

Opponents of the project alleged that the project proponent had suppressed the fact about the project being in the forest area and that MoEF had not applied its mind while granting approval. The project proponent submitted that it had earlier obtained certificates of DFO that the area was a wasteland and that pursuant to public hearing called by the Pollution Control Board, an NOC for mining operations was given by the Khasi Hills Autonomous District Council (a constitutional authority).

Allowing the IAs of the project proponent and vacating the stay on mining operations, the Supreme Court

Held :

There is no reason to interfere with the decision of MoEF granting site clearance dated 18-6-1999, EIA clearance dated 9-8-2001 read with revised environmental clearance dated 19-4-2010 and Stage I forest clearance dated 22-4-2010. Accordingly, IA No. 1868 of 2007 preferred by project proponent stands allowed. The interim order passed on 5-2-2010 shall also stand vacated.

(Para 121)

T.N. Godavarman Thirumulpad v. *Union of India*, (2010) 12 SCC 376, *referred to*

It is not possible to hold that the decision to grant ex post facto clearances stood vitiated on account of non-application of mind or on account of suppression of material facts by the project proponent as alleged by SAC. Similarly, it is not possible to hold on facts that ex post facto clearances have been granted by MoEF in ignorance of the existence of forests due to misdeclaration. On the question of non-application of mind by MoEF, it is found that that at various stages despite compliances by the project

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proponent and despite issuance of certificates by various authorities, MoEF sought further clarifications/information by raising necessary requisitions.

(Paras 105, 108, 109 and 111)

Even a report from the High-Powered Committee (HPC) was called for by MoEF. As per the report, all conditions imposed with regard to environmental clearance had been substantially complied with by the project proponent. The report discusses the steps taken by the project proponent with regard to reforestation. The report states that though the area can be treated as "forest", still it is a hilly, uneven, undulating area largely covered by "karstified" limestone and that the area can be reforested as a part of the reclamation plan. It further states that the indigenous and native people are satisfied with the credentials of the project proponent as the company is providing health care facilities, drinking water facilities, employment for local youth, construction of village roads, employment for school teachers, scholarship programme for children, etc. The report further notes that most of the members of the SAC were not the residents of the locality (Shella Village) and were living in Shillong while occasionally visiting Shella. The report further states that 200 persons participated in a long interaction with the members of HPC.

(Paras 111 and 112)

Page: 341

Thus, under the above circumstances, the parameters of intergenerational equity are satisfied and no reasonable person can say that the impugned decision to grant Stage I forest clearance and revised environmental clearance stood vitiated on account of non-application of mind by MoEF. On the contrary, the facts indicate that MoEF has been diligent. That, MoEF has taken requisite care and caution to protect the environment and in the circumstances, the Stage I forest clearance and the revised environmental clearance granted by MoEF is upheld.

(Paras 114 and 100)

The conditions incorporated in the order of the Supreme Court dated 12-4-2010 are in terms of the judgment in *T.N. Godavarman Thirumulpad case*, (2006) 1 SCC 1 with regard to commercial exploitability [and the same are being complied with].

(Paras 115 to 117)

T.N. Godavarman Thirumulpad (87) v. *Union of India*, (2006) 1 SCC 1, *applied*

Accordingly, this matter stands disposed of keeping in mind various facets of the word "environment", the inputs provided by the village durbar (including their understanding of the word "forest" and the balance between environment and economic sustainability), their participation in the decision-making process, the topography and connectivity of the site to Shillong, the letter dated 11-5-2007 of the Principal Chief Conservator of Forests and the report of Shri B.N. Jha dated 5-4-2010 (HPC) (each one of which refers to economic welfare of the tribals of Village Nongtrai), the polluter pays principle and the intergenerational equity (including the history of limestone mining in the area from 1858 and the prevalent social and customary rights of the natives and tribals). The word "development" is a relative term. One cannot assume that the tribals are not aware of the principles of conservation of forests. In the present case, limestone mining has been going on for centuries in the area and that it is an activity which is intertwined with the culture and the unique landholding and tenure system of Nongtrai Village.

(Para 120)

Due diligence exercise has been adequately undertaken by MoEF in the matter of forest diversion. Thus, the order herein is confined to the facts of this case.

(Para 120)

State of Forest Report, 2001; NEHU Report of 1997, *referred to*

The limestone bearing area around Nongtrai and Shella Villages falls under karst topography. The karst topography of the area supports sporadic growth of a few tree shrubs. The site selected for mining has commercially viable limestone deposits. The land was left unused covered with degraded forests and this was the reason for the durbar to lease out the said land to the project proponent for mining. The village durbar also felt that in the area unscientific limestone quarrying was going on resulting in loss of revenue both to the State as well as the inhabitants of the village particularly because the said mining was undertaken by unorganised sectors and, thus, it was decided to enter into the lease with the project proponent so that mining could be done on scientific basis. The site was also selected because of easy

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accessibility by road and less vegetation clearance stood involved. According to the NEHU Report, the site is located in the area on the outskirts of the forest.

(Paras 80 and 77)

Rapid EIA Report submitted by Environmental Resources Management India Pvt. Ltd. dated 6-4-2000; NEHU Report of 1997, *referred to*

T.N. Godavarman Thirumulpad v. *Union of India*, (1997) 2 SCC 267, *followed*

Page: 342

Public participation provides a valuable input in the process of identification of forest. Today, amongst the tribals of the North East, there is a growing awareness of the close relationship between poverty and environmental pollution. The natives and indigenous people are fully aware and they have knowledge as to what constitutes conservation of forests and development. They equally know the concept of forest degradation. They are equally aware of systematic scientific exploitation of limestone mining without causing of "environment degradation". However, they do not have the requisite wherewithal to exploit limestone mining in a scientific manner. These natives and indigenous people know how to keep the balance between economic and environment sustainability.

(Paras 97 and 98)

Shyam Divan and Armin Rosencranz: *Environmental Law and Policy in India*, *referred to*

Narmada Bachao Andolan v. *Union of India*, (2000) 10 SCC 664, *referred to*

G. **Environment Protection and Pollution Control — Sustainable development — Doctrines applicable — Doctrine of margin of appreciation and doctrine of proportionality — Held, applicable — Decision-making process and conflicts in determining issues of — Equitable principles of intergenerational equity and sustainable development, discussed and explained — As sustainable development is an ongoing process, the ineradicable existence of conflict in decision-making process, recognised — Therefore, application of margin of appreciation doctrine and doctrine of proportionality in such cases prescribed — Constitution of India, Art. 21**

H. **Environment Protection and Pollution Control — Judicial intervention — Judicial review of environmental matters — Factors and principles relevant, stated — Constitution of India, Arts. 32, 226 and 21**

I. **Environment Protection and Pollution Control — Forests — Forest Policy — Legal status — Held, principles/guidelines mentioned in National Forest Policy, 1988 should be read as part of provisions of Environment (Protection) Act, 1986 read with Forest (Conservation) Act, 1980 — Forest (Conservation) Act, 1980 — S. 2 — Environment (Protection) Act, 1986, S. 2**

Held :

Universal human dependence on the use of environmental resources for the most basic needs renders it impossible to refrain from altering the environment. As a result, environmental conflicts are ineradicable and environmental protection is always a matter of degree, inescapably requiring choices as to the appropriate level of environmental protection and the risks which are to be regulated. This aspect is recognised by the concept of "sustainable development". Environment has different facets and care of the environment is an ongoing process. These concepts rule out the formulation of an across-the-board principle as it would depend on the facts of each case whether diversion in a given case should be permitted or not, barring "no go" areas (whose identification would again depend on undertaking of a due diligence exercise). In such cases, the margin of appreciation doctrine would apply.

(Para 75)

Narmada Bachao Andolan v. *Union of India*, (2000) 10 SCC 664, *relied on*

Making these choices necessitates decisions, not only about how risks should be regulated, how much protection is enough, and whether ends served by environmental protection could be pursued more effectively by diverting

Page: 343

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resources to other uses. Since the nature and degree of environmental risk posed by different activities varies, the implementation of environmental rights and duties require proper decision-making based on informed reasons about the ends which may ultimately be pursued, as much as about the means for attaining them. Setting the standards of environmental protection involves mediating conflicting visions of what is of value in human life.

(Para 76)

The words "environment" and "sustainable development" have various facets. At times in respect of a few of these facets data is not available. Care for environment is an ongoing process. The National Forest Policy, 1988 which lays down far-reaching principles must necessarily govern the grant of permissions under Section 2 of the Forest (Conservation) Act, 1980 as the same provides the road map to ecological protection and improvement under the Environment (Protection) Act, 1986. The principles/guidelines mentioned in the National Forest Policy, 1988 should be read as part of the provisions of the Environment (Protection) Act, 1986 read together with the Forest (Conservation) Act, 1980.

[Para 122(*i*)]

Narmada Bachao Andolan v. *Union of India*, (2000) 10 SCC 664, *relied on*

The time has come to apply the constitutional "doctrine of proportionality" to the matters concerning environment as a part of the process of judicial review in contradistinction to merit review. It cannot be gainsaid that utilisation of the environment and its natural resources has to be in a way that is consistent with the principles of sustainable development and intergenerational equity, but balancing of these equities may entail policy choices. In the circumstances, barring exceptions, decisions relating to utilisation of natural resources have to be tested on the anvil of the well-recognised principles of judicial review. Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that has the decision-maker taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision? Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint. Once this is ensured, then the doctrine of "margin of appreciation" in favour of the decision-maker would come into play.

(Para 119)

R. v. *Chester City Council*, (2011) 1 All ER 476, *relied on*

J. **Environment Protection and Pollution Control — Judicial intervention — Scope of — Need for regulation of environmental matters — Considering ineradicable conflict in decision-making process in environmental matters and burden on courts on that count, Central and State Governments directed to appoint regulators — Guidelines laid down, to be in force till such regulatory mechanisms are put in place — Environment (Protection) Act, 1986 — S. 3(3) — Provision of National Regulator under — Implementation of — Forest (Conservation) Act, 1980, S. 2**

K. **Courts, Tribunals and Judiciary — Generally — Court and regulator — Nature of each, explained — Administrative Law — Administrative and Regulatory Bodies — Judiciary**

Page: 344

L. **Environment Protection and Pollution Control — Forests — Forest Policy, 1988 — Objectives of — Regulatory mechanism for implementation of, directed to be put in place — Guidelines issued, to be operative till then**

Held :

The Central Government should appoint an appropriate authority, preferably in the form of a regulator, at the State and at the Central level for ensuring implementation of the National Forest Policy, 1988. Under Section 3(3) of the Environment (Protection) Act, 1986, the Central Government should appoint a National Regulator for appraising projects, enforcing environmental conditions for approvals and to impose penalties on polluters. There is one more reason for having a regulatory mechanism in place. Identification of an area as forest area is solely based on the declaration to be filed by the user agency (project proponent). Therefore, at times the court is faced with conflicting reports. Similarly, the Government is also faced with a fait accompli kind of situation which in the ultimate analysis leads to

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grant of ex facto clearance.

[Para 122(*i*)]

The difference between a regulator and a court must be kept in mind. The court/tribunal is basically an authority which reacts to a given situation brought to its notice whereas a regulator is a proactive body with the power conferred upon it to frame statutory rules and regulations. The regulatory mechanism warrants open discussion, public participation and circulation of the draft paper inviting suggestions.

[Para 122(*i*)]

The basic objectives of the National Forest Policy, 1988 include positive and proactive steps to be taken. These include maintenance of environmental stability through preservation, restoration of ecological balance that has been adversely disturbed by serious depletion of forests, conservation of natural heritage of the country by preserving the remaining natural forests with the vast variety of flora and fauna, checking soil erosion and denudation in the catchment areas, checking the extension of sand dunes, increasing the forest/tree cover in the country and encouraging efficient utilisation of forest produce and maximizing substitution of wood.

[Para 122(*i*)]

To obviate these difficulties, a regulatory mechanism should be put in place and till the time such mechanism is put in place, MoEF should prepare a panel of accredited institutions from which alone the project proponent should obtain the Rapid EIA and that too on the terms of reference to be formulated by MoEF.

[Para 122(*i*)]

The detailed guidelines set out in Paras 122(*i*) to (*xv*) in this judgment shall be followed by the Central Government, State Governments and the various authorities under the Forest (Conservation) Act, 1980 and the Environment (Protection) Act, 1986. These guidelines are to be implemented in all future cases. These guidelines are required to be given so that fait accompli situations do not recur. These guidelines have been issued in the light of our experience in the last couple of years. These guidelines will operate in all future cases of environmental and forest clearances till a regulatory mechanism is put in place. On the implementation of these guidelines, MoEF will file its compliance report within six months.

[Paras 122(*i*) to (*xv*) and 123]

SS-D/48218/C

Advocates who appeared in this case:

Goolam E. Vahanvati, Attorney General, Parag P. Tripathi, Additional Solicitor General, Harish N. Salve, U.U. Lalit, Shyam Divan, F.S. Nariman, Dr. A.M. Singhvi, Jayant Bhushan, Krishnan Venugopal, Senior Advocates [Siddhartha Chowdhury, A.D.N. Rao, P.K. Manohar, Somiran Sharma, Nishanth Patil, Haris Beeran, Devadatt Kamat, S.N. Terdal, Subhash Sharma, Sanjeev K. Kapoor, Rajat Jariwal, Kumar Mihir (for M/s Khaitan & Co.), Anuj Bhandari, Ranjan Mukherjee, S. Bhowmick, S.C. Ghosh, H.S. Tangkhiew, Manish Kr. Bishnoi and P. Nongbri, Advocates] for the appearing parties.

Chronological list of cases cited ***on page(s)***

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The Judgment of the Court was delivered by

S.H. KAPADIA, C.J.—

Facts

1. Lafarge Surma Cement Ltd. ("LSCL", for short) is a company incorporated under the laws of Bangladesh. It has set up a cross-border cement manufacturing project at Chhatak in Bangladesh, which inter alia has a captive limestone mine of 100 ha located at Phlangkaruh, Nongtrai, East Khasi Hills District in the State of Meghalaya. The mine is leased out in favour of Lafarge Umium Mining (P) Ltd. ("LUMPL", for short), which is an incorporated company under the Companies Act, 1956 and which is a wholly owned subsidiary of LSCL. The entire produce of the said mine is used for production of cement at the manufacturing plant at Chhatak, Bangladesh under the agreement/arrangement between the Government of India and the Government of Bangladesh. There is no other source of limestone for LSCL except for the captive limestone mine situated at Nongtrai, East Khasi Hills District in the State of Meghalaya. The limestone as mined by LUMPL is conveyed from the mine situated at Nongtrai after crushing in a crusher plant. The limestone mined is conveyed by a conveyor belt to LSCL plant in Bangladesh.

2. The National Forest Policy, 1988 stood enunciated pursuant to Resolution No. 13/52-F, dated 12-5-1952 of Government of India to be followed in the management of State forests in India. The said Policy stood enunciated because over the years forests in India had suffered serious depletion due to relentless pressures arising from ever-increasing demand for fuel wood, fodder and timber; inadequacy of protection measures; diversion of forest lands to non-forest uses without ensuring compensatory afforestation and essential environmental safeguards; and the tendency to look upon forests as revenue earning resource. Thus, there was a need to review the situation and to evolve, for the future, a strategy of forest conservation including preservation, maintenance, sustainable utilisation,

restoration and enhancement of the natural environment. It is this need which led to the enunciation of the National Forest Policy dated 7-12-1988.

3. The principal aim of the Policy was to ensure environmental stability and maintenance of ecological balance. The derivation of direct economic benefit was to be subordinate to the principal aim of the Policy (see Para 2.2). Under essentials of forest management it is stipulated that existing forests and forest lands should be fully protected and their productivity improved. It is further stipulated that forest cover should be increased rapidly on hill slopes, in catchment areas and ocean shores. It is further stipulated that diversion of good and productive agricultural lands to forestry should be discouraged in view of the need for increased food production (see Para 3.2).

4. Under the Policy a strategy was prescribed vide Para 4. The goal is to have a minimum of one-third of the total land area under forest or tree cover. In the hills and in mountains the aim is to maintain two-third of the area under forest or tree cover in order to prevent erosion and land degradation and to ensure the stability of the fragile ecosystem. Under Para 4.2.3, village and community lands, which is the common feature

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in north-east regions, not required for other productive uses, should be taken up for development of tree crop and fodder resources and the revenue generated through such programmes should belong to the panchayats where lands are vested in them and in other cases such revenues should be shared with local communities to provide an incentive to them and accordingly land laws should be so modified wherever necessary so as to facilitate and motivate individuals and institutions to undertake tree farming.

5. Vide Para 4.3.1, the Policy lays down that schemes and projects which interfere with forests that cover steep slopes, catchment of rivers, lakes and reservoirs, geologically unstable terrain and such other ecologically sensitive areas should be severely restricted. Tropical rain/moist forests, particularly in areas like Arunachal Pradesh, Kerala and Andaman & Nicobar Islands should be totally safeguarded. No forest should be permitted to be worked without the Government having approved the management plan in a prescribed form and in keeping with the National Forest Policy (see Para 4.3.2). Under Para 4.3.4.2 the rights and concessions from forests should primarily be for the bona fide use of the communities living within and around forest areas, specially the tribals. The Policy recognises the fact that the life of tribals and other poor people living within and near forests revolves around forests and therefore the Policy stipulates vide Para 4.3.4.3 that the rights and concessions enjoyed by such persons should be fully protected and that their domestic requirements of fuel wood, fodder, minor forest produce and construction timber should be the first charge on the forest produce.

6. Para 4.4 deals with diversion of forest lands for non-forest purposes. Under the said para it is stipulated that forest land or land with tree cover should not be treated merely as a resource readily available to be utilised for various projects, but as a national asset which requires to be properly safeguarded for providing sustained benefits to the community. Diversion of forest land for non-forest purpose therefore should be subject to most careful examination by experts from the standpoint of social and environmental costs

and benefits. Construction of dams and reservoirs, mining and industrial development should be consistent with the need for conservation of trees and forests. Projects which involve such diversion should at least provide in their investment budget, funds for regeneration/compensatory afforestation. Beneficiaries who are allowed mining and quarrying in forest lands and in lands covered by trees should be required to revegetate the area in accordance with forestry practices and, therefore, by Para 4.4.2 it is stipulated that no mining lease shall be granted without a proper mine management plan.

7. Under Para 4.5 it is stipulated that forest management should take special care for wildlife conservation and consequently forest management plans should include prescriptions for that purpose. Under Para 4.6 of the Policy it is stipulated that a primary task of all agencies responsible for forest management shall be to associate the tribals and communities living in such areas in the protection, regeneration and redevelopment of forests as well as to provide gainful employment to people living in and around the forest.

8. On 27-1-1994, in exercise of the powers conferred by Section 3(1) read with clause (*v*) of sub-section (2) of Section 3 of the Environment (Protection) Act, 1986 (for short "the 1986 Act") read with Rule 5(3)(*d*) of the Environment (Protection) Rules, 1986 the Central Government issued the Environmental Impact Assessment Notification whereby it directs that on and from the date of publication of the said notification in the Official Gazette expansion or modernisation of any activity or a new project listed in Schedule I shall not be undertaken in India unless it has been accorded environmental clearance by the Central Government in accordance with the procedure specified in the notification. Under Clause (2)(I) any person who desires to undertake any new project listed in Schedule I shall submit an application to MoEF, New Delhi in the pro forma specified in Schedule II to be accompanied by a project report which shall include the EIA

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Page 9 Wednesday, July 26, 2023
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report/environment management plan prepared in accordance with the guidelines issued by MoEF. Under Clause (2)(II) in case of mining at a site specific project the project authority (project proponent) will intimate the location of the project site to MoEF while initiating any investigation and survey. MoEF will convey its decision regarding suitability of the proposed site within a specified period. Thus, site clearance will be granted for a sanctioned capacity and shall be valid for five years for commencing construction, operation or mining.

9. The EIA report submitted with the application by the project proponent shall be evaluated and assessed by the Impact Assessment Agency, and if deemed necessary, it may consult a committee of experts having a composition as specified in Schedule III. The Impact Assessment Agency (IAA) is MoEF. The Committee of Experts shall have full right of entry and inspection of the site. IAA shall prepare a set of recommendations based on technical assessment of documents and data, furnished by the project authorities (project proponent), supplemented by data collected during visits to sites which would include interaction with the affected population and environmental groups, if necessary. The summary of the reports, the

recommendations and the conditions, subject to which environmental clearance is given, shall be made available subject to public interest to the parties concerned or environmental groups on request. Comments of the public may be solicited within the specified period by IAA in public hearings arranged for that purpose. The public shall be provided access, subject to public interest, to the summary of the EIA report/environment management plan. The clearance granted shall be valid for five years for commencement of the construction or operation of the plant. The monitoring of the implementation of the recommendations and conditions of IAA is also provided for in the said notification vide Clause (IV).

10. The said Notification dated 27-1-1994 stood slightly amended by the Notification dated 10-4-1997. By the said notification detailed procedure for public hearing has been prescribed. It also prescribes composition of public hearing panels.

11. On 1-9-1997 LMMPL made an application for granting environmental clearance for Limestone Mining Project at Nongtrai, East Khasi Hills District, Meghalaya. The application was made under the EIA Notification, 1994. It was made in the form prescribed by the EIA Notification, 1994. 20 copies of Rapid EIA Report (NEHU Report) were also annexed therewith. However, the said proposal dated 1-9-1997 was returned by MoEF vide Letter dated 24-10-1997. The reason being that on 10-4-1997, as stated hereinabove, MoEF had amended the EIA Notification of 1994 making public hearing mandatory for the development projects listed in Schedule I of the notification. By reason of the said Notification dated 10-4-1997 the then project proponent (LMMPL) was asked to seek site clearance as well as project clearance separately.

12. The site clearance proposal was called for through the State-level agency dealing with the mines. Accordingly, by application dated 23-9-1998 LMMPL applied for site clearance for Limestone Mining Project at Nongtrai Village, East Khasi Hills District, Meghalaya. This application was made in the prescribed form. The application indicates that there exists an approach/access road to the site that is described as Shillong-Mawsynram-Nongtrai or Shillong-Cherrapunjee-Shella-Nongtrai. The application further states that all villages represent tribal population. The application further indicates that there exist many private limestone quarries in the area. It is further stated in the application that the topography of the area is hilly. Against the column "Forest Land Involved in the Project" the answer given by the project proponent was "Nil". According to the application the site is not a habitat/corridor for endangered/rare/endemic species. The source of this information was the NEHU Report.

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13. According to the said Report, mining of limestone in Khasi Hills was a source of revenue right from 1858. The limestone deposit in Meghalaya is estimated to be 2165 million tonnes. Exploitation of Nongtrai limestone dates back to 1885. Even today, a number of private parties quarry limestone in this area. An area of 100 ha stood acquired by LMMPL on lease basis for mining. For that an agreement was signed with the village durbar. The limestone

bearing area around Nongtrai and Shella falls under the karst topography. This area falls on the southern fringe of the Meghalaya plateau. [See Land Use/Land Cover Map (March 1997) submitted by Mr F.S. Nariman, Source: IRS-1 C LISS-3 MX DATA, Path & Row: 111-054, Date: March 1997.] Karst topography is a landscape formed by the dissolution of a layer(s) of soluble bedrock, usually carbonate rock such as limestone. Karst topography is characterised by limestone caverns carved by groundwater. Karst landscapes are formed by the removal of bedrock (composed in most cases of limestone, gypsum or salt). (See article from *Encyclopaedia Britannica* by William B. White.)

14. Along with the application, a certificate dated 27-8-1997 was annexed. It was issued by the Khasi Hills Autonomous District Council, Shillong which Council is the constitutional authority under the Sixth Schedule to the Constitution. By the said certificate the Council specifically stated that it had no objection for mining operation in the area at Nongtrai Village since the area does not fall within a forest land.

15. This application for site clearance was allowed by MoEF vide Letter dated 18-6-1999 addressed to the project proponent. Site clearance was, thus, granted under the 1994 Notification as amended on 4-5-1994 and 10-4-1997 subject to strict compliance with terms and conditions mentioned therein. One of the conditions was that the project proponent shall obtain environmental clearance for the proposed limestone mine as per the procedure laid down in the 1994 Notification before taking up developmental work at the site. The said clearance was not to be construed as grant of mining permission. No developmental activity relating to the project was to start prior to environmental clearance.

16. Accordingly, on 17-4-2000, LMMPL made an application for environmental clearance to MoEF in the prescribed form to excavate 2 million tonnes per annum of limestone and to transport the same to Chhatak in Bangladesh through a conveyor belt (7.2 km long within Indian territory). The mining lease area was indicated to be 100 ha. The description of land was shown as "barren". In the application, it was further stated that there is no notified forest land within 25 km from the proposed mine. Along with the application vide Annexure A, a copy of no-objection certificate (NOC) for mining operations at the proposed site dated 27-8-1997 stood annexed. That certificate was issued by the Khasi Hills Autonomous District Council, Shillong, which, as stated above, inter alia states that the Council has no objection for mining operations at Nongtrai Village since the area of 100 ha does not fall within forest land. Similarly, vide Letter dated 6-7-1997 issued by the village durbar, NOC was granted for withdrawal of water for the project. Vide Annexure G to the application, consent to establish the project stood issued by the Meghalaya Pollution Control Board.

17. By Annexure H to the application, minutes of the Environmental Public Hearing of the project has been annexed. These minutes indicate the presence of the Additional Deputy Commissioner, East Khasi Hills District, various government officials including nominees of Forest Conservators and Member-Secretary of the Pollution Control Board. According to the

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Headman of Nongtrai Village, limestone is abundantly available in the area; the same has not been utilised by local villagers due to lack of infrastructure; for economic development, the village durbar had decided to lease the area; the environmental implications of the project stood discussed; complaint received from the Meghalaya Adventures Association was read out which complaint mainly dealt with destruction of caves which stood rebutted by the Headman and, thus, the meeting stood concluded. All this indicates even public participation and grant of NOCs by various competent authorities. Vide Annexure J to the application for environmental clearance, we find approval being granted under Section 5 (1) of the Mines and Minerals (Development and Regulation) Act, 1957.

18. Along with the application for environmental clearance LMMPL also forwarded to MoEF the Rapid EIA Report of the limestone mine prepared by Environmental Resources Management India (P) Ltd. This Report describes in detail the topography of the mining site. According to the said Report the leased area lies on the western side of Umium River Valley. It is approachable from Shillong via Mawsynram and Nongtrai Villages by motorable road. It is also accessible from Shillong by road via Cherrapunji. According to the Report the site is at Phalngkaruh which originates from the foothills of the proposed mine site. According to the said Report the site is on uneven terrain with a rugged topography. There are heaps of fractured rocks all over the place. It is a rocky region. The site rejects any possibility of natural growth of forest. It is an area of low botanical and floral diversity. It is an area covered with rocks. The area can be termed as a wasteland.

19. On receipt of the application for environmental clearance, certain queries were raised by MoEF with regard to the scope of the site clearance (the original site clearance was for 0.8 million tonnes whereas subsequently that capacity was revised to 2 million tonnes); that, as per this Court's order dated 12-12-1996[1], "forests" has to be understood in terms of the dictionary meaning and, accordingly, a certificate was asked for in that regard from the local DFO; the effect due to disposal of waste water through soak pit and whether the existing road width was sufficient to carry on heavy equipments for mining purposes. These were some of the queries/objections on the basis of which clarification was sought vide Letter dated 1-5-2000 by MoEF with regard to environmental clearance under the 1994 Notification.

20. As requested by MoEF, the project proponent vide letter dated 11-5-2000 requested the local DFO to issue necessary certificate as called for by MoEF in terms of the order of this Court dated 12-12-1996. Accordingly, on 13-6-2000, the DFO forwarded the certificate to the project proponent in respect of Limestone Mining Project at Nongtrai, East Khasi Hills District, Meghalaya by which it was certified that the mining site was not a forest area as per this Court's order dated 12-12-1996[1] and nor did it fall under any of the notified reserved or protected forests. Moreover, the certificate once again reiterated that the site area stood covered with karst topography which supported only a sporadic growth of a few tree shrubs. Despite such

certificate of the DFO, MoEF in continuation of their Letter dated 1-5-2000 called for additional information inter alia including a list of flora and fauna in compliance with the Wild Life (Protection) Act, 1972, a list of species under the 1972 Act, consent from the State Pollution Control Board for 3000 TPD of limestone, information on ground water potential, information regarding water requirement, etc.

21. Clarifications sought by MoEF vide Letters dated 1-5-2000 and 16-6-2000 for environmental clearance were answered by LMMPL vide letter dated 17-8-2000. As per the said reply, the environmental public hearing notice was published in three newspapers; that, earlier the project proposal was for 0.8 million tonnes per annum but later on based

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Page 12 Wednesday, July 26, 2023
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on the increased cement plant production capacity in Bangladesh, it stood increased to 2 MTPA; that, earlier the lease period was proposed to be 35 years which stood reduced to 30 years; that, the mine site was on karst topography which neither MoEF nor the Shella Action Committee ("SAC", for short) denies; that, the equipment to the mine site would be brought through Guwahati-Shillong-Mawsynram route which contains an established route whose width was 7.5 m wide; that, there was no proposal to cut any trees for the purpose; that, no sanctuary/national park is located within 25 km radius from the proposed mine location; that, the mine site is situated in the southern slopes of the Central Plateau of Meghalaya; that, the core area comprising of the mining site consisted of uneven terrain with a rugged karst topography (see p. 484 of Vol. III); the minutes of the environmental public hearing dated 3-6-1998 were also annexed; site clearance dated 18-6-1999 granted by MoEF was also annexed; that, a report regarding impact of limestone mining on Nongtrai, Meghalaya on the siltation process prepared by the Centre for Study of Man and Environment dated April 2000 also stood annexed to the clarifications given by LMMPL. We need to comment on that report. Firstly, it indicates that the mining site is located on the southern fringe of the Meghalaya Plateau adjoining the plains of Bangladesh having a rich endowment of high grade limestone. Secondly, it highlights that the site is approachable from Shillong (109 km) by motorable road via Mawsynram and Nongtrai. Thirdly, it states that on account of dissolution of the limestone, karst topography has resulted which topography is characterised by caverns and caves which are so prominent that even in 1:50,000 toposheet, they could be plotted. In other words, the karst features are intimately tied up with hydrological situation. Certain recommendations have been made in the report with regard to possible impact of limestone mining on the Phalangkaruh River system.

22. Despite clarification, MoEF once again examined the matter through the Expert Committee which held its meeting on 19-10-2000 and 20-10-2000 in New Delhi under the aegis of MoEF. In the meeting, the project proponent made a presentation on their proposal for production of limestone at the rate of 30,000 tonnes per annum for five years. Certain queries were raised by the Expert Committee on the basis of which once again further clarification was sought by MoEF from LMMPL vide Letter dated 6-11-2000. According to the query, the area in question supports diversity of plants and animals. It also

represents the remnants of the rapidly vanishing humid rainforest. That, the area is a home of endemic insectivorous plants, butterflies; all this, according to MoEF, would require a detailed survey of plants and animals to be carried out with the help of BSI and ZSI offices located in Shillong.

23. Accordingly, the project proponent submitted a report on ecological status survey prepared by the Centre for Environment and Development; report on Afforestation Reclamation Plan, report on Physiography and Hydrogeology of Fugro Milieu Consult B.V. and report on Catchment Area Treatment Plan, vide letter dated 9-2-2001 addressed to MoEF. One more aspect may be noted. These reports were placed before the Expert Committee once again on 7-3-2001. Even the Wildlife Division also gave its report on 1-6-2001. After placement of all these reports, at the end of the day, EIA clearance was given by MoEF on 9-8-2001 which again contained further conditions which were to operate once the developmental work started. According to the environmental clearance dated 9-8-2001, the total lease area of the mine is 100 ha; that no diversion of forest land was involved; that the targeted annual production capacity of the mine had to be 2 million tonnes and, lastly, certain general conditions were stipulated with regard to steps to be taken during the developmental work. On EIA clearance being granted by MoEF, LMMPL became desirous of transferring and assigning the lease in favour of LUMPL having its

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registered office at Shillong on which the State Government granted permission to transfer the mining lease vide Order dated 29-8-2001. Accordingly, a transfer deed stood executed on 28-2-2002 in the prescribed form under Rule 37-A of the Mineral Concession Rules, 1960. Accordingly, on 30-7-2002, environmental clearance which was earlier granted to LMMPL stood transferred to LUMPL by MoEF.

24. However, vide letter dated 1-6-2006, from the Chief Conservator of Forests (C), Shri Khazan Singh, addressed to MoEF it was pointed out that he had visited the limestone mining project of Lafarge when it was found that project had completed developmental works and opening of mine benches had also been accomplished for 7 ha of the mining lease land. According to the said letter the mining lease area around the developed mine benches stood surrounded by thick natural vegetation cover with sizeable number of tall trees. The said vegetation included trees being cleared for developing the mining benches. That the wood obtained from felling of trees was collected by the lessors who were from Nongtrai Village. According to the said letter, for such clearance no permission was taken under the Forest (Conservation) Act, 1980 (for short "the 1980 Act"). Further, even the Rapid EIA Report submitted by the project proponent described the land as wasteland though the visit of the Chief Conservator found it to be otherwise. Consequently, by the said letter the Chief Conservator of Forests (C) informed MoEF that the project proponent may be directed to obtain forest clearance under the 1980 Act and not to proceed with the mining activities till such clearance. A copy of the said letter was also sent to the project proponent.

25. By letter dated 11-8-2006, the project proponent replied to the Chief Conservator of Forests (C) stating that it had proceeded with the

developmental work on the basis of the certificate given by the DFO dated 13-6-2000 under which it was certified that the project area was not a forest area and it did not fall in any of the notified reserved or protected forests. It was further clarified that in the core area there were only a few trees, shrubs growing in some soil trapped in the crevices and only those shrubs and trees which are growing in the area demarcated on the excavation plan have been cut. According to the said letter the 1980 Act was not applicable as there was no diversion of forest land for non-forestry purposes.

26. Accordingly, a Letter was addressed by MoEF on 15-11-2006 to LMMPL. The complaint made by the Chief Conservator of Forests (C) was conveyed to the project proponent. In terms of the said complaint, MoEF directed LMMPL to obtain forest clearance under the 1980 Act before taking steps to clear vegetation including trees for developing mining benches.

27. On 14-9-2006, MoEF issued the EIA Notification, 2006 whereunder concerns of local affected persons were required to be taken into account through public consultation. By letter dated 29-1-2007, Lafarge took the stand that there is some natural growing vegetation; that only those shrubs which are growing in the excavation plan have been cleared and since there was no diversion of forest land for non-forestry purposes the 1980 Act was not applicable. Vide letter dated 9-4-2007 addressed by the Chief Conservator of Forests (C) to the Secretary, Department of Forest and Environment, Government of Meghalaya as well as to the Khasi Hills Autonomous District Council, it was pointed out that the mining project was undertaken in the virgin and natural forest; that the forest is standing all around the periphery of the broken area; that the mine was operating on forest land without clearance under the 1980 Act; that the area is a natural/virgin forest; that the land belonged to the village durbar of Nongtrai and in the circumstances forest clearance was required to be obtained under the provisions of the 1980 Act in terms of the order of the Supreme Court dated 12-12-1996[1]. According to the said letter, there was a clear violation of the 1980 Act. Accordingly, the Chief Conservator of Forests (C) Shri B.N.

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Jha requested the Government of Meghalaya to stop fresh clearance of vegetation, breaking of land, extension of mining area, removal of felled trees and stoppage of non-forestry activities with immediate effect. A copy of the said letter was also forwarded to MoEF.

28. By Letter dated 17-4-2007 addressed by MoEF to the Government of Meghalaya a report was asked for indicating justification for continuance of mining by the project proponent within a week failing which MoEF had no option but to direct mine closure. Thereafter response was given by Lafarge vide letter dated 25-4-2007. However, MoEF vide Letter dated 30-4-2007, directed complete closure of all ongoing non-forestry activities by Lafarge in compliance with the directions of the Supreme Court dated 12-12-1996[1].

Page: 354

29. Suffice it to state, without going into further correspondence, that Lafarge submitted its application for forest clearance under the 1980 Act vide application dated 3-5-2007. The application makes it clear that permission is sought for forest clearance without prejudice to the rights and contentions of the project proponent. After reciting the above facts, Lafarge submitted that the project was a cross-border project; that it had put in ten years of efforts for obtaining approvals; that had the reservations on the legal status of the land and the use of the mine site as forest land been made clear by the Chief Conservator of Forests (C) and had such reservations been conveyed to Lafarge earlier or even at the time of consideration of the proposal for environmental clearance, they (project proponent) would have sought approval under the 1980 Act before implementing the mining project. It was pointed out that the mining lease area was 100 ha. At the time of making the application for forest clearance the broken-up area was 21.44 ha. In the said application Lafarge undertook to bear the cost of raising and maintenance of compensatory afforestation. They also undertook to fulfil all other conditions leviable under the law.

30. By letter dated 11-5-2007 addressed by the Principal Chief Conservator of Forests, Meghalaya to the Government of Meghalaya, it was pointed out that the project proponent had broken-up area of about 21.44 ha; that the topography in the leased mine around the broken-up areas was karst topography consisting of limestone surface having natural fissures and crevices; that a sizeable quantity of limestone was lying in and around the broken-up area; that the non-broken up area in the leased mine was forest land falling within the purview of the 1980 Act. By the said letter, the Principal Chief Conservator of Forests submitted that the project proponent be allowed to remove the already broken limestone from the site and that the project proponent may be directed to apply for forest clearance under the 1980 Act for the non-broken up part of the leased area.

31. It is at this stage that Lafarge moved this Court by way of IA No. 1868 of 2007 inter alia seeking orders directing MoEF to expeditiously process its application under Section 2 of the 1980 Act within a time-bound programme preferably within 60 days. By letter dated 3-7-2007 addressed by Lafarge to MoEF (North-East Region), the regional office of MoEF was informed that the project proponent had already applied for forest clearance to MoEF, New Delhi.

32. On 6-9-2007 CEC submitted its report to this Court saying that the project proponent should have taken permission under the 1980 Act before starting operations in the area. According to CEC this was a typical case where ex post facto approval under the 1980 Act is sought after the mine has been allowed to operate illegally. Since fait accompli situation arose according to CEC there was no option but to recommend the case for grant of permission for the use of forest land for mining lease, conveyor belt system and associated activities subject to certain conditions mentioned therein. By interim order

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dated 5-2-2010[2] Lafarge was directed to stop all mining activities.

33. On 5-4-2010 a report was submitted by Shri B.N. Jha, Regional Chief Conservator of Forests (C) [also known as High-Powered Committee (HPC)]. The report was submitted pursuant to the site inspection carried out by a High Level Committee which also had interaction with local population and institutions in the first week of April, 2010. Briefly, it may be stated that the report indicates assessment of the impact of the mining done by the project proponent up to April 2010 on forest, wildlife and surroundings. The report indicates details of the area already broken up. On the impact aspect the report states that the total clearing involves felling of 9345 trees out of which 1200 trees have already been felled. That, although the area supports rich flora, the same can be reforested as a part of the reclamation plan. According to the report, the said impact can be minimised after a thorough study of the Biodiversity Management Plan as well as the Catchment Area Treatment Plan is prepared and executed in a time-bound manner.

34. At the same time the report states that the project is positive and beneficial to the residents of Nongtrai Village due to huge amount of cash going to the village durbar and reaching the individual household improving the financial health of the population of two villages i.e. Nongtrai and Shella. According to the report, interaction took place between the High-Powered Committee constituted by MoEF and the locals. That villagers of Shella are not having any problems from Lafarge and that the people are very satisfied with the mining company which has provided health care facilities, drinking water facilities, employment, schools, etc. According to the report, Lafarge has been contributing for the benefit of the village as well as for all the villagers by way of payment of rent for the use of the community land as well as towards the price of limestone exported to Bangladesh. The figures of such payments are also indicated in the report. Further, the report states that mining is not having any adverse effect on the human life.

35. When the matter came up before the Supreme Court on 12-4-2010, the learned Attorney General stated that MoEF will take a final decision under the 1980 Act for the revised environmental clearance for diversion of 116 ha of forest land subject to certain conditions. Accordingly, on 19-4-2010 MoEF granted environmental clearance with certain additional conditions. The environmental clearance dated 19-4-2010 was followed by forest clearance dated 22-4-2010 (ex post facto clearance) granted by MoEF. This letter refers to the Letter of the State Government dated 19-7-2007 forwarding its proposal for diversion of 116.589 ha of forest land for limestone mining in favour of Lafarge wherein prior approval of the Central Government was sought.

36. The said proposal of the State Government was examined by FAC constituted by the Central Government under Section 3 of the 1980 Act. Thus, forest clearance was granted by MoEF vide Letter dated 22-4-2010 which again stipulated further conditions to be complied with by the project proponent. Accordingly, on 26-4-2010 the learned AGI submitted before this Court that Lafarge may be permitted to resume the mining operations subject to compliance with conditions enumerated in the Order passed by MoEF on

22-4-2010. However, this Court ordered that before it grants permission to resume the mining operations it was imperative that plans should be drawn up and relevant reports be placed before this Court based on a comprehensive engineering and biological study

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including assessment of flora and fauna.

37. A study report was submitted by NEHU on June 2010 in which it has been stated that the forests in the said area can be categorised into tropical moist deciduous forest, tropical semi-evergreen forest, savannah, subtropical broad-leaved forest, forest gardens, orchards, etc. Regarding the core area, the report states that the broken-up area (already mined) was 38.089 ha; that the said area was devoid of any vegetation and could be characterised by limestone floor and benches. However, the vegetation in the rest of the core area (i.e. proposed mining area) had tropical moist deciduous type of vegetation with variable canopy cover and mostly sparse. It further states that the density of plants is very low due to rocky terrain and low soil content. It further states that only a few trees described in that paragraph are present in the undisturbed core zone.

38. On compliance with various conditions imposed by MoEF including payment of compensatory afforestation, penal compensatory afforestation and NPV with interest as well as the reports submitted by various authorities were placed before the Expert Appraisal Committee on 29-6-2010 and 21-7-2010 pursuant to the directions of the Supreme Court vide order dated 26-4-2010. According to the minutes of the Expert Appraisal Committee, the conditions and environmental safeguards stipulated by MoEF while according environmental clearance on 9-8-2001 and 19-4-2010 were comprehensive enough to mitigate any adverse impacts of the project and to protect the environment if implemented effectively.

39. The minutes of the meeting of the Expert Appraisal Committee dated 21-7-2010 also recite that various reports were considered by the Committee. It also recites the fact that the Government of Meghalaya had addressed a Letter to MoEF on 12-7-2010 conveying their recommendations for the grant of formal approval under Section 2 of the 1980 Act for diversion of 116.589 ha of forest land for limestone mining. On 21-10-2010 Lafarge submitted a compliance chart of 31 conditions.

Submissions

40. According to the learned amicus curiae, it is obvious from all the documents that have come on record including those filed by Lafarge that permissions under the EIA Notification, 1994 (as amended) under Section 3 of the 1986 Act have been obtained without a candid disclosure of the facts. That, even if it is held that in cases of bona fide misinterpretation of statutory provisions and rules the project stood commenced without obtaining prior permission as mandated under Section 2 of the 1980 Act, save and except in cases of absolute candour and where the want of such permission is solely and entirely on account of bona fide doubt as to the nature and character of the land and/or statutory regime applicable to such projects, no permission should be granted specially to private projects established only for profit where the project presents a "fait accompli".

41. The learned amicus submitted that over the years we find commencement of projects without obtaining prior permission as mandated under Section 2 of the 1980 Act and, when detected, the project proponent(s) falls back on the plea of "fait accompli". According to the learned amicus, time has, therefore, come for this Court not to regularise such projects which are commenced without obtaining prior permission under the 1980 Act except in cases of absolute candour and where the want of permission is solely and entirely based on account of bona fide doubt as to the nature and character of the land and/or the statutory regime applicable to such projects. According to the learned amicus, barring the above exceptions, this Court should direct removal of the project and restoration of the environment wherever it is possible or to take over the project to ensure that all gains from such projects are allowed to be used only for those whose rights have

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been violated.

42. In support of his above submissions, the learned amicus placed reliance on the report of the Chief Conservator of Forests (C) dated 1-6-2006 addressed to MoEF in which it was stated that the mining lease area around the developed benches has been found surrounded by thick natural vegetation cover with sizeable number of tall trees; that, the said vegetation including the trees was being cleared for developing the mine benches; that, the wood obtained from felling of trees was being collected by Nongtrai village durbar; and that, the said report of the Chief Conservator of Forests (C) dated 1-6-2006 contradicts the Rapid EIA Report submitted by the project proponent which describes the land in question as wasteland.

43. The learned amicus also relied upon the second report dated 9-4-2007 again by the Chief Conservator of Forests (C) based on his site visit on 7-4-2007 in which report it has been stated that the mining lease lies in the midst of virgin and natural forest. According to the said report, the said mine in question is operating on forest land without clearance under the 1980 Act. According to the said report, calling the area/site by any other name than a forest would be a travesty which could only be assigned to an ulterior motive of obtaining exemption or avoiding taking prior approval of the Government of India under the 1980 Act. The learned amicus also placed reliance on the report dated 11-5-2007 of the Principal Chief Conservator of Forests. In the said report dated 11-5-2007, the Principal Chief Conservator of Forests also agreed with the view of the Chief Conservator of Forests (C) stating that the project proponent should have taken permission under the 1980 Act to start the operation in the area.

44. According to the learned amicus, though the mine commenced commercial production with effect from October 2006, the said commencement was based on approvals granted by statutory authorities on the assumption that the mining lease area is a non-forest land. In this connection, the learned amicus pointed out that the entire case of the project proponent is based on only one certificate issued by the DFO, Khasi Hills Division dated 13-6-2000 in which it has been certified that the mining site for limestone mining project at Nongtrai, East Khasi Hills District,

Meghalaya is not a forest area in terms of the order of this Court dated 12-12-1996[1] and that it does not fall under any notified reserved or protected forests. In the said certificate, it has been further stated that the project site is on karst topography which supports only a sporadic growth of a few trees, shrubs and creepers. Besides the said certificate dated 13-6-2000, the project proponent also seeks to place reliance on the letters dated 28-4-1997 and 27-8-1997 addressed by the Khasi Hills Autonomous District Council which took the view that the area is a non-forest land. According to the learned amicus, it is not open to the project proponent to rely upon the certificate of the DFO dated 13-6-2000 as the said certificate was given without any intimation to the higher authorities and that an enquiry has been instituted to determine the circumstances in which the certificate was issued by the DFO.

45. The learned amicus further pointed out that the prospecting licence held by the project proponent was allowed to be converted into a mining licence in 1997 which was after the order of the Supreme Court dated 12-12-1996[1]. That apart, there is a special law in the State of Meghalaya i.e. the United Khasi and Jaintia Hills Autonomous District (Management and Control of Forests) Act, 1958 under which forest has been defined to mean an area in which there are twenty-five trees per acre. Thus, according to the learned amicus by all these definitions the area in question is a forest. Thus, according to the learned amicus even if the project proponent ultimately succeeded in getting forest clearance under Section 2 of the 1980 Act on 22-4-2010 since the said project stood established originally in the forest area in a brazen violation of the 1980 Act, such a

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project cannot be allowed to be regularised by grant of permission ex post facto dated 22-4-2010.

46. Shri Shyam Divan, learned Senior Counsel appearing on behalf of Shella Action Committee (SAC) while adopting the submissions of the learned amicus curiae with regard to the project being illegal, submitted that having regard to Para 4.3.1 of the National Forest Policy, 1988, tropical rain/moist forests are required to be totally safeguarded. According to SAC the forest in the region is a tropical moist forest and no forest clearance ought to have been granted because of the ecological significance recognised by the 1988 Policy. According to SAC this fact was known to Lafarge at all material times as can be seen from the Rapid EIA Report prepared by NEHU which specifically states that the vegetation at the study site is a mixed moist deciduous forest. Reliance is also placed by the learned counsel on the assessment of floral diversity prepared by NEHU in June 2010 which indicates that the forest in the study area can be categorised into tropical moist deciduous forest, tropical semi-evergreen forest, savannah, subtropical broad-leaved forest, forest garden, orchards and riparian forest. According to the said assessment of 2010, the vegetation in the core area is tropical moist deciduous type whereas the vegetation in the proper zone can be categorised into tropical and subtropical types.

47. Thus, according to the learned counsel, having regard to the undisputed position emerging from the record the subject area is covered by a tropical moist forest deserving highest degree of ecological protection and

therefore this Court should set aside the environmental clearance dated 9-8-2001 given under Section 3 of the 1986 Act by MoEF. In this connection it may be mentioned that SAC has also moved this Court by way of IA No. 2937 of 2010 seeking revocation of the environmental clearance dated 9-8-2001. They have also challenged the revised environmental clearance dated 19-4-2010 granted by MoEF as also Stage I forest clearance dated 22-4-2010 issued by MoEF.

48. According to the learned counsel, Lafarge was duty-bound to make an honest disclosure of all facts when seeking environmental and forest clearances as it is an express requirement under Clause 4 of the EIA Notification, 1994. That, where a false information, false data, engineered reports are submitted or factual data is concealed, the application is liable to be rejected, and where granted, it is liable to be revoked. According to SAC, Lafarge had given an express undertaking in its application for environmental clearance dated 17-4-2000 that if any part of the information submitted was found to be false or misleading the project clearance could be revoked at Lafarge's risk and cost.

49. According to SAC, the region where the mining is taking place and with regard to which permissions were obtained is governed by a specific local Act and the Rules framed thereunder, namely, the United Khasi and Jaintia Hills Autonomous District (Management and Control of Forests) Act, 1958 which Act was enacted by the District Council of the United Khasi-Jaintia Hills Autonomous District in exercise of its powers under the Sixth Schedule to the Constitution of India. According to the learned counsel, the 1958 Act classifies forests and regulates forest resource management and use and applying the definition of "forest" under Section 2(*f*), the region where the mining is taking place is a forest as the said area has not less than 25 trees per acre. Thus, according to the learned counsel for SAC, it ought to be assumed that the officials of Lafarge had full knowledge of the local law as well as the forest cover and the layout of the land. From every perspective, Lafarge could not have commenced the project without a detailed survey of the physical topography of the land and the forest cover. Thus, Lafarge had knowledge of the forest cover in the region and yet it falsely withheld this information from the authorities concerned including MoEF.

50. In this connection, the learned counsel placed reliance on the NEHU Report of 1997,

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letter dated 1-6-2006 from the Chief Conservator of Forests (C) to MoEF, letter dated 9-4-2007 from the Chief Conservator of Forests (C) to the Government of Meghalaya and assessment of floral diversity prepared by NEHU in June 2010. According to the learned counsel, despite knowledge of the definition of "forest" and the provisions of the 1958 Act, the government officials issued letters containing incorrect information in relation to the forest cover. These letters are the letter dated 28-4-1997 from the Khasi Hills Autonomous District Council; letter from the Deputy Commissioner, East Khasi Hills District dated 10-7-1997 enclosing a spot enquiry report which stated that there was no forest on the land proposed to be leased out; letter dated 27-8-1997 from the Khasi Hills Autonomous

District Council granting NOC on the basis that there was no forest and the certificate dated 13-6-2000 issued by the DFO, Khasi Hills Division stating that there was no forest on the land proposed to be leased out.

51. According to the learned counsel, the environmental clearance dated 9-8-2001 issued by MoEF was premised on "no diversion of forest land or displacement of people is involved". According to the learned counsel, the said premise is per se incorrect as there is a tropical moist deciduous forest in the area being mined. According to the learned counsel, the environmental clearance dated 9-8-2001 was clearly granted on the basis of false representations made by Lafarge regarding absence of forests; engineered reports projecting the site as "a near wasteland"; and the concealment of factual data available with Lafarge including the 1997 NEHU Report which showed the subject land as forest land.

52. Thus, according to the learned counsel, MoEF ought to revoke the environmental clearance dated 9-8-2001 having regard to Para 4 of the EIA Notification, 1994 and inasmuch as MoEF has failed and neglected to revoke the clearance dated 9-8-2001, this Court may quash the said clearance. According to the learned counsel, the environmental clearance dated 9-8-2001 is the parent clearance and, consequently, the revised environmental clearance dated 19-10-2010 (the correct date is 19-4-2010) must automatically fall if the parent clearance is quashed. In any event, the learned counsel submitted that the revised clearance is liable to be set aside since the mandatory procedure of conducting a public consultation had not taken place. According to the learned counsel, a public consultation is mandatory in terms of Para 7 of the EIA Notification dated 14-9-2006. Such consultation has not taken place. The public hearing held on 3-6-1998 was without a disclosure of the forest and, hence, there has been no public consultation in accordance with Para 7 of the EIA Notification dated 14-9-2006.

53. Thus, according to the learned counsel, the revised environmental clearance dated 19-4-2010 is liable to be quashed on the ground of non-compliance with the mandatory provisions of the EIA Notification of 2006. According to the learned counsel, consequently, the Stage I forest clearance dated 22-4-2010 is also liable to be rejected. It may be noted that the Stage I forest clearance dated 22-4-2010 has been granted by FAC of MoEF. The learned counsel submits that under the National Forest Policy, 1988 tropical rain/moist forest is required to be totally safeguarded. That, it is a no-go area. According to the learned counsel, since the region where mining is taking place falls within tropical rain/moist forest, FAC ought not to have given the clearance on 22-4-2010.

54. For the aforestated reasons, it is the case of SAC that both on account of the nature of the land in question and the conduct of Lafarge, this Court should dismiss IA No. 1868 of 2007 filed by Lafarge and that IA No. 2937 of 2010 filed by SAC seeking revocation of the parent environmental clearance dated 9-8-2001 and revised environmental clearance dated 19-4-2010 and forest clearance dated 22-4-2010 be allowed.

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55. On the nature of the land in question, the learned Attorney General submitted that in the Rapid EIA Report (NEHU Report), annexed along with the application dated 1-9-1997 for grant of environmental clearance, a description of the vegetation area at the proposed mining site which is distributed in three distinct layers indicated that the third and the lower layer consisted of shrubs and herbs and their poor growth was due to lack of soil. It was also mentioned that the majority of valuable timber trees had already been extracted from the mining site in the past in Meghalaya by the tribals who lived on timber. In Para 4.9 of the Report the site was described to be mostly covered with pole sized trees, shrubs and herbs. This EIA Report did not make reference to the certificate dated 28-4-1997 of the Khasi Hills Autonomous District Council, the Spot Inspection Report dated 10-7-1997 nor the certificate dated 27-8-1997 issued by the Council all of which referred to absence of forest.

56. According to the learned Attorney General at each stage MoEF had raised queries and requisitions and after a thorough probe MoEF gave ultimately environment clearance on 19-4-2010 and 22-4-2010 being the forest clearance. In this regard it was pointed out by MoEF vide Letter dated 24-10-1997 that the EIA Notification, 1994 was amended on 10-4-1997 making public hearing mandatory for the development projects listed in Schedule I of the Notification. Consequently, the proposal required two-stage clearance, namely, site as well as project clearance. This is the reason why the project proponent made site clearance application on 23-9-1998. Before that the project proponent approached the Meghalaya State Pollution Control Board for consent to establish limestone mining project. Similarly, a public hearing notice was given on 27-4-1998. The public hearing was conducted on 3-6-1998.

57. According to the learned Attorney General this was followed by site clearance application dated 23-9-1998. All these steps were taken by LMMPL, the predecessor of Lafarge. Even before granting of the site clearance on 18-6-1999, a letter dated 8-4-1999 was received from LMMPL sending a certificate dated 20-3-1999 from the DFO, Khasi Hills Division, Shillong indicating absence of forest. Thus, at the stage of site clearance MoEF had two certificates before it, one dated 27-8-1997 issued by the Executive Committee, Khasi Hills Autonomous District Council and the other being the certificate dated 20-3-1999 issued by the DFO, both indicating absence of forest. To the same effect is the main application for environmental clearance dated 17-4-2000.

58. He submitted that one more fact needs to be mentioned. Along with the application for environmental clearance dated 17-4-2000, an EIA Report prepared by Environmental Resources Management India (P) Ltd. giving a detailed description of the topography of the area was forwarded to MoEF. It was called as karst topography. In that report it was categorically stated that the project area did not fall in the designated forest land; that the terrain at the site was described as karst topography which did not allow normal plant growth. Despite clarification, MoEF wrote a Letter dated 1-5-2000 to the

project proponent seeking further clarification as to whether there existed a forest in terms of the Supreme Court order dated 12-12-1996[1] and if so a certificate to that extent should be obtained from the local DFO. In reply, LMMPL forwarded a certificate of the DFO dated 13-6-2000 which stated that the proposed mining site for limestone mining project at Phalangkaruh, Nongtrai, East Khasi Hills District, Meghalaya leased out by LMMPL is not a forest area as per Supreme Court judgment and it does not fall under any of the notified reserves or protected forests. The area is covered with karst topography and supports only

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a sporadic growth of a few trees, shrubs and creepers.

59. It was further submitted that the proposal of LMMPL was once again discussed at the meeting of the Expert Committee (Mining) held on 19-10-2000/20-10-2000. This Committee sought further information and clarification, one of the clarifications sought was a detailed survey of the plant and animals to be carried out with the help of BSI and ZSI officers situated in Shillong. It also sought a video film of the site and other areas. Accordingly, on 9-2-2001 LMMPL gave the requisite response as desired by MoEF as well as additional information was also provided in respect of a comprehensive survey and Flora and Fauna Report dated January 2001 of Dr. A.K. Ghosh (Former Director, ZSI). The said report of January 2001 extensively dealt with tropical semi-evergreen forest at different elevations.

60. It was submitted this report of Dr. Ghosh (Centre for Environment and Development) was placed before the Expert Committee on 7-3-2001. The minutes of the meeting indicate that a video film of the site was also shown. The report indicates the karst features, extensive flora and fauna survey carried out by the Centre for Environment and Development in conjunction with Botanical Survey of India and Zoological Survey of India. After elaborate discussion, the Expert Committee recommended environmental clearance of the project once again subject to certain conditions. Even after such recommendation, MoEF once again wrote to the Chief Conservator of Forest, Meghalaya. This was on 19-4-2001 regarding environmental clearance. The Chief Conservator of Forest (Wildlife Division) vide letter dated 1-6-2001 gave his comments as per the annexures which was on the basis of the Field Verification Report submitted by the DFO, Khasi Hills Wildlife Division, Shillong. According to the Chief Conservator of Forest (Wildlife Division) the project area is slopy, ending in the nearby plains of Bangladesh and covered wholly by degraded forests and grassland vegetation. Further, he stated that there is a motorable road used for traffic and the forest is farther away up the slope. It was concluded that there was no likelihood of any wildlife presence in the area.

61. Thus, according to the learned Attorney General it is incorrect to say that the EIA clearance dated 9-8-2001 was granted without proper consideration. There has been a detailed consideration at every stage. That, at the time of the submission of the application for site clearance dated 23-9-1998

there existed an NOC of the Pollution Control Board, a certificate dated 27-8-1997 issued by the East Khasi Hills Autonomous Council and thus it cannot be said that the EIA clearance indicated non-application of mind or that it was liable to be set aside on the ground that the EIA Division of MoEF did not properly consider the matter. In the circumstances, according to the learned Attorney General, it cannot be said that the environmental clearance dated 9-8-2001 came to be issued by MoEF arbitrarily, capriciously or whimsically. At that stage of environmental clearance dated 9-8-2001 existence of the forest land was not established. If it had been so established then the project proponent had to obtain forest clearance under the 1980 Act also.

62. At the outset, Shri F.S. Nariman, learned Senior Counsel appearing on behalf of Lafarge adopted the submissions made on behalf of MoEF by the learned Attorney General. As regards the nature of the land, the learned counsel invited our attention to the approved mining plan which was submitted by LMMPL to the Regional Controller of Mines, IBM, Calcutta for limestone extraction which plan was duly approved in February 1998. In this approved mining plan, the project area was described as having karst topography with the presence of deep caverns, caves and cracks which permit surface water to percolate downwards and circulate underground only to reappear as hill side springs at certain outlets. According to the mining plan, the terrain over the entire area is rocky with very

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little soil and devoid of hard overburden rocks. The vegetation of the area is seen to be mixed deciduous type. There is no agricultural activity in the area as thin soil cover is unable to sustain crops. That, even according to the NEHU Report of 1997, the site selected for mining has commercially viable limestone deposit. According to the said report, the land was left unused covered with degraded forests and this was the reason why the village durbar preferred to lease out the site to LMMPL for mining. Other factors responsible for selecting the proposed site were availability of water resource, away from human habitation, closer to the cement plant at Chhatak, easy accessibility by road and minimum damage to the rich biodiversity (see p. 19 of the NEHU Report).

63. The learned counsel submitted that Section 2 of the 1980 Act stipulates "prior approval". Thus, prior determination of what constituted forest land is required to be done. This lacuna in the 1980 Act was supplied by the order of this Court dated 12-12-1996[1] which inter alia provided that every State Government shall first constitute an Expert Committee within one month and based on its recommendations the State Government will identify the land as forest land on the criteria mentioned in the said order. The learned counsel also invited our attention to Rule 4 of the Forest (Conservation) Rules, 1981 in which it is stipulated that every State Government seeking prior approval under Section 2 of the 1980 Act shall send its proposal to the Central Government in the form appended to the Rules.

64. Thus, according to the learned counsel, under the 1980 Act read with the Rules, the requirement of submission of the proposal for forest diversion under the 1980 Act is exclusively the obligation of the State Government.

Page: 364

This was also spelt out in the guidelines issued on 25-10-1992. Later on, the Government of India amended the said guidelines in respect of the diversion of forest lands for non-forest purpose under the 1980 Act by Letter dated 25-11-1994 and in Para 2.4 the concept of "user agency" was introduced but that concept was made applicable only to cases of renewal of mining leases. However, on 10-1-2003, Rule 4 of the 1981 Rules stood reframed (as Rule 6 of the 2003 Rules) which inter alia provided that every "user agency" who wants to use any forest land for non-forest purpose shall make its proposal in the specified form appended to the Rules to the Nodal Officer concerned along with the requisite information before undertaking any non-forest activity on the forest land; after receiving the proposal and if the State Government is satisfied that the proposal required prior approval under Section 2, it had to send the said proposal to the Central Government in the appropriate form within 90 days of the receipt of the proposal from the "user agency". The threshold limit was kept at 40 ha. Where the proposal involved forest land of more than 40 ha, it was to be sent by the State Government to the Government of India with the copy to the Regional Nodal Officer. According to the learned counsel, insofar as Lafarge was concerned, its predecessor LMMPL was already given environmental clearance on 9-8-2001 and while granting the clearance there was an express finding in the environmental clearance that "no diversion of forest land was involved". Thus, it was never stipulated at any time as a condition to the grant of environmental clearance dated 9-8-2001 that permission under the 1980 Act should be obtained.

65. The learned counsel further pointed out that pursuant to the order of this Court dated 12-12-1996[1] an Expert Committee was formed by the State of Meghalaya vide Notification dated 8-1-1997 with the Principal Chief Conservator of Forests as its Chairman. On 10-2-1997, the State of Meghalaya, on the subject of "Order of the Supreme Court dated 12-12-1996[1]" wrote to the Khasi Hills Autonomous District Council that the land in question was reckoned by the State as non-forest land. The Council was asked to inform/clarify whether the area in question under the mining lease fell on forest land as per the records of the District Council. By letter dated 28-4-1997, the Council informed

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the State Government that the area in question did not fall on forest lands. Moreover, pursuant to the order of this Court dated 12-12-1996[1], the Chairperson of the Expert Committee appointed by the State of Meghalaya also filed the report of the Expert Committee in which it was expressly stated that the mining lease granted by the State Government did not fall on the forest land.

66. It was submitted that thus, it was under the above circumstances, having regard to the order of this Court dated 12-12-1996[1], that the State Government was not required to and it did not submit any proposal to the Central Government under Section 2 of the 1980 Act read with Rule 4 of the 1981 Rules as it treated the site in question as a non-forest land. This position has not been disputed by MoEF. Thus, according to the learned counsel, there

was no obligation on the project proponent or on the State of Meghalaya to move MoEF under Section 2 of the 1980 Act.

67. According to the learned counsel, what has happened in the present case is that almost after 9 years there was a change of view on the part of MoEF i.e. between 1997 and 2007. Under this change of view of MoEF, the report of the Chairperson of the Expert Committee of the State of Meghalaya which report stood annexed to the affidavit dated 3-5-1997 in this Court to the effect that the mining lease did not fall on forest land was given a go-by and an entirely new stand was taken only on and from 2006-2007.

68. One more aspect has been highlighted by the learned counsel for Lafarge. On 1-6-2006, the Chief Conservator of Forests (C), Shri Khazan Singh stated that he had visited the limestone mining project of Lafarge on 24-5-2006 when he found that the mining lease area is surrounded by thick natural vegetation cover with sizeable number of tall trees. According to the Chief Conservator of Forests (C), the Rapid EIA Report [ERM India (P) Ltd.] submitted by the project proponent describes the land as wasteland which was not a fact. Thus, according to the Chief Conservator of Forests (C), the project proponent should be directed to obtain clearance under the 1980 Act and not to expand mining activities till such clearance is obtained. After the said letter dated 1-6-2006, the then Principal Chief Conservator of Forests now stated vide letter dated 11-5-2007 that he too agreed with the opinion of the Chief Conservator of Forests (C), Shri Khazan Singh.

69. However, according to the learned counsel, even the Principal Chief Conservator of Forests stated in his letter dated 11-5-2007 that though Lafarge had failed to take forest clearance, they were not at fault because of the certificate of the Council that the site fell in a non-forest area. The letter dated 11-5-2007 further goes on to state that the activities of the company will provide employment to a large number of local tribals and rural people and that since the company had applied for forest clearance on 3-5-2007 forest clearance may be considered. Thus, according to the learned counsel, there was no collusion between Lafarge and the DFO as alleged to get the certificate dated 13-6-2000.

70. On the question of alleged suppression by Lafarge from MoEF of the NEHU Report, 1997, the learned counsel submitted that an application was prepared and submitted by LMMPL for environmental clearance to MoEF vide letter dated 1-9-1997; along with the said letter there were several enclosures. One of the enclosures was the NEHU Report, the other was an NOC from the Khasi Hills Autonomous Council for mining operation in the project area. This letter dated 1-9-1997 was duly acknowledged by MoEF vide its letter dated 24-10-1997. As stated above, in view of the amendment to the Notification of 1994, the project proponent was advised to make a new proposal in two different parts, namely, site clearance and project clearance. Pursuant to the said advice the project proponent preferred site clearance application on 23-9-1998 made to MoEF in which once again the project proponent enclosed maps which were verbatim reproduction of the relevant pages (including maps) in the NEHU Report. MoEF granted site clearance on

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18-6-1999. Further, even the mining plan submitted by the project proponent contained a chapter on environment management plan (EMP) which is a verbatim copy of Chapter 6 of the NEHU Report. The said plan was approved by Bureau of Mines. Moreover, in the Sociological and Ecological Impact Assessment Report dated 16-2-1998 prepared by ERM it has been expressly stated that environmental impact assessment was carried out in 1997 and it was submitted to MoEF in September 1997. To the same effect one finds reference in the executive summary of the EIA of proposed limestone mining of 9-4-1998 by ERM. According to the learned counsel the above documents indicate that there was no suppression by the project proponent from MoEF of the NEHU Report of 1997 as alleged.

71. One of the points which SAC has argued before us was absence of public hearing as required under the EIA Notification of 1994. On this aspect Shri Nariman, learned counsel appearing on behalf of Lafarge invited our attention to the requisite correspondence. On 22-4-1998 a Notification was issued by the Meghalaya State Pollution Control Board of constituting an Environmental Public Hearing Panel to evaluate and assess the documents submitted by the project proponent and to verify the comments, views and suggestions made by the public on the proposed project. This notification was issued in terms of the EIA Notification of 1994, as amended on 10-4-1997. On 27-4-1998 a public notice was also issued by MPCB informing the general public about the limestone project of LMMPL. On 5-5-1998 MPCB informed two local newspapers in writing asking them to publish the Khasi translation of the public notice. On 6-5-1998 MPCB wrote to Shella Confederacy asking its Headman to display two sets of executive summary each in Khasi and English. On 13-5-1998 the State PCB wrote to the Director of Information asking him to publish public notice in *Shillong Times*. On 25-5-1998 the State PCB wrote to the Secretary, Shella Village informing him of the date and time of public hearing. 31 members attended the public hearing on 3-6-1998. As stated above, the entire proceedings have been recorded in the minutes of the meeting. On 4-9-1998 the Deputy Director, Government of India, MoEF forwarded a letter to the State PCB enclosing proceedings of the public hearing conducted for proposed limestone mining project of LMMPL, Nongtrai. Thus, according to the learned counsel there is no merit in the submission advanced on behalf of SAC that public hearing as per the EIA Notification of 1997 did not take place.

72. Shri Nariman, learned counsel appearing on behalf of Lafarge further submitted that on the facts and circumstances of the present case it is clear that both the project proponent and MoEF were at all relevant times under the bona fide impression that the project site was not forest land; in fact the consistent view of all authorities, including MoEF, was that the project site (mining lease area) was not located on "forest land". In this connection our attention was invited to the application dated 23-9-1998 made by LMMPL to MoEF for site clearance, the NOC from KHADC dated 27-8-1997 stating that the project area does not fall within a forest land, grant of site clearance on 18-6-1999 by MoEF, application for environmental clearance dated 17-4-2000

and grant of environmental clearance on 9-8-2001. All these documents and series of letters exchanged during the relevant time, according to the learned counsel, indicate that both the project proponent and MoEF were at all relevant times under the bona fide impression that the project site (mining lease area) was not located on forest land.

73. The learned counsel further submitted that after the stop mining order dated 30-4-2007 and the direction of CCF (C) of even date to obtain forest clearance under Section 2

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Page 25 Wednesday, July 26, 2023
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of the 1980 Act, an application was filed by Lafarge on 3-5-2010 to the State Government under Rule 6 of the Forest Conservation Rules, 2003, as amended in 2004. Accordingly, on 11-5-2007 the Principal Chief Conservator of Forest, Meghalaya wrote to the Government of Meghalaya agreeing with the views of the CCF (C) to the effect that Lafarge should obtain permission under the 1980 Act. At the same time, as stated above, the PCCF made it clear that no fault lay on the doorstep of Lafarge for not seeking forest clearance earlier. Accordingly, on 19-6-2007 a formal proposal was made by State Government on 19-6-2007 to MoEF for diversion of 116.589 ha of forest land for limestone and other ancillary activities in favour of Lafarge in Khasi Hills Division under Section 2 of the 1980 Act. Thus, all necessary steps were taken, as indicated hereinabove, by Lafarge which ultimately culminated in the environmental clearance by MoEF dated 19-4-2010 and forest clearance dated 22-4-2010. In the circumstances, the learned counsel submitted that IA No. 1868 of 2007 preferred by Lafarge be allowed.

Issues

74. (*i*) Nature of land;

(*ii*) Whether ex post facto environmental and forest clearances dated 19-4-2010 and 22-4-2010 respectively stood vitiated by alleged suppression by Lafarge regarding the nature of the land. In this connection it was contended by the learned amicus and by the learned counsel appearing on behalf of SAC that the EIA clearance under Section 3 of the 1986 Act dated 9-8-2001 (being a parent clearance) was obtained by Lafarge on the basis of "absence of forest" with full knowledge that the project site was located on forest land.

Findings

(a) Legal position

75. Universal human dependence on the use of environmental resources for the most basic needs renders it impossible to refrain from altering the environment. As a result, environmental conflicts are ineradicable and environmental protection is always a matter of degree, inescapably requiring choices as to the appropriate level of environmental protection and the risks which are to be regulated. This aspect is recognised by the concept of "sustainable development". It is equally well settled by the decision of this Court in *Narmada Bachao Andolan* v. *Union of India*[3] that environment has different facets and care of the environment is an ongoing process. These

concepts rule out the formulation of an across-the-board principle as it would depend on the facts of each case whether diversion in a given case should be permitted or not, barring "no go" areas (whose identification would again depend on undertaking of a due diligence exercise). In such cases, the margin of appreciation doctrine would apply.

76. Making these choices necessitates decisions, not only about how risks should be regulated, how much protection is enough, and whether ends served by environmental protection could be pursued more effectively by diverting resources to other uses. Since the nature and degree of environmental risk posed by different activities varies, the implementation of environmental rights and duties requires proper decision-making based on informed reasons about the ends which may ultimately be pursued, as much as about the means for attaining them. Setting the standards of environmental protection involves mediating conflicting visions of what is of value in human life.

(b) Nature of the land

77. In the NEHU Report of June 1997 (Rapid EIA Report of Proposed Limestone Mining Project at Nongtrai, Meghalaya), a brief history of limestone mining in Khasi Hills of Meghalaya is spelt out. It indicates that mining of limestone in Khasi Hills dates back to 10-7-1763 when an agreement was signed between the East India Company and the

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Nawab of Bengal for preparation of chunam. Regular trade of limestone from Khasi Hills of Bengal started on and from 1858. Substantial revenue was earned by the British Government from these limestone quarries as rentals, which was Rs 23,000 in 1858 and which subsequently stood increased to Rs 67,000 in 1878. The first historical account of exploitation of Nongtrai limestone dates back to 1885 when Don Rai of Shella obtained permits from the Wahadars (Heads of Confederacy) of Shella to quarry limestone in Nongtrai Village. There are historical records about continuance of limestone trade between Khasi Hills and Bengal up to 1947. The business declined after partition. Limestone mining and trade slipped into the hands of unorganised sector. According to the NEHU Report of 1997, today a number of private parties quarry limestone using unscientific methods and export it to counterparts in Bangladesh, often illegally. These private parties sell the product at a very low price. This aspect is also being examined by CEC which has now filed its report in IA No. 3063 of 2011.

78. One more aspect needs to be highlighted. According to the State of Forest Report, 2001, the north-eastern hill State of Meghalaya is predominantly tribal with 86% population being tribal. According to the NEHU Report of 1997, approximately 60 settlements consisting of 50-200 inhabitants each with a total estimated population of 16,500 persons exist within 10 km radius of the proposed mining site. Under an agreement dated 29-9-1993 (lease agreement), the village durbar represented by a Special Committee headed by the Headman as the lessor granted lease of the limestone quarry in Nongtrai to LMMC (the predecessor-in-interest of LMMPL). Thus, an area of 100 ha stood acquired on lease basis for mining whose lessor was the village durbar of Nongtrai.

Page: 369

79. Coming to the topography of the area, one finds that the limestone bearing area around Nongtrai and Shella Villages falls under karst topography. This area falls on the southern fringe of the Meghalaya plateau. Karst topography is characterised by limestone caverns/caves. The factum of limestone bearing area around Nongtrai and Shella falling under karst topography is also borne out by the certificate dated 27-8-1997 issued by KHADC, Shillong. This Council is a constitutional authority under the Sixth Schedule to the Constitution.

80. As stated above, the limestone bearing area around Nongtrai and Shella falls on the southern fringe of Meghalaya plateau. The site is approachable from Shillong via Mawsynram and Nongtrai Villages by a motorable road. The site is also accessible from Shillong by road via Cherrapunji. This road is wide enough for crushers and heavy machines to be brought from Shillong. The site is on the uneven terrain with a rugged topography. [See Rapid EIA Report submitted by ERM India (P) Ltd. dated 6-4-2000.] According to the said report, the karst topography of the area supports sporadic growth of a few tree shrubs. According to the NEHU Report of 1997, the site selected for mining has commercially viable limestone deposits.

81. The site was selected after thorough consultation with the village durbar concerned who is the custodian of the land. The land was left unused covered with degraded forests and this was the reason for the Durbar to lease out the said land to the project proponent for mining. The village durbar also felt that in the area unscientific limestone quarrying was going on resulting in loss of revenue both to the State as well as the inhabitants of the village particularly because the said mining was undertaken by unorganised sectors and, thus, it was decided to enter into the lease with the project proponent so that mining could be done on scientific basis. The site was also selected because of easy accessibility by road and less vegetation clearance stood involved. According to the NEHU Report, the site is located in the area on the outskirts of the forest. (See p. 19 of the said Report.)

(c) Validity of ex post facto clearance

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82. An important argument has been advanced on behalf of SAC that the site clearance dated 18-6-1999 and EIA clearance dated 9-8-2001 were based on misrepresentation by Lafarge. They proceeded on the basis that there was no forest. That, both the said clearances stood vitiated by suppression of material fact of existence of forest by Lafarge and as a sequel the subsequent revised environmental clearance dated 19-4-2010 and forest clearance (Stage I) dated 22-4-2010 stood vitiated. In this connection, it was submitted that having regard to Para 4.3.1 of the National Forest Policy, 1988 tropical rain/moist forest is required to be totally safeguarded; that, the project is located in a tropical moist forest and no forest clearance ought to have been granted by MoEF because of the special ecological significance recognised by the 1988 Policy.

83. According to SAC, the fact that tropical moist forest existed in the area and continues to exist was known to Lafarge at all material times as can

be seen from the NEHU Report of 1997 in which it has been categorically stated that the vegetation at the study site is a mixed moist deciduous forest composed of deciduous and evergreen tree elements; that, in the same report it has been further stated that the vegetation of the area is a tropical semi-evergreen forest composed of deciduous and evergreen elements which is further corroborated by the assessment of floral diversity prepared by NEHU dated June 2010 in which it has been stated that the forest in the study area is tropical moist deciduous forest, tropical semi-evergreen forest, savannah, subtropical broad-leaved forest, forest garden, orchards and riparian forest; that, the vegetation in the unbroken area is tropical moist deciduous type with variable canopy cover mostly sparse. Thus, according to SAC and CEC, the undisputed position emerging from the record that the subject area is covered by a tropical moist forest deserving highest degree of ecological protection ought to have been taken into account by MoEF which was not done at the time of initial clearances dated 18-6-1999 and 9-8-2001.

84. Shri Divan, learned Senior Counsel appearing for SAC submitted before us that the case in hand essentially deals with the decision-making process in relation to the grant of environmental clearance and to test whether the decision-making process stood up to judicial review. According to the learned counsel, the following basic points regarding the legal framework must be kept in view. From the environmental perspective, in relation to a mining project, there are three main sets of permissions that are required to be obtained:

(*i*) The first set of permissions is at the State level. This set of permissions primarily has to do with pollution. In each State or a group of States, a Pollution Control Board issues consent/permit. These consents or permits are granted from a pollution perspective. The scope of enquiry is limited to pollution impacts. Obtaining such consents and permits are essential but they are not a substitute for compliance with other environmental laws.

(*ii*) The second set of permissions, according to the learned counsel, is with regard to environmental clearance. The scope of environmental clearance is wider than a pollution control clearance. The authority granting environmental clearance will look at broader impacts beyond pollution and will examine the effect of the project on the community, forests, wildlife, ground water, etc. which are beyond the scope of the Pollution Control Board examination. The exercise of granting environmental clearance with regard to a limestone mining project of the present magnitude requires MoEF clearance.

(*iii*) A clearance for diversion of forest under the 1980 Act which is granted by MoEF on the recommendation of the FAC should logically precede the grant of environmental clearance as the environmental clearance is broader in scope and deals with all aspects, one of which may be forest diversion.

85. Applying the said legal framework to the facts of the present case, the learned

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counsel appearing for SAC submitted that MoEF, as the authority

which decides on diversion of forests and which grants environmental clearances, is duty-bound to examine the diversion application in the context of the 1988 Policy, particularly, where tropical moist forests are sought to be cleared by the project proponent. According to the learned counsel, where MoEF grants environmental clearance in ignorance of the existence of a forest due to misdeclaration, it is duty-bound to take severest possible action against the party that made the false declaration for profit.

86. According to the learned counsel, since impact assessment and EIA clearances are processes based on self-declarations by the project proponent(s), the decision-making by MoEF depends upon honest and cogent material supplied by the project proponent and since the said process is premised on a full and fair disclosure of relevant facts by the project proponent, in cases where material facts are not disclosed, MoEF should withdraw both the site as well as the environmental clearances. According to the learned counsel, the most important input in this regard must be received by MoEF in the course of its decision-making from the public which is an essential check for a failure to disclose correct facts or to have regard to environmental issues that may have escaped the attention of the project proponent. According to the learned counsel, the requirement of public hearing is, thus, mandatory both under the 1994 Notification and the 2006 Notification. That, the requirement for payment of NPV does not automatically mean that environmental clearance is to be granted.

87. We are in full agreement with the legal framework suggested by the learned counsel for SAC. There is no dispute on that point. The question is confined to the application of the legal framework to the facts of the present case. Can it be said on the above facts that a misdeclaration was wilfully made by Lafarge or its predecessor (project proponent) while seeking site and environmental clearances? Was there non-application of mind by MoEF in granting such clearances? Was the decision of MoEF based solely on the declarations made by the project proponent(s)?

88. At the outset, one needs to take note of Section 2 of the 1980 Act which stipulates prior approval. That section refers to restriction on the dereservation of forests or use of forest land for non-forest purpose. It begins with non obstante clause. It states that:

> "**2. *Restriction on the dereservation of forests or use of forest land for non-forest purpose*.**—Notwithstanding anything contained in any other law for the time being in force in a State, no State Government or other authority shall make, except with the prior approval of the Central Government, any order directing—
>
> (*i*) * * *
>
> (*ii*) that any forest land or any portion thereof may be used for any non-forest purpose;"

This is how the concept of prior approval by the Central Government comes into picture. Thus, prior determination of what constitutes "forest land" is required to be done.

89. By an order dated 12-12-1996 by a Division Bench of this Court in Writ Petition (C) No. 202 of 1995 with another in *T.N. Godavarman Thirumulpad* v. *Union of India*[1], this Court directed each State Government to constitute within a specific period an Expert Committee to identify areas which are forests irrespective of whether they are so notified,

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recognised or classified under any law and also identify areas which were earlier forests but stand degraded, denuded or cleared. The Committee was to be headed by the Principal Chief Conservator of Forests. This order dated 12-12-1996[1], thus, clarified that every State Government seeking prior approval under Section 2 of the 1980 Act shall first examine the question relating to existence of forests before sending its proposal to the Central Government in terms of the form prescribed under the Forest (Conservation) Rules, 1981 (see Rule 4). Thus, the requirement of submitting the proposal for forest diversion under the 1980 Act is exclusively the obligation of the State Government.

90. This position was spelt out initially in the guidelines dated 25-10-1992. However, later on, the Government of India amended the guidelines in respect of diversion vide Letter dated 25-11-1994 and by the said Letter the concept of "user agency" stood introduced. On 10-1-2003, Rule 4 of the 1981 Rules stood reframed which inter alia provided that every "user agency" who wants to use any forest land for non-forest purpose shall make its proposal in the specified form appended to the Rules to the Nodal Officer concerned along with the requisite information before undertaking any non-forest activity on the forest land and after receiving the said proposal and if the State Government is satisfied that the proposal required prior approval under Section 2, the State Government had to send the said proposal to the Central Government in the appropriate form within the specified period of 90 days from the receipt of the proposal from the "user agency".

91. At this stage, it may be noted that the earlier project proponent in the present case was LMMPL. That project proponent had obtained EIA clearance given by MoEF dated 9-8-2001 which clearance stood transferred to Lafarge only on 30-7-2002. While granting environmental clearance dated 9-8-2001 there was an express finding to the effect that "no diversion of forest land was involved". In terms of the order of this Court dated 12-12-1996[1], an Expert Committee was in fact formed by the State of Meghalaya vide Notification dated 8-1-1997 with the Principal Chief Conservator of Forests as its Chairman. On 10-2-1997, the State of Meghalaya had addressed a specific letter to the Khasi Hills Autonomous District Council, which as stated above is a constitutional authority, stating that the land in question was reckoned as non-forest land and the Council was asked to clarify whether the area in question under the mining lease fell in the forest as per the records of the Council.

92. The Council by its letter dated 28-4-1997 had informed the State Government that the area in question did not fall in the forest. Apart from the said letter, the Chairperson of the Expert Committee appointed by the State of Meghalaya being the Principal Chief Conservator of Forests also

submitted his report in which it was expressly stated that the mining lease granted by the State Government did not fall in the forest. Since the mining lease granted by the State did not fall in the forest, the State Government did not submit any proposal to the Central Government under Section 2 of the 1980 Act as it treated the site in question as falling on the outskirts of the forests. It is almost after nine years that there was a change of view on the part of MoEF under which the report of the Expert Committee headed by the Principal Chief Conservator of Forests was given a go-by. Between 1997 and 2007, the view which prevailed was that the project site stood located on the outskirts of the forests.

93. In this connection, it needs to be stated that on 1-6-2006 for the first time the Chief Conservator of Forests (C), Shri Khazan Singh came out with the change of view which was ultimately accepted in 2007 by MoEF. According to the Chief Conservator of Forests (C), he had visited the limestone mining project of Lafarge on 24-5-2006 when he found that the mining lease area stood surrounded by thick natural vegetation covered with sizeable number of tall trees and in the circumstances he recommended that the project proponent should be directed to obtain clearance under the 1980 Act and not to

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carry on the mining activities till such clearance is obtained.

94. The most important fact is that subsequent to the letter dated 1-6-2006, addressed by the Chief Conservator of Forests (C), Shri Khazan Singh, the Principal Chief Conservator of Forests agreed with the opinion of the Chief Conservator of Forests (C). This was by letter dated 11-5-2007. However, even according to the Principal Chief Conservator of Forests, who was the Chairperson of the Expert Committee appointed by the State Government, Lafarge was not at fault because the certificate indicating absence of forests was given by the Khasi Hills Autonomous District Council. In fact the letter dated 11-5-2007 further goes to state that the activities of Lafarge will provide employment to a large number of local tribals and rural people and consequently the application for forest clearance made by Lafarge without prejudice to their rights and contentions dated 3-5-2007 be considered by MoEF.

95. Apart from the above circumstances, on 22-4-1998, a Notification was issued by the State Pollution Control Board constituting an Environmental Public Hearing Panel to evaluate and assess the documents submitted by LMMPL. A public notice was also issued in the local newspapers on 25-5-1998. The State Pollution Control Board also sent a letter to the Secretary, Shella Village informing him of the date and time of public hearing and accordingly on 3-6-1998, a public hearing did take place. According to the minutes of the meeting, 31 citizens of Shella, Nongtrai and Pyrkan attended the hearing.

96. In the hearing, the purpose, objective, composition and procedure of environmental public hearing was discussed. The Headman of Nongtrai was also present. He gave reasons as to why the village durbar had agreed to the proposed project. The main reason being that the limestone was abundantly available in the area but the same remained unutilised by local villagers

Page: 374

themselves due to lack of infrastructure. That, for economic development of the local population, the village durbar had decided to lease the area required for the project to Lafarge. In the meeting, the economic benefits of the local people from the project proponent were also discussed. The environmental implications were also discussed. The mitigating measures to be adopted by the project proponent were also discussed to maintain the ecology and environmental balance of the area. The objections of certain persons were also noted and discussed. The durbar came to the conclusion that there was no destruction of any caves. The complainant was not even present during the hearing. Thus, a public hearing did take place on 3-6-1998.

97. One more aspect at this stage needs to be mentioned. Public participation provides a valuable input in the process of identification of forest. Today, amongst the tribals of the North-East, there is a growing awareness of the close relationship between poverty and environmental pollution. According to *Environmental Law and Policy in India* by Shyam Divan and Armin Rosencranz, "many native and indigenous people are fully aware of what constitutes preservation and conservation of biodiversity. Many native and indigenous people have many a times opposed government policies that permit exploitation on traditional lands because such exploitation threatens to undermine the economic and spiritual fabric of their culture, and often results in forced migration and resettlement, the struggle to protect the environment is often a part of the struggle to protect the culture of the native and indigenous people" (see p. 591).

98. In our view, the natives and indigenous people are fully aware and they have knowledge as to what constitutes conservation of forests and development. They equally know the concept of forest degradation. They are equally aware of systematic scientific exploitation of limestone mining without causing of "environment degradation". However, they do not have the requisite wherewithal to exploit limestone mining in a scientific manner. These natives and indigenous people know how to keep the balance between

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economic and environment sustainability.

99. In the present case, the above is brought out by the minutes of the meeting held on 3-6-1998. In fact the written submissions filed by the Nongtrai village durbar (Respondent 5) in IA No. 1868 of 2007 preferred by Lafarge have specifically averred that the total area of the land that falls within the jurisdiction of Nongtrai Village is about 2200 ha; that, the said lands fall in two categories, namely, individual ownership lands, and community lands. The management and control of community lands is completely within the jurisdiction of the community. Such community lands in highlands of Khasi Hills are termed as Ri Raid whereas community lands in low-lying areas are termed as Ri Seng. Nongtrai Village has about 1300 ha of community land out of which 900 ha are limestone bearing land.

100. The manner and method of allocation, use and occupation of the community lands are decided by the village durbar. The village durbar has granted lease of 100 ha of community land out of 900 ha which as stated above is limestone bearing land. It is important to note that apart from the minutes of the meeting held on 3-6-1998 which was attended by the

Headman of Nongtrai Village, a detailed written submission has been filed on 13-5-2011 by the Nongtrai village durbar fully supporting the impugned project. Thus, this is a unique case from the North-East. We are fully satisfied that the natives and the indigenous people of Nongtrai Village are fully conscious of their rights and obligations towards clean environment and economic development. There is ample material on record which bears testimony to the fact of their awareness of ecological concerns which has been taken into account by MoEF. In the circumstances, it cannot be said that the impugned project should be discarded and that the decision of MoEF granting ex post facto clearances stands vitiated for non-application of mind as alleged by SAC.

101. At this stage one more argument advanced on behalf of SAC needs to be addressed. According to SAC, in this case a decisive factor which clearly shows that there is "forest" on the core area is the statutory definition of forest contained in the United Khasi and Jaintia Hills Autonomous District (Management and Control of Forests) Act, 1958. Section 2(*f*) defines the expression "forest" and the tree count emerging from the High-Powered Committee (HPC) Report which establishes that the area answers the statutory definition. According to SAC, in terms of the said definition of forest, if there exists more than 25 trees per acre then it is a forest. This argument has no merit.

102. According to Shri Krishnan Venugopal, learned Senior Counsel appearing on behalf of the village durbar of Nongtrai Village (Respondent 5), SAC has not stated the full facts in this regard. We find merit in this contention. Section 5 of the 1958 Act inter alia provides that no timber or forest produce shall be removed for the purpose of sale, trade and business without prior permission. Section 7 of the said Act deals with restrictions on felling of trees and further provides that no tree below 1.37 m in girth at the breast level shall be felled. Thus, it is the trees of a particular girth and breast height and not every tree should be counted while computing whether a particular area is a forest area or not. In fact in the year 2007, a survey of the unbroken area was conducted by the Forest Department of the State of Meghalaya wherein an inventory of the existing trees was prepared based on their nature and girth. The said record confirms that the unbroken area has less than 25 trees per acre having girth of more than 120 cm per acre.

103. It is in view of the existence of the 1958 Act, which is a local legislation, that the native people as also the State officials like the DFO understood the area in the light of the said Act. It is important to note once again that this understanding of the natives and tribals about the Local Act is an important input in the decision-making process of granting environmental clearance. It is deeply engrained in the local customary law and

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usage. It is so understood by the Expert Committee headed by the then Principal Chief Conservator of Forests on the basis of which the State granted the mining lease saying that there was no forest. This certificate was granted by the State in terms of the order of this Court dated 12-12-1996[1].

104. This understanding also existed in the mind of KHADC when it gave certificates on 28-4-1997, 10-7-1997 and 27-8-1997. In fact this has been the understanding of the Council as is apparent even from its letter dated 18-1-2011 (see p. 126 of the affidavit dated 9-3-2011 filed by the State of Meghalaya). As stated above, this view prevailed with MoEF between 1997 and 2007. The word "environment" has different facets (see SCC para 127 of the judgment of this Court in *Narmada Bachao Andolan*[3]).

105. On the above facts, it is not possible for us to hold that the decision to grant ex post facto clearances stood vitiated on account of non-application of mind or on account of suppression of material facts by Lafarge as alleged by SAC.

106. Similarly, it is not possible for us to hold on the above facts that ex post facto clearances have been granted by MoEF in ignorance of the existence of forests due to misdeclaration.

107. Two points are required to be highlighted at the outset. Firstly, the ex post facto clearance is based on the revised EIA. In the circumstances, the EIA Notification of 2006 would not apply. Secondly, the IAs preferred by SAC being IAs Nos. 2225-27 of 2008 were preferred only in March 2008. Thus, during the relevant period of almost a decade, SAC did not object to the said project. In fact an IA is now pending in this Court being IA No. 3063 of 2011 preferred by CEC which indicates that there are 28 active mines out of which 8 are located along the Shella-Cherrapunjee Road which are operating without obtaining approval and in violation of the 1980 Act. Further, the said IA alleges that 6 registered quarry owners are under the Shella Wahadarship, East Khasi Hills and that there were 12 individuals involved in mining limestone in the Shella area during 2008-2009. All these aspects require in-depth examination. The locus of SAC is not being doubted. However, IA No. 3063 of 2011 preferred by CEC which has acted only after receiving inputs from Respondent 5 prima facie throws doubt on the credibility of objections raised by SAC. However, we do not wish to express any conclusive finding on this aspect at this stage.

108. On the ex post facto clearance, suffice it to state that after Shri Khazan Singh, Chief Conservator of Forests (C) submitted his report on 1-6-2006, MoEF directed the project proponent to apply for necessary clearances on the basis that there existed a forest in terms of the order of this Court dated 12-12-1996[1] and the ex post facto clearance has now been granted on that basis permitting diversion of forest by granting Stage I forest clearance subject to compliance with certain conditions imposed by MoEF and by this Court.

109. On the question of non-application of mind by MoEF, we find that at various stages despite compliances by the project proponent and despite issuance of certificates by various authorities, MoEF sought further clarifications/information by raising necessary requisitions. To give a few instances in terms of the 1994 EIA Notification, the then project proponent

made an application to MoEF for grant of environmental clearance. With that application, the then project proponent submitted the NEHU Report of 1997. However, in the

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meantime there was an amendment to the EIA Notification of 1994. That amendment took place on 10-4-1997 by which two-stage clearances were required to be obtained, namely, site clearance and project clearance.

110. Therefore, MoEF immediately returned the application to the project proponent asking it to submit applications for site clearance as well as for project clearance. Similarly, although the then project proponent had made site clearance application which fulfilled the 1994 Notification (as amended), MoEF gave site clearance on 18-6-1999 with additional conditions. Similarly, despite the project proponent making application for environmental clearance on 17-4-2000 enclosing Rapid EIA Report prepared by ERM India (P) Ltd. referring to absence of forest, MoEF asked the project proponent to obtain the certificate of the DFO in terms of the definition of the word "forest" as laid down in the order of this Court dated 12-12-1996[1]. Similarly, despite the certificate given by the DFO on 13-6-2000 stating that the proposed mining site is not a forest area, MoEF sought further details in terms of the connotation of the word "forest" as laid down in the order of this Court dated 12-12-1996[1]. Similarly, from time to time the Expert Committee of MoEF asked for details with regard to flora and fauna, list of species in that area, types of forests existing in that area, etc. Similarly, after receipt of letter from Shri Khazan Singh, the then Chief Conservator of Forests (C) on 1-6-2006, MoEF called upon the project proponent to submit an application for forest clearance on the basis that the site was located in the forest.

111. A number of queries have been raised from time to time by MoEF as indicated from the facts enumerated hereinabove. Even a report from the High-Powered Committee (HPC) was called for by MoEF which was submitted on 5-4-2010. There were four terms of references given to the HPC. According to the report, all conditions imposed with regard to environmental clearance had been substantially complied with by Lafarge. The report also refers to the steps taken by Lafarge with regard to reforestation.

112. The most important aspect of the HPC Report is regarding the topography of the area. It states that though the area can be treated as forest, still it is a hilly, uneven, undulating area largely covered by "karstified" limestone. The report further states that the area can be reforested as a part of the reclamation plan. It further states that the indigenous and native people are satisfied with the credentials of Lafarge as the Company is providing health care facilities, drinking water facilities, employment for local youth, construction of village roads, employment for school teachers, scholarship programme for children, etc. It also indicates that the issue of mining was thoroughly discussed with the village durbar by the members of the HPC who visited the site and that the community was in agreement to allow Lafarge to continue mining.

Page: 378

113. The Report further notes that most of the members of the SAC were not the residents of the locality (Shella Village) and were living in Shillong while occasionally visiting Shella. The Report further states that 200 persons participated in a long interaction with the members of HPC. The Report further states that in fact the villagers became very upset in the apprehension of Lafarge not being allowed to mine on their community land. As stated above, even according to the letter dated 11-5-2007, the Principal Chief Conservator of Forests states that though the site falls in the forest as pointed out by Shri Khazan Singh, the Chief Conservator of Forests (C) vide letter dated 1-6-2006, still it is not the fault of Lafarge.

114. Thus, under the above circumstances, we are satisfied that the parameters of intergenerational equity are satisfied and no reasonable person can say that the impugned decision to grant Stage I forest clearance and revised environmental clearance stood

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vitiated on account of non-application of mind by MoEF. On the contrary, the facts indicate that MoEF has been diligent. That, MoEF has taken requisite care and caution to protect the environment and in the circumstances, we uphold the Stage I forest clearance and the revised environmental clearance granted by MoEF.

115. Before concluding, we would like to refer to our order dated 12-4-2010 which recites agreed conditions between the parties which conditions are imposed by this Court in addition to the conditions laid down by MoEF. These agreed conditions incorporated in our order dated 12-4-2010 are in terms of our judgment in *T.N. Godavarman Thirumulpad (87)* v. *Union of India*[4] with regard to commercial exploitability which even according to SAC was not considered by MoEF at the time of granting revised environmental clearance on 19-4-2010 or at the time of granting forest clearance on 22-4-2010.

116. We reproduce our order dated 12-4-2010, which reads as under:

"Heard both sides. The learned Attorney General for India stated that the Ministry of Environment and Forests will take a decision under the Forest Conservation Act and shall consider granting permission subject to the following conditions:

1. The applicant shall deposit a sum of Rs 55 crores towards five times of the normal NPV (as recommended by the CEC) with interest @ 9% per annum from 1-4-2007, till the date of payment. Such payment shall be made in totality in one instalment within 4 weeks from the date of the order.

2. An SPV shall be set up under the Chairmanship of the Chief Secretary, Meghalaya with the Principal Chief Conservator of Forests, Meghalaya, Tribal Secretary, Meghalaya, Regional Chief Conservator of Forests, MoEF at Shillong and one reputed NGO (to be nominated by MoEF) as members. The SPV will be set up within 4 weeks.

3. The user agency will deposit with the SPV a sum of Rs 90 per tonne of the limestone mined from the date on which mining commenced within 4 weeks of the SPV being constituted.

4. The SPV shall follow the principles and procedure presently applied for utilisation of CAMPA money. The account will be audited by the Accountant General, Meghalaya. The money will be kept in an interest bearing account with a nationalised bank. The Accountant General and the SPV shall file an annual report before this Hon'ble Court detailing all the work done by it in relation to the welfare projects mandated upon it including the development of health, education, economy, irrigation and agriculture in the project area of 50 km solely for the local community and welfare of tribals.

5. The user agency will comply with all the conditions imposed on it earlier as well as further recommendations made by the Committee constituted by MoEF under the Order dated 30-3-2010, including, in particular, the following:

(*a*) It shall prepare a detailed catchment area treatment plan.

(*b*) It shall explore the use of surface miner technology.

(*c*) It shall monitor ambient area quality as per new national ambient air quality standards.

(*d*) It shall take steps to construct a sewage treatment plant and an effluent treatment plant.

(*e*) It shall discontinue any agreement for procuring limestone on the basis of disorganised and unscientific and ecologically unsustainable mining in the area.

(*f*) It shall prepare a comprehensive forest rehabilitation and conservation plan

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covering the project as well as the surrounding area.

(*g*) It shall prepare a comprehensive biodiversity management plan to mitigate the possible impacts of mining on the surrounding forest and wildlife.

(*h*) It shall maintain a strip of at least 100 m of forest area on the boundary of mining area as a green belt.

6. MoEF shall take a final decision under the Forest (Conservation) Act, 1980 for the revised environmental clearance for diversion of 116 ha of forest land, taking into consideration all the conditions stipulated hereinabove and it may impose such further conditions as it may deem proper.

List on 26-4-2010 at 2.00 p.m."

117. This order indicates the benefit which will accrue to the natives and residents of Nongtrai Village. The site covers 100 ha required for limestone mining. The village durbar seeks to exploit it on scientific lines. The minutes of the meeting of the village durbar and the submissions filed by the durbar indicate the exercise of the rights by the tribals and the natives of Nongtrai Village seeking economic development within the parameters of the 1980 Act and the 1986 Act.

118. At the request of the learned counsel for SAC, we wish to state that none of the observations made hereinabove in the context of the nature of the

land (the extent of the lands owned by the community and by private persons) shall be taken into account by the competent court in which title dispute is pending today.

(d) Summary

119. The time has come for us to apply the constitutional "doctrine of proportionality" to the matters concerning environment as a part of the process of judicial review in contradistinction to merit review. It cannot be gainsaid that utilisation of the environment and its natural resources has to be in a way that is consistent with principles of sustainable development and intergenerational equity, but balancing of these equities may entail policy choices. In the circumstances, barring exceptions, decisions relating to utilisation of natural resources have to be tested on the anvil of the well-recognised principles of judicial review. Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that has the decision-maker taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision? Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint. Once this is ensured, then the doctrine of "margin of appreciation" in favour of the decision-maker would come into play. Our above view is further strengthened by the decision of the Court of Appeal in *R.* v. *Chester City Council*[5] reported in All ER paras 14 to 16.

120. Accordingly, this matter stands disposed of keeping in mind various facets of the word "environment", the inputs provided by the village durbar of Nongtrai (including their understanding of the word "forest" and the balance between environment and economic sustainability), their participation in the decision-making process, the topography and connectivity of the site to Shillong, the letter dated 11-5-2007 of the Principal Chief Conservator of Forests and the report of Shri B.N. Jha dated 5-4-2010 (HPC) (each one of which refers to economic welfare of the tribals of Village Nongtrai), the polluter pays principle and the intergenerational equity (including the history of limestone mining in the area from 1858 and the prevalent social and customary rights of the natives and tribals). The word "development" is a relative term. One cannot assume that the tribals are not

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aware of principles of conservation of forest. In the present case, we are satisfied that limestone mining has been going on for centuries in the area and that it is an activity which is intertwined with the culture and the unique landholding and tenure system of Nongtrai Village. On the facts of this case, we are satisfied with the due diligence exercise undertaken by MoEF in the matter of forest diversion. Thus, our order herein is confined to the facts of this case.

Conclusion

121. Accordingly, we see no reason to interfere with the decision of MoEF granting site clearance dated 18-6-1999, EIA clearance dated 9-8-2001 read with revised environmental clearance dated 19-4-2010 and Stage I forest clearance dated 22-4-2010. Accordingly, IA No. 1868 of 2007 preferred by Lafarge stands allowed with no order as to costs. Consequently, IA No. 2937 of 2010 preferred by SAC is dismissed. The interim order passed by this Court on 5-2-2010[2] shall also stand vacated. All other IAs shall stand disposed of.

Part II — Guidelines to be followed in future cases

122[*]**.** (*i*) As stated in our order hereinabove, the words "environment" and "sustainable development" have various facets. At times in respect of a few of these facets data is not available. Care for environment is an ongoing process.

(*i.1*.) The time has come for this Court to declare and we hereby declare that the National Forest Policy, 1988 which lays down far-reaching principles must necessarily govern the grant of permissions under Section 2 of the Forest (Conservation) Act, 1980 as the same provides the road map to ecological protection and improvement under the Environment (Protection) Act, 1986. The principles/guidelines mentioned in the National Forest Policy, 1988 should be read as part of the provisions of the Environment (Protection) Act, 1986 read together with the Forest (Conservation) Act, 1980. This direction is required to be given because there is no machinery even today established for implementation of the said National Forest Policy, 1988 read with the Forest (Conservation) Act, 1980. Section 3 of the Environment (Protection) Act, 1986 confers a power coupled with duty and, thus, it is incumbent on the Central Government, as hereinafter indicated, to appoint an appropriate authority, preferably in the form of regulator, at the State and at the Central level for ensuring implementation of the National Forest Policy, 1988.

(*i.2*.) The difference between a regulator and a court must be kept in mind. The court/tribunal is basically an authority which reacts to a given situation brought to its notice whereas a regulator is a proactive body with the power conferred upon it to frame statutory rules and regulations. The regulatory mechanism warrants open discussion, public participation and circulation of the draft paper inviting suggestions.

(*i.3*.) The basic objectives of the National Forest Policy, 1988 include positive and proactive steps to be taken. These include maintenance of environmental stability through preservation, restoration of ecological balance that has been adversely disturbed by serious depletion of forests, conservation of natural heritage of the country by preserving the remaining natural forests with the vast variety of flora and fauna, checking soil erosion and denudation in the catchment areas, checking

the extension of sand dunes, increasing the forest/tree cover in the country and

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encouraging efficient utilisation of forest produce and maximising substitution of wood.

(*i.4.*) Thus, we are of the view that under Section 3(3) of the Environment (Protection) Act, 1986, the Central Government should appoint a National Regulator for appraising projects, enforcing environmental conditions for approvals and to impose penalties on polluters.

(*i.5.*) There is one more reason for having a regulatory mechanism in place. Identification of an area as forest area is solely based on the declaration to be filed by the user agency (project proponent). The project proponent under the existing dispensation is required to undertake EIA by an expert body/institution. In many cases, the court is not made aware of the terms of reference. In several cases, the court is not made aware of the study area undertaken by the expert body. Consequently, MoEF/State Government acts on the report (Rapid EIA) undertaken by the institutions who though accredited submit answers according to the terms of reference propounded by the project proponent. We do not wish to cast any doubt on the credibility of these institutions. However, at times the court is faced with conflicting reports. Similarly, the Government is also faced with a fait accompli kind of situation which in the ultimate analysis leads to grant of ex post facto clearance. To obviate these difficulties, we are of the view that a regulatory mechanism should be put in place and till the time such mechanism is put in place, MoEF should prepare a panel of accredited institutions from which alone the project proponent should obtain the Rapid EIA and that too on the terms of reference to be formulated by MoEF.

(*ii*) In all future cases, the user agency (project proponents) shall comply with the Office Memorandum dated 26-4-2011 issued by MoEF which requires that all mining projects involving forests and for such non-mining projects which involve more than 40 ha of forests, the project proponent shall submit the documents which have been enumerated in the said memorandum.

(*iii*) If the project proponent makes a claim regarding status of the land being non-forest and if there is any doubt the site shall be inspected by the State Forest Department along with the regional office of MoEF to ascertain the status of forests, based on which the certificate in this regard be issued. In all such cases, it would be desirable for the representative of the State Forest Department to assist the Expert Appraisal Committee.

(*iv*) At present, there are six regional offices in the country. This may be expanded to at least ten. At each regional office there may be a Standing Site Inspection Committee which will take up the work of ascertaining the position of the land (namely whether it is forest land or not). In each Committee there may be one non-official member who is an expert in forestry. If it is found that forest land is involved, then forest clearance will have to be applied for first.

(*v*) Increase in the number of regional offices of the Ministry from six presently located at Shillong, Bhubaneshwar, Lucknow, Chandigarh, Bhopal and Bangalore to at least ten by opening at least four new regional offices at the locations to be decided in consultation with the State/UT Governments to facilitate more frequent inspections and in-depth scrutiny and appraisal of the proposals.

(*vi*) Constitution of the Regional Empowered Committee, under the Chairmanship of the Chief Conservator of Forests (Central) concerned and having the Conservator of Forests (Central) and three non-official members to be selected from the eminent experts in forestry and allied disciplines as its members, at each of the regional offices of MoEF, to facilitate detailed/in-depth scrutiny of the proposals involving diversion of

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forest area of more than 5 ha and up to 40 ha and all proposals relating to mining and encroachments up to 40 ha.

(*vii*) Creation and regular updating of a GIS based decision support database, tentatively containing inter alia the district-wise details of the location and boundary of (*i*) each plot of land that may be defined as forest for the purpose of the Forest (Conservation) Act, 1980; (*ii*) the core, buffer and eco-sensitive zone of the protected areas constituted as per the provisions of the Wild Life (Protection) Act, 1972; (*iii*) the important migratory corridors for wildlife; and (*iv*) the forest land diverted for non-forest purpose in the past in the district. The Survey of India toposheets in digital format, the forest cover maps prepared by the Forest Survey of India in preparation of the successive State of Forest Reports and the conditions stipulated in the approvals accorded under the Forest (Conservation) Act, 1980 for each case of diversion of forest land in the district will also be part of the proposed decision support database.

(*viii*) Orders to implement these may, after getting necessary approvals, be issued expeditiously.

(*ix*) The Office Memorandum dated 26-4-2011 is in continuation of an earlier Office Memorandum dated 31-3-2011. This earlier OM clearly delineates the order of priority required to be followed while seeking environmental clearance under the Environment Impact Assessment Notification, 2006. It provides that in cases where environmental clearance is required for a project on forest land, the forest clearance shall be obtained before the grant of the environment clearance.

(*x*) In addition to the above, an Office Memorandum dated 26-4-2011 on Corporate Environmental Responsibility has also been issued by MoEF. This OM lays down the need for PSUs and other corporate entities to evolve a corporate environment policy of their own to ensure greater compliance with the environmental and forestry clearance granted to them.

(*xi*) All minutes of proceedings before the Forest Advisory Committee in respect of the Forest (Conservation) Act, 1980 as well as the minutes of proceedings of the Expert Appraisal Committee in respect

of the Environment (Protection) Act, 1986 are regularly uploaded on the Ministry's website even before the final approval/decision of the Ministry for Environment and Forests is obtained. This has been done to ensure public accountability. This also includes environmental clearances given under the EIA Notification of 2006 issued under the Environment (Protection) Act, 1986. Henceforth, in addition to the above, all forest clearances given under the Forest (Conservation) Act, 1980 may now be uploaded on the Ministry's website.

(*xii*) Completion of the exercise undertaken by each State/UT Government in compliance with this Court's order dated 12-12-1996[1] wherein inter alia each State/UT Government was directed to constitute an expert committee to identify the areas which are "forests" irrespective of whether they are so notified, recognised or classified under any law, and irrespective of the land of such "forest" and the areas which were earlier "forests" but stand degraded, denuded and cleared, culminating in preparation of geo-referenced district forest maps containing the details of the location and boundary of each plot of land that may be defined as "forest" for the purpose of the Forest (Conservation) Act, 1980.

(*xiii*) Incorporating appropriate safeguards in the environment clearance process to eliminate chance of the grant of environment clearance to projects involving diversion of forest land by considering such forest land as non-forest, a flow chart depicting the tentative nature and manner of incorporating the proposed safeguards to be finalised

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after consultation with the State/UT Governments.

(*xiv*) The public consultation or public hearing as it is commonly known, is a mandatory requirement of the environment clearance process and provides an effective forum for any person aggrieved by any aspect of any project to register and seek redressal of his/her grievances.

(*xv*) MoEF will prepare a comprehensive policy for inspection, verification and monitoring and the overall procedure relating to the grant of forest clearances and identification of forests in consultation with the States (given that forests fall under Entry 17-A of the Concurrent List).

123. Part II of our order gives guidelines to be followed by the Central Government, State Governments and the various authorities under the Forest (Conservation) Act, 1980 and the Environment (Protection) Act, 1986. These guidelines are to be implemented in all future cases. These guidelines are required to be given so that fait accompli situations do not recur. We have issued these guidelines in the light of our experience in the last couple of years. These guidelines will operate in all future cases of environmental and forest clearances till a regulatory mechanism is put in place. On the implementation of these guidelines, MoEF will file its compliance report within six months.

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† Under Article 32 of the Constitution of India

[1] *T.N. Godavarman Thirumulpad* v. *Union of India*, (1997) 2 SCC 267

[2] *T.N. Godavarman Thirumulpad* v. *Union of India*, (2010) 12 SCC 376

[3] (2000) 10 SCC 664

[4] (2006) 1 SCC 1

[5] (2011) 1 All ER 476

* **Ed.**: Para 122 corrected vide Official Corrigendum No. F.3/Ed.B.J./51-A/2011 dated 10-10-2011.

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2013 SCC OnLine Jhar 2188

In the High Court of Jharkhand at Ranchi

(BEFORE NARENDRA NATH TIWARI, J.)

Electrosteel Steels Ltd. ... Petitioner;

Versus

State of Jharkhand and Others ... Respondents.

Cont. Case (Civil) No. 939 of 2013

Decided on November 29, 2013

Advocates who appeared in this case:

For the Petitioner : Mr. Y.V. Giri, Sr. Advocate

For the Opposite Parties : Mr. Prabhash Kumar, Advocate

The Judgment of the Court was delivered by

NARENDRA NATH TIWARI, J.:— When this case is taken up, learned counsel for the opposite parties submitted that the order in compliance of the court has been passed.

2. Learned counsel for the petitioner submitted that the order is lop sided and is not complete.

3. In reply thereto, learned counsel for the respondents submitted that if the petitioner so requires further order shall be passed by the opposite parties. For that purpose, he prays for two weeks' time.

4. Prayer is allowed.

5. Put up this case on 10th January, 2014.

6. Personal appearance of Chairman, Jharkhand State Pollution Control Board and Member, Secretary, Jharkhand State Pollution Control Board is dispensed with.

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2016 SCC OnLine Jhar 637 : (2017) 1 JLJR 499 (HC)

In the High Court of Jharkhand at Ranchi

(BEFORE R.R. PRASAD, J.)

Electrosteel Steels Limited, a company incorporated under the Companies Act, 1956, through its Director, Rama Shankar Singh, Son of Shri Ram Vilas Singh, R/10, Lohanchal, P.O. & P.S.:- Bokaro Steel City, District:- Bokaro ..... Petitioner(s)

v.

1. The Union of India, through its Secretary, Ministry of Environment, Forests and Climate Change, Government of India, having its office at Indira Pariyabhvan, Aliganj, Jor Bagh, P.O. & P.S.:- Jor Bagh, Town & District:- New Delhi (NCR of Delhi)-110003.
2. Assistant Inspector General of Forest, Ministry of Environment, Forests and Climate Change, Government of India, having its office at Indira Pariyabhvan, Aliganj, Jor Bagh, P.O. & P.S.:- Jor Bagh, Town & District:- New Delhi (NCR of Delhi)-110003.
3. The State of Jharkhand, through its Chief Secretary, having its office Project Bhawan, Dhurwa, P.O.:- Dhurwa, P.S.:- Dhurwa, District:- Ranchi.
4. The Secretary Forest, Government of Jharkhand, having its office at Nepal House, Doranda, P.O. & P.S.:-Doranda, District:- Ranchi.
5. The Jharkhand State Pollution Control Board, through its Chairman, having its office at T.A. Division Building (Ground Floor), HEC, P.O. & P.S.:- Dhurwa, District:- Ranchi.
6. Member Secretary, the Jharkhand State Pollution Control Board, through its Chairman, having its office at T.A. Division Building (Ground Floor), HEC, P.O. & P.S.:- Dhurwa, District:- Ranchi ..... Opp. Party(s)

For the Petitioner(s): M/s. Anil Kr. Sinha, Sr. Advocate, Indrajit Sinha, Bibhash Sinha, Advocates.

For the UOI: M/s. Rajiv Sinha, ASGI, Niraj Kumar, JC to ASGI

For the Respondent No. 3 & 4:- M/s. L.C.N. Shahdeo, G.P.IV, S.K. Gautam, J.C. to G.P.IV

For the JSPCB: M/s. Dr. A.K. Singh, Krishna Murari, Advocates

W.P. (C) No. 2033 of 2015

Decided on February 5, 2016

R.R. PRASAD, J.:— Before proceeding further in the matter, the order which was passed on 22.05.2015 needs to be recorded which reads as under:-

"The petitioner was granted environmental clearance by the Central Government for establishing a factory in the name and style of M/s. Electrosteel Steels Limited, Parwatpur at Bokaro. Thereupon, "No Objection Certificate" was granted by the Jharkhand State Pollution Control Board (for short Pollution Board) for establishing the factory. After the factory was established, consent to operate was given by the Pollution Board which is effective till December, 2016. Thereupon the factory started production after investing several crores and by employing 4700 employees

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(approx.). Beside that, thousands and thousands persons are engaged indirectly with production of steel. While the production was going on a directive was issued by the Ministry of Environment, Forests and Climate Change, Government of India, New Delhi to stop production if M/s. Electrosteel Steels Limited, Parwatpur at Bokaro if it has been established unauthorizedly on the forest land. Consequent upon such directive, the In-charge Member Secretary of the Pollution Board without holding any inquiry or without giving any notice to the petitioner to show cause passed the order as contained in its letter dated 18.04.2015 to stop production, which is certainly in violation of the principle of natural justice.

Furthermore, the land, over which the factory has been established, never happens to be the forest land and this declaration has been made by the competent civil court, when the vender of the petitioner had filed a title suit before the civil court for declaration of right, title and interest over the land including the land over which the factory does exist. In that case, the forest department was the party. That order though has been challenged by the forest department in an appeal bearing Title Appeal No. 33 of 2007 before the District Judge, Bokaro but so long the decree passed by the trial court does subsist, the land, which is being claimed to be the forest land, cannot be said to be the forest land and under these situations, the impugned order can certainly be said to be bad on both counts.

However, Mr. A.K. Pandey, learned counsel for Jharkhand State Pollution Control Board, submits that the matter be adjourned for 25.06.2015 so that in the meantime, he may file counter affidavit.

Accordingly, let this case be posted on 25.6.2015. Meanwhile, operation of the order dated 18.04.2015, as contained in Annexure-21, shall remain stayed.

Let a copy of this order be handed over to Mr. A.K. Pandey, learned counsel for Jharkhand State Pollution Control Board, for needful."

2. When the matter was taken up today, learned Assistant Solicitor General submitted that a counter-affidavit has been filed wherein it has been stated that when information was received to the Ministry of Environment, Forest and Climate Change, Government of India, New Delhi to the effect that M/s. Electrosteel Steels Limited has been established over the forest land, the authority did write a letter to the Principal Secretary, Forest to ensure stoppage of production, if the factory has been established over the forest land. That letter reportedly was sent to the Pollution Control Board who took the decision according to his own wisdom.

3. As against this, Mr. A.K. Singh, learned counsel appearing for the Jharkhand State Pollution Control Board assisted by Mr. Krishna Muari and also by Mr. Sahdeo GP IV, submitted that it is true that the letter issued by the Ministry of Environment, Forest and Climate Change was never directed to the authority of the Pollution Control Board rather it was directed to the Principal Secretary, Department of Forest, but that letter was endorsed to the Pollution Control Board for taking necessary action and when the Board did find that the factory has been established over the forest land, the impugned order dated 18.04.2015 was passed asking the petitioner to close the functioning of the factory with immediate effect.

4. Having heard learned counsel appearing for the parties, it is evident that the order dated 18.04.2015 has been passed, by the authority without giving any opportunity to the petitioner to be heard in the matter particularly when the petitioner has been putting forth the claim of ownership on the basis of a decree passed by the Civil Court in favour of the vendor of the petitioner and that decree does have force as it has not been reversed till date.

5. Under the circumstances, I do find that the authority did pass the order dated 18.04.2015 in violation of the principles of natural justice and accordingly, the said order is hereby set aside.

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Page 3 Wednesday, July 26, 2023
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6. However, the authority would be at liberty to pass order in accordance with law after giving opportunity to the petitioner to be heard in the matter.

7. Thus, this application stands disposed of.

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(2016) 9 Supreme Court Cases 300 : 2016 SCC OnLine SC 754

In the Supreme Court of India

(BEFORE T.S. THAKUR, C.J. AND R. BANUMATHI AND UDAY U. LALIT, JJ.)

ELECTROTHERM (INDIA) LIMITED . . Appellant;

Versus

PATEL VIPULKUMAR RAMJIBHAI AND OTHERS . . Respondents.

Civil Appeal No. 7222 of 2016[±], decided on August 2, 2016

Environment Law — Environmental Clearance/NOC/Environment Impact Assessment — Environmental Clearance — Public consultation/public hearing being mandatory requirement of environmental clearance process — EIA Noti. dt. 27-1-1994 r/w EIA Noti. dt. 14-9-2006, Paras 2, 4 and 7 — Considering peculiar facts of case, nature of requirement of public consultation/public hearing changed from pre-decisional to post-decisional process

— Appellant set up steel plant after State Pollution Control Board issued authorisation — Appellant applied for environmental clearance from Ministry of Environment and Forests and it was given in 2008 — Thereafter, appellant thought of expanding its plant and hence again sought for environmental clearance — It was contended by appellant before Expert Committee that it was not using any extra land for expansion and therefore public hearing may be dispensed with as public hearing had already taken place in 2007 — Expert Committee and Ministry of Environment and Forests dispensed with public hearing — Later, appellant was granted environmental clearance — R-1 approached High Court and it was ordered that entire appellant's unit be closed — Legality of

— Held, after expansion, capacity of plant would increase threefold and figures indicated that there was tremendous increase in capacity of plant — Consequently, pollution load would also be more than what was contemplated in 2007 public hearing — Public have stake in pollution load and water requirement — Decision-making process in exempting from public consultation/public hearing was not based on correct principles — Such decision was invalid and improper — Hence, decision to exempt from public consultation/public hearing was set aside — Matter remanded to authorities for fresh public hearing — During hearing before Supreme Court, it was submitted that expansion activity had already been undertaken — CPCB pointed out that appellant complied with most of recommendations — Considering peculiar facts and circumstances of case, held, if public hearing result is negative against expansion, authorities to scale down activities of

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appellant — Nature of public consultation/public hearing changed from pre-decisional to post-decisional, in view of special facts of case — If public hearing result is positive in favour of expansion then environmental clearance granted in 2010 would be valid —

Authorities directed to organise public consultation/public hearing within three months from date of order — Environment (Protection) Act, 1986 — Ss. 3(1) and 3(2)(v) — Environment (Protection) Rules, 1986, R. 5(3)(d)

The appellant set up a steel plant for manufacture of various products after receiving no-objection certificate from the State Pollution Control Board. Thereafter, the Board gave authorisation order dated 10-11-2005. The appellant applied for environmental clearance through its letter dated 30-11-2007. On 20-2-2008, the Ministry of Environment and Forests, Government of India, granted environmental clearance.

Thereafter, the appellant applied for environmental clearance for expansion of steel plant. It was contended by the appellant that public hearing for earlier clearance was held on 12-6-2007 and accordingly earlier environmental clearance was granted on 20-8-2008. Hence, the appellant sought for exemption from public hearing as it was not using extra land for its expansion activity. Considering the report of the Expert Committee, the Ministry of Environment and Forests granted environmental clearance to the appellant without holding public hearing.

Respondent 1 filed a writ petition in public interest before the High Court and prayed for revocation of environmental clearance granted to the appellant for expansion of its plant. After hearing the parties, the High Court was pleased to allow the writ petition and passed orders for closure of the entire unit. Hence, this appeal.

Disposing of the appeal, the Supreme Court

Held :

Public consultation/public hearing is a mandatory requirement of the environmental clearance process. The decision-making process in doing away with or in granting exemption from public consultation/public hearing, is not based on correct principles and any decision arising out of such process would be invalid.

(Paras 17 and 19)

Lafarge Umiam Mining (P) Ltd. v. *Union of India*, (2011) 7 SCC 338, *applied*

The facts on record are clear that while granting environmental clearance on 20-2-2008, public consultation/public hearing was undertaken on 12-6-2007. As on that date, the status of the project was that the capacity of pig iron plant was to be 350 TPD, power plant to be 24 MW, the total cost of the project was Rs 90.00 crores and the total water requirement was 650 m^3/day. The High Court was absolutely right that after expansion the capacity of the plant was to increase

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threefold. The tabular chart given in environmental clearance dated 27-1-2010 itself shows the tremendous increase in the capacity. Consequently, the pollution load would naturally be of greater order than the one which was contemplated when the earlier public consultation/public hearing was undertaken on 12-8-2007. Further, the water requirement had also risen from 650 m^3/day to 2165 m^3/day. The increase in pollution load and water requirement were certainly matters where public in general and those living in the vicinity in particular had and continue to have a stake.

(Para 14)

Public consultation/Public hearing is one of the important stages while considering the matter for grant of environmental clearance. The minutes of the

Page: 302

meetings held on 9-2-2009 to 11-2-2009 show that the request of the appellant for exemption from the requirement of public hearing was accepted by the Committee. The observations of the Committee suggest that there would be no additional land requirement, groundwater drawal and certain other features. However, the water requirement, which is a community resource, was definitely going to be of greater order in addition to the fact that the expansion of the project would have entailed additional pollution load.

(Para 15)

It must be stated here that after the EIA Notification of 2006 a draft Notification was issued on 9-1-2009 wherein an amendment was suggested in Para 7(*ii*) of the EIA Notification dated 14-9-2006 to the effect that in cases of expansion of projects involving enhancement by more than 50% holding of public consultation/public hearing was essential; implying thereby that in cases where expansion was less than 50% public consultation/public hearing could be exempted. Without going into the question whether public consultation/public hearing could be so exempted, it is relevant to note that this idea in the draft Notification was not accepted, after a Committee constituted to advise in the matter had given its report on 30-10-2009 to the contrary. As a result, the final Notification dated 1-12-2009 did not carry or contain the amendment that was suggested by way of draft Notification. Consequently, no exemption on that count could be given when the environmental clearance came to be issued on 27-1-2010.

(Para 16)

At the same time, it cannot be lost sight of the fact that in pursuance of environmental clearance dated 27-1-2010, the expansion of the project had been undertaken and as reported by CPCB in its affidavit filed on 7-7-2014, most of the recommendations made by CPCB were complied with. Hence, the interest of justice would be subserved if that part of the decision exempting public consultation/public hearing was set aside and the matter was relegated back to the authorities

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concerned to effectuate public consultation/public hearing. However, since the expansion has been undertaken and the industry has been functioning, it is not deemed appropriate to order closure of the entire plant as directed by the High Court. If the public consultation/public hearing results in a negative mandate against the expansion of the project, the authorities would do well to direct and ensure scaling down of the activities to the level that was permitted by environmental clearance dated 20-2-2008. If public consultation/public hearing reflects in favour of the expansion of the project, environmental clearance dated 27-1-2010 would hold good and be fully operative. In other words, at this length of time when the expansion has already been undertaken, in the peculiar facts of this case and in order to meet ends of justice, it is deemed appropriate to change the nature of requirement of public consultation/public hearing from pre-decisional to post-decisional. The public consultation/public hearing shall be organised by the authorities concerned in three months from today.

(Para 20)

Patel Vipulkumar Ramjibhai v. *Union of India*, 2012 SCC OnLine Guj 3408 : (2012) 3 Guj LR 2312, *modified*

Electrothem (India) Ltd. v. *Patel Vipulkumar Ramjibhai*, 2012 SCC OnLine SC 1110; *Electrothem (India) Ltd.* v. *Patel Vipulkumar Ramjibhai*, 2012 SCC OnLine SC 1111; *Electrothem (India) Ltd.* v. *Patel Vipulkumar Ramjibhai*, SLP (C) No. 16860 of 2012, order dated 22-4-2014 (SC), *cited*

G-D/57283/C

Advocates who appeared in this case :

Dr A.M. Singhvi, Senior Advocate (Nakul Mohta, Mahesh Agarwal, Ankur Saigal, Rishabh Parikh, Abhinav Agarwal and E.C. Agrawala, Advocates) for the Appellant;

Huzefa Ahmadi, Senior Advocate [Vijay Panjwani, S. Udaya Kr. Sagar, Ms Bina Madhavan, Mrityunjal Singh (M/s Lawyer's Knit & Co.), Ms Jesal Wahi, Ms Hemantika Wahi, S.N. Terdal, S.A. Haseeb and B. Krishna Prasad, Advocates] for the Respondents.

Chronological list of cases cited ***on page(s)***

1. SLP (C) No. 16860 of 2012, order dated 22-4-2014 (SC), *Electrothem (India) Ltd.* v. *Patel Vipulkumar Ramjibhai* 310*a-b*, 310*e*

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2. 2012 SCC OnLine Guj 3408 : (2012) 3 Guj LR 2312, *Patel Vipulkumar Ramjibhai* v. *Union of India* 303*d*, 308*d*, 308*d-e*

3. 2012 SCC OnLine SC 1111, *Electrothem (India) Ltd.* v. *Patel Vipulkumar Ramjibhai* 309*d-e*

4. 2012 SCC OnLine SC 1110, *Electrothem (India) Ltd.* v. *Patel Vipulkumar Ramjibhai* 309*d*

5. (2011) 7 SCC 338, *Lafarge Umiam Mining (P) Ltd.* v. *Union of India* 309*c*, 311*f*, 312*a*, 312*c-d*

The Judgment of the Court was delivered by

UDAY U. LALIT, J.— Leave granted. This appeal challenges the judgment and order dated 11-5-2012[1] passed by the High Court of Gujarat allowing Special Civil Application No. 5986 of 2010 setting aside the environmental clearance dated 27-1-2010 and directing that the operations of the entire plant of the appellant be stopped and that the operations could be continued only after fresh environmental clearance was accorded in its favour by the Ministry of Environment and Forests and the Union of India.

2. The Environment Impact Assessment Notification dated 27-1-1994 issued by the Central Government in exercise of powers conferred by sub-section (1) and clause (*v*) of sub-section (2) of Section 3 of the Environment (Protection) Act, 1986 read with clause (*d*) of sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986 stipulated, inter alia, that in case of expansion or modernisation of any activity, if pollution load exceeded the existing one or the new project was listed in Schedule I to the said Notification, such activity would not be undertaken unless the environmental clearance was accorded by the Central Government. Same thought was carried and finds expressly stipulated in the Notification dated 14-9-2006 issued by the Central Government in supersession of the Notification dated 27-1-1994. The Notification dated 14-9-2006 directed that the required construction of new projects or activities or the expansion or modernisation of existing projects or activities listed in the Schedule to the notification entailing capacity addition with change in process and or technology would be undertaken only after prior environmental clearance from the Central Government or as the case may be by the State Level Environment Impact Assessment Authority. Clauses 2 and

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4 of the Notification deal with requirements of prior environmental clearance and categorisation of projects and activities respectively. Under Clause 7, environmental clearance process comprises of four stages in sequential order, namely, (1) Screening, (2) Scoping, (3) Public Consultation, and (4) Appraisal.

3. The appellant set up a steel plant at Village Samakhiyali, for manufacturing various products after having received no-objection certificate from Gujarat Pollution Control Board ("GPCB", for short) on 25-2-2005, which thereafter granted consent vide Authorisation Order dated 10-11-2005 for manufacture of pig iron, steel billets/slabs, steel bars and rods, etc.

4. The appellant had set up the plant and begun manufacturing process and later by its letter dated 30-11-2007 applied for environmental clearance. On 20-2-2008, the Government of India, Ministry of Environment and Forests granted environmental clearance, the relevant portions of the Clearance being:

> "2.0. The Ministry of Environment and Forests has examined the application. It is noted that M/s Electrotherm (India) Ltd. have proposed expansion of Pig Iron Plant (150 to 350 TPD) with Captive Lignite/Coal char based Power Plant (24 MW) and WHRB (6 MW) at Samakhiyali, Bhachhu, Kutch, Gujarat. Total project area is 100.6276 ha and expansion will be carried out in 20.79 ha. No national park of wildlife sanctuary is located within 10 km … Total cost of project is Rs 90.00 crores.…
>
> 3.0. Iron ore will be reduced in a blast furnace. ESP dust collectors, venture scrubbers, bag letters will be provided to control are emissions from WHRB, AFBSC, boiler, crusher house, etc. Gas will be cleaned in GCP. Total water requirement of 650 m^3/day will be supplied by Gujarat Water Supply and Sewage Board (GWSSB), zero discharge will be adopted. Fine particles of coke, iron ore and ETP sludge will be recycled and reused in the process. BF slag will be sold to cement manufacturers to be used for road construction. Fly ash will be used in the captive brick manufacturing plant. Char from the sponge iron plant will be 100% utilised in the FBC boiler.
>
> 4.0. Public hearing/Public consultation meeting was held on 12-6-2007.
>
> 5.0. The Ministry of Environment and Forests hereby accords environmental clearance to the above project under EIA Notification dated 14-9-2006 subject to strict compliance of the following conditions.…"

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The environmental clearance then sets out certain specific conditions and general conditions.

5. The appellant thereafter, applied for expansion of steel plant. The matter was dealt with in the Ninety-first Meeting of the Reconstituted Expert Appraisal Committee (Industry) held during 9-2-2009 to 11-2-2009. The appellant had informed that public hearing for the previous project was held on 12-6-2007 and that the proposed expansion would be within the existing

Page: 305

industrial premises and no extra land would be required. The matter was dealt with by the Committee and the relevant minutes were:

> "PAs vide letter dated 29-12-2008 informed that public hearing for the previous project was held on 12-6-2007, for which, environmental clearance was accorded vide Ministry's Letter No. J-11011/503/2006/IA-II(I) dated 20-2-2008. It is also informed that proposed expansion will be within the existing industrial premises and no extra land will be required.
>
> M/s Electrotherm (India) Ltd. have proposed for the expansion of steel plant at Milestone No. 310 of NH No. 8A, Village Samkhiyali, Taluka Bhachau, Kutch, Gujarat. PAs have mentioned that sponge iron, DI pipes, steel rolling mill, induction furnace are existing after getting 'NOC' from GPCB. Environment clearance for pig iron plant and CPP (30 MW) is accorded vide letter dated 20-2-2008. Expansion will be carried out in 20.24 ha within the existing industrial premises of 100.62 ha. No national park/wildlife sanctuary/reserve forest is located within 10 km radius of the project site. Total cost of the project is Rs 274.00 crores. Rs 5.89 crores and Rs 0.40 crores will be earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures.
> ...
>
> Iron ore (65,400 MTPM), limestone (8856 MTPM), manganese ore (465 MTPM), quartizite (1068 MTPM), dolomite (2471 MTPM) and lime dolofines (968 MTPM) will be used as raw material.
>
> Sponge iron will be produced using DRI method. Iron oxide will be chemically reduced to "hot metal" in blast furnace. Sinter plant will use iron ore fines, mill scales and flue dust. Sinter produced will be used in BF billets from steel melt shop (SMS) will be put into billet in reheating furnace. Reheated billets will be used to manufacture TMT bars. Pig iron will be heated in induction furnace (IF) to prepare duct iron pipes. Scrap and sponge iron will be

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changed to IF and then poured to ladle refining furnace (LRF) and then molten material will be changed to continuous casting machine (CCM) to produce billets, rods and bars. Waste gases from DRI will be used in WHRB. No AFBC is proposed during expansion.

ESP will be provided to WHRB. Waste gases will be used in waste heat recovery boiler (WHRB) before disposing of through stack. Fugitive emissions will be controlled by dust suppression measures. Gas cleaning system will be provided to BF. Bag filters/wet cleaning system will be provided to BF. Bag house will be provided to pig iron plant. ESP will be provided to sinter plant. Multi-cyclone will be provided to re-heating furnace. Bag filters will be provided to product handling and transfer points. Dust suppression system i.e. water sprinkling will be provided to conveyer, transfer points, loading and unloading areas.

Total water requirement from Gujarat Water Infrastructure Ltd. (GWIL) will be 2165 m^3/day. PAs submitted the water allotment letter dated 22-10-2008 from GWIL. Air-cooled condenser will be provided to WHRB. The waste water from power plant will be treated in neutralisation plant. Treated waste water will be used for water sprinkling during dust

suppression and green belt development. Sewage will be disposed of through septic tank and soak pit.

Fly ash (2820 MTPM), bed ash (600 MTPM) will be used in captive brick manufacturing plant and additionally have a tie up with cement manufacturing units. Coal char (5400 MTPM) will be used in existing power plant. Slag (5124 MTPM) will be sold to cement/brick manufacturing units. Iron ore fines, mill scale, flue dust, etc. will be used in sinter plant. BF slag will be granulated and provided to cement manufacturers. Used/Spent oil will be sold to authorised recyclers.

Out of total 100.62 ha, green belt is earmarked for 8 ha in existing and 5.47 ha in proposed expansion. Thus, total 13.47 ha is proposed for the green belt development. Coke, coal and waste heat from DRI will be used as fuel…."

6. After setting out the details of the proposed expansion of the project as aforesaid, the decision of the Expert Committee was as under:

"The Expert Committee (Industry) decided that PAs may be communicated the above 'TORs' for the preparation of EIA/EMP. As

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soon as the draft EIA/EMP Report is prepared as per the 'General Structure of EIA' given in Appendices III and III-A in the EIA Notification, 2006, the same may be submitted by the PAs to MoEF for prior environmental clearance. PAs informed to the Committee that environment clearance has been accorded to M/s Electrotherm India Ltd. for the existing plant vide letter dated 20-2-2008 with public hearing on 12-6-2007 and requested for the exemption. The Committee considered the request and exempted from the public hearing as per Para 7(*ii*) of the EIA Notification, 2006 due to no additional land requirement, groundwater drawal, utilisation of DR and BF gases in WHRB & char in AFBC boiler, fly ash and BF slag to cement manufacturers, etc."

7. The matter was thereafter considered for grant of environmental clearance which came to be granted by the Government of India, Ministry of Environment and Forests by communication dated 27-1-2010, relevant portion of which was:

"The Ministry of Environment and Forests has examined the application. It is noted that proposal is for the expansion of Steel Plant at Milestone No. 310 of NH No. 8A, Village Samkhiyali, Taluka Bhachau, Kutch, Gujarat by M/s Electrotherm India Ltd. Expansion will be carried out in 21.43 ha within the existing industrial premises of 11.46 ha. No national park/wildlife sanctuary/reserve forest is located within 10 km radius of the project site. Total cost of the project is Rs 274.00 crores. Sponge iron, DI pipes, steel rolling mill, induction furnace are existing after getting "no-objection certificate" from Gujarat Pollution Control Board (GPCB). "Consent to establish" is also obtained from GPCB vide Consent No. PC/CCA/KUTCH-294/28080 dated 13-9-2006 and PC/CCA-KUTCH-294(3)13208 dated 30-4-2008. Environmental clearance for the existing plant (Pig Iron Plant and Captive Power Plant)

(30 MW) is accorded vide Ministry's Letter No. J-11011/503/2006-IA-II (I) dated 20-2-2008. Following are the details of the existing and proposed facilities:

Sl. No.	*Products*	*Production Capacity (MTPM)*		
		Existing	*Proposed*	*Total*
1.	Sponge iron	6000	18,000	24,000
2.	DI pipes	4000	12,000	16,000
3.	Captive power	30 MW	15 MW	45 MW

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	WHRB FBC	6 MW 24 MW	15 MW	21 MW 24 MW
4.	Pig iron (blast furnace)	4500	18,600	23,100
5.	Sinter plant	—	32,400	32,400
6.	Steel rolling mill	5833	10,500	16,333
7.	MS billets/bars	5833	30,000	35,833
8.	Stainless steel billets	25,000	—	25,000
9.	Alloy nickel	416	—	416
10.	Induction furnaces	17 sets/month	—	17 sets
11.	Electric cycle and vehicle	83 sets/month	—	83 sets

3.0. Sponge iron will be produced using DRI method. Iron oxide will be chemically reduced to "hot metal" in blast furnace (BF). Sinter plant will use iron ore fines, mill scales and flue dust. Sinter produced will be used in BF. Pig iron will be heated in induction furnace (IF) to prepare duct iron pipes. Scrap and sponge iron will be charged to IF and then poured to ladle refining furnace (LRF) and then molten material will be changed to continuous casting machine (CCM) to produce billets, rods and bars. Billets from steel melt shop (SMS) will be put into reheating furnace to manufacture TMT bars. Waste gases from DRI will be used in WHRB. No AFBC is proposed during expansion since it already exists.

4.0. Electrostatic precipitator (ESP), dust settling chamber (DSC), after burning chamber (ABC), gas cleaning system with bag house, bag filters, multi-cyclones, dust collectors, stack of adequate height, dust suppression and extraction system will be provided to control air emissions. Total water requirement from Gujarat Water Infrastructure Ltd. (GWIL) will be 2165 m^3/day and water is allotted vide letter dated 22-10-2008. No groundwater will be utilised. Air-cooled condenser will be provided to WHRB. No waste water will be discharged from sponge iron plant, pig iron plant, sinter plant, WHRB power plant, TMT bar plant, BI pipe and induction/arc furnace. The waste water from power plant will be treated and used for dust suppression and green belt development. Coal char will be used in existing power plant, coal dust in the boiler, iron ore fines, mill scales, flue dust, etc. in sinter plant. Fly ash will be used in captive brick manufacturing plant and also provided to cement manufacturing units.

Slag will be sold to cement/brick manufacturing units. Bed ash

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will be disposed off in secured landfills.

5.0. Public hearing for the existing plant was held on 12-6-2007 and is exempted for the proposed exemption as per Para 7(*ii*) of the EIA Notification, 2006."

8. On or about 10-5-2010, Respondent 1 herein filed Special Civil Application No. 5986 of 2010 in the High Court of Gujarat, in public interest, seeking revocation of environment clearance granted to the appellant for expansion of its plant. It was submitted inter alia that as a result of expansion, the proposed capacity and activities of the appellant were to increase substantially and that the environmental clearance granted for expansion of plant was not in conformity with the EIA Notification of 2006. The appellant which was Respondent 3 in the High Court, in its reply submitted inter alia that the petition was not in public interest and Respondent 1 was set up by the business rivals of the appellant and that the appellant had complied with all the norms and requirements and was rightly granted environment clearance for expansion of the plant. The responses filed on behalf of the Ministry of Environment and Forests, Government of India and Gujarat Pollution Control Board also submitted that the environmental clearance was rightly granted and that the activities of the appellant were periodically and regularly being monitored to ensure that stipulated environmental safeguards were complied with.

9. After hearing rival submissions, the High Court by its judgment and order dated 11-5-2012[1] allowed Special Civil Application No. 5986 of 2010 principally on the ground that the environmental clearance dated 27-1-2010 was granted without there being public consultation or public hearing which was a mandatory requirement under the 2006 Notification. The observations of the High Court in that behalf were as under: (*Patel Vipulkumar case*[1], SCC OnLine Guj paras 18-19)

"*18*. The facts to a certain extent have disturbed us for the simple reason that Respondent 3 set up its unit of steel plant in the year 2005 and started operating the same full-fledgedly. However, till 2008 they had no environmental clearance and it is only for the first time vide order dated 20-2-2008 that environmental clearance was granted and that too for expansion. Subsequently, once again in 2009, they applied for environmental clearance as they proposed to increase the production capacity almost three times the existing capacity, for which also environmental clearance was granted but

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without giving any public hearing or public consultation.

19. Thus, the only question for our consideration is as to whether the environmental clearance dated 27-1-2010 can be termed as illegal in the absence of public consultation or public hearing as mandatorily provided by Notifications dated 2006. We agree with the learned counsel Mr Oza that there is a basic flaw in the environmental clearance granted in favour of Respondent 3. It is apparent that when public hearing took place in the year 2007, the same was on the basis of the first application which Respondent 3

had preferred for expansion of the steel plant. Objections were raised by the persons concerned. However, when environmental clearance came to be granted vide order dated 27-1-2010 pursuant to the second application dated 8-6-2009 preferred by Respondent 3 for enhancing the production capacity, the requirement of public hearing/public consultation was waived by the authority on the assumption that in the year 2007 public hearing was already undertaken. It is undisputed that in the year 2007 when the public hearing was given, the objections and suggestions were taken into consideration by the authority and environmental clearance was accorded in the year 2008 but, thereafter, when the second application was preferred dated 8-6-2009 for enhancing the production capacity by more than double, people were not made aware of this proposal of Respondent 3 and the authority proceeded to accord environmental clearance waiving public hearing."

The High Court also placed reliance on the pronouncement of this Court in *Lafarge Umiam Mining (P) Ltd.* v. *Union of India*[2]. The High Court thus set aside environmental clearance dated 27-1-2010 and directed the appellant to stop operations of the entire plant and further directed that the operations could be restarted only after fresh environmental clearance was accorded in its favour by the Ministry of Environment and Forests and the Union of India. The decision of the High Court is presently under challenge.

10. In this appeal by special leave, this Court issued notice on 15-5-2012[3] and by further order dated 18-5-2012[4] stayed the operation of the judgment and order of the High Court. It also directed the Central Pollution Control Board to file status report in respect of plant and compliance with statutory requirements

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by the appellant. On 18-7-2012, an affidavit was filed on behalf of CPCB stating that during its visit half of the plant was not in operation and as such actual compliance with the statutory requirements could not be ascertained. It further stated that the industry of the appellant was non-compliant with pollution standards in one or the other area and made certain recommendations.

11. The matter was thereafter taken up on 22-4-2014[5] when the following order was passed by this Court:

> "The matter has been almost fully heard. Having regard to the submissions of the learned Senior Counsel and the Notifications of 1994 and 2006, it has become necessary to get the joint inspection done of the petitioner's project from the Gujarat Pollution Control Board and Central Pollution Control Board (CPCB) and report submitted to this Court whether the petitioner has complied with the recommendations of the Central Pollution Control Board which are specified in Para 7 of the affidavit of Mr R.K. Purohit, Senior Executive Director of the petitioner in response to the affidavit of Central Pollution Control Board dated 18-7-2012.
>
> We, accordingly, direct the Central Pollution Control Board and Gujarat Pollution Control Board to make a joint inspection of the petitioner's project in the 3rd week of June, 2014 and report about the compliance with the recommendations as set out in the above affidavit. The report shall be submitted on or before 5-7-2014. We make it clear that if from the report it transpires that the petitioner has not yet complied fully with the recommendations specified in the affidavit noted above, the special leave petition shall have to be dismissed. On the other hand, if the full compliance with the above recommendations is found to have been made, the impugned order of the High Court will be set aside...."

12. In the affidavit filed on 7-7-2014, on behalf of CPCB, it was stated inter alia that pursuant to the order dated 22-4-2014[5] passed by this Court, a joint inspection was carried out as directed and that the industry of the appellant had complied with most of the recommendations, though there were still certain shortcomings.

13. The matter was thereafter taken up for hearing. Appearing in support of the appeal Dr A.M. Singhvi, learned Senior Advocate submitted that most of the recommendations made in the affidavit dated 18-7-2012 having been complied with, the matter now stood in a narrow compass. Mr Huzefa Ahmadi, learned Senior Advocate appearing for Respondent 1, however, submitted that the infirmity on account of absence of public hearing/public consultation which is a mandatory requirement under the EIA Notification of 2006, rendered the

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Page 14 Wednesday, July 26, 2023
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environmental clearance dated 27-1-2010 invalid and illegal.

14. The facts on record are clear that while granting environmental clearance on 20-2-2008, public consultation/public hearing was undertaken on 12-6-2007. As on that date the status of the project was that the capacity of pig iron plant was to be 350 TPD, power plant to be 24 MW, the total

Page: 311

cost of the project was Rs 90.00 crores and the total water requirement was 650 m^3/day. The High Court was absolutely right that after expansion the capacity of the plant was to increase threefold. The tabular chart given in environmental clearance dated 27-1-2010 itself shows the tremendous increase in the capacity. Consequently, the pollution load would naturally be of greater order than the one which was contemplated when the earlier public consultation/public hearing was undertaken on 12-8-2007. Further, the water requirement had also risen from 650 m^3/day to 2165 m^3/day. The increase in pollution load and water requirement were certainly matters where public in general and those living in the vicinity in particular had and continue to have a stake.

15. Public consultation/Public hearing is one of the important stages while considering the matter for grant of environmental clearance. The minutes of the meetings held on 9-2-2009 to 11-2-2009 show that the request of the appellant for exemption from the requirement of public hearing was accepted by the Committee. The observations of the Committee suggest that there would be no additional land requirement, groundwater drawal and certain other features. However, the water requirement, which is a community resource, was definitely going to be of greater order in addition to the fact that the expansion of the project would have entailed additional pollution load.

16. It must be stated here that after the EIA Notification of 2006, a draft Notification was issued on 9-1-2009 wherein an amendment was suggested in Para 7(*ii*) of the EIA Notification dated 14-9-2006 to the effect that in cases of expansion of projects involving enhancement by more than 50% holding of public consultation/public hearing was essential; implying thereby that in cases where expansion was less than 50% public consultation/public hearing could be exempted. Without going into the question whether public consultation/public hearing could be so exempted, it is relevant to note that this idea in the draft Notification was not accepted, after a Committee constituted to advise in the matter had given its report on 30-10-2009 to the

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contrary. As a result, the final Notification dated 1-12-2009 did not carry or contain the amendment that was suggested by way of draft notification. Consequently, no exemption on that count could be given when the environmental clearance came to be issued on 27-1-2010.

17. In *Lafarge*[2] public consultation/public hearing was considered and found to be mandatory requirement of the environmental clearance process by this Court. In its conclusions culled out in para 122(*xiv*) as regards public consultation/public hearing, it was observed by this Court: (SCC p. 384)

> "*122*. … (*xiv*) The public consultation or public hearing as it is commonly known, is a mandatory requirement of the environment clearance process and provides an effective forum for any person aggrieved by any aspect of any project to register and seek redressal of his/her grievances."

Page: 312

18. At the same time, the observations by this Court[2] while summing up the discussion in para 119 are quite eloquent: (*Lafarge case*[2], SCC p. 380)

> "*119*. … It cannot be gainsaid that utilisation of the environment and its natural resources has to be in a way that is consistent with principles of sustainable development and intergenerational equity, but balancing of these equities may entail policy choices. In the circumstances, barring exceptions, decisions relating to utilisation of natural resources have to be tested on the anvil of the well-recognised principles of judicial review. Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that has the decision-maker taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision? Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint."

19. In terms of the principles as laid down by this Court in *Lafarge*[2], we find that the decision-making process in doing away with or in granting exemption from public consultation/public hearing, was not based on correct principles and as such the decision was invalid and

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Page 16 Wednesday, July 26, 2023
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improper.

20. At the same time, we cannot lose sight of the fact that in pursuance of environmental clearance dated 27-1-2010, the expansion of the project has been undertaken and as reported by CPCB in its affidavit filed on 7-7-2014, most of the recommendations made by CPCB are complied with. In our considered view, the interest of justice would be subserved if that part of the decision exempting public consultation/public hearing is set aside and the matter is relegated back to the authorities concerned to effectuate public consultation/public hearing. However, since the expansion has been undertaken and the industry has been functioning, we do not deem it appropriate to order closure of the entire plant as directed by the High Court. If the public consultation/public hearing results in a negative mandate against the expansion of the project, the authorities would do well to direct and ensure scaling down of the activities to the level that was permitted by environmental clearance dated 20-2-2008. If public consultation/public hearing reflects in favour of the expansion of the project, environmental clearance dated 27-1-2010 would hold good and be fully operative. In other words, at this length of time when the expansion has already been undertaken, in the peculiar facts of this case and in order to meet ends of justice, we deem it appropriate to change the nature of requirement of public consultation/public hearing from pre-decisional to post-decisional. The public consultation/public hearing shall be organised by the authorities concerned in three months from today.

21. This appeal, therefore, stands disposed of with the aforesaid modifications. No order as to costs.

———

† Arising out of SLP (C) No. 16860 of 2012. From the Judgment and Order dated 11-5-2012 of the High Court of Gujarat at Ahmedabad in Special Civil Application No. 5986 of 2010

[1] *Patel Vipulkumar Ramjibhai* v. *Union of India*, 2012 SCC OnLine Guj 3408 : (2012) 3 Guj LR 2312

[2] *Lafarge Umiam Mining (P) Ltd.* v. *Union of India*, (2011) 7 SCC 338

[3] *Electrothem (India) Ltd.* v. *Patel Vipulkumar Ramjibhai*, 2012 SCC OnLine SC 1110, wherein it was directed:

"Issue notice. Ms Bina Madhavan, Advocate accepts notice on behalf of Respondent 1. Respondents 2, 3 & 4 may be served dasti returnable on Friday, 18-5-2012. In addition, learned Standing Counsel may also be served. Required notices may be given to the learned counsel for the petitioner today itself."

[4] *Electrothem (India) Ltd.* v. *Patel Vipulkumar Ramjibhai*, 2012 SCC OnLine SC 1111, wherein it was directed:

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"The learned counsel for the parties have exchanged the affidavit. List this matter in the 3rd week of July 2012. In the meanwhile, the parties may file additional documents, if any. In the meantime, the order passed by the High Court dated 11-5-2012 in Special Civil Application No. 5986 of 2010 to the extent that the establishment should be closed is stayed for the time being and the declaration that the environmental clearance dated 27-1-2010 is illegal and not tenable in law is kept in abeyance. This order is being passed on the undertaking given by the Union of India and the Central Pollution Control Board that they would monitor and ensure the compliance of the statutory requirements to curb the menace of pollution. The Central Pollution Control Board shall file the status report in this regard by the 2nd week of July 2012."

[5] *Electrothem (India) Ltd.* v. *Patel Vipulkumar Ramjibhai* SLP (C) No. 16860 of 2012, order dated 22-4-2014 (SC)

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W.M.P. No. 3361 of 2018

Appaswamy Real Estates Limited v. Puducherry Environment Protection Association

2018 SCC OnLine Mad 1283

In the High Court of Madras

(BEFORE INDIRA BANERJEE, C.J. AND M. SUNDAR, J.)

W.M.P. No. 3361 of 2018

Appaswamy Real Estates Limited, No. 3, Mangesh Street, T. Nagar, Chennai-600 017 Tamil Nadu ..... Petitioner

v.

1. Puducherry Environment Protection Association, rep by its Honarary President, R. Kothandaraman, No. 18, S.V. Kovil Street, Koodapakkam and Post, Puducherry-605 602 S/o Kuppusamy 19/7, Tondiar Nagar, First Street, Tondiarpet, Chennai-600 081.
2. The Union of India, rep by its Secretary to Government, Ministry of Environment, Forest and Climate Change, Paryavaran Bhawan, Jor Bagh, New Delhi-110 003 ..... Respondents

With

W.M.P. No. 3362 of 2018

Ambattur Realty Private Limited, No. 86, Industrial Estate, Ambattur, Chennai-600 058 ..... Petitioner

v.

1. Puducherry Environment Protection Association, rep by its Honarary President, R. Kothandaraman, No. 18, S.V. Kovil Street, Koodapakkam and Post, Puducherry-605 602 S/o Kuppusamy 19/7, Tondiar Nagar, First Street, Tondiarpet, Chennai-600 081.
2. The Union of India, rep by its Secretary to Government, Ministry of Environment, Forest and Climate Change, Paryavaran Bhawan, Jor Bagh, New Delhi-110 003 ..... Respondents

And

W.M.P. No. 3721 of 2018

Union of India, rep by its Secretary to the Government, Ministry of Environment, Forest and Climate Change, Paryavaran Bhawan, Jor Bagh, New Delhi-110 003 ..... Petitioner

v.

Puducherry Environment Protection Association, rep by its Honarary President R. Kothandaraman, No. 18, S.V. Kovil Street, Koodapakkam and Post, Puducherry-605 602 ..... Respondent

W.M.P. Nos. 3361 and 3362 of 2018

And

W.M.P. No. 3721 of 2018

In

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W.P. No. 11189 of 2017

Decided on March 14, 2018, [Reserved on: 01.03.2018]

For Petitioners: Mr. P.S. Raman, Senior Counsel for Mr. Rohan Cherian in WMP Nos. 3361 and 3362 of 2018 Mr. G. Rajagopalan, Additional Solicitor General assisted by Mr. S. Rathnasabapathy, Senior Panel Counsel Central Govt. in WMP No. 3721 of 2018 and for R-2 in WMP Nos. 3361 and 3362 of 2018

For Respondents: Mr. A. Yogeswaran for R-1 in WMP Nos. 3361 and 3362 of 2018 and for sole respondent in WMP No. 3721/2018

The Order of the Court was delivered by

M. SUNDAR, J.:— We propose to dispose of the aforesaid three miscellaneous petitions, i.e., W.M.P. Nos. 3361 of 2018, 3362 of 2018 and 3721 of 2018 by this common order.

2. One Puducherry Environment Protection Association had filed a Public Interest Litigation which is the main writ petition, i.e., W.P. No. 11189 of 2017. In this common order, Puducherry Environment Protection Association is referred to as 'PIL petitioner' for the sake of brevity, clarity and convenience. In the main suit, Union of India, represented by Secretary to Government, Ministry of Environment, Forest and Climate Change was arrayed as lone respondent. For the sake of convenience and clarity, lone respondent in the main writ petition is hereinafter referred to as 'MOEF'.

3. Of the three miscellaneous petitions here, W.M.P. Nos. 3361 and 3362 of 2018 have been taken out by one public limited and one private limited companies, which go by name 'Appaswamy Real Estates Limited' and 'Ambattur Reality Private Limited', which are hereinafter referred to as 'AREL' and 'ARPL' respectively also for the sake of brevity, clarity and convenience.

4. PIL petitioner filed the main writ petition assailing a notification dated 14.03.2017 bearing No.S.O.804(E) issued by MOEF. This notification is hereinafter referred to as 'impugned notification' for the sake of brevity. The prayer of PIL petitioner was for a declaration that the impugned notification is arbitrary, illegal and violative of Articles 14 and 21 of the Constitution of India as also the Environment (Protection) Act, 1986.

5. The main writ petition was heard out fully and was disposed of by us by a judgment dated 13.10.2017. As paragraph 5 of the said judgment captioned 'Conclusion' (authored by M. Sundar, J.) is pivotal for disposal of the present petitions, it is deemed necessary to extract the same which reads as follows:

> "5. We record the submissions of the learned Additional Solicitor General that (a) public hearing can be read into paragraph 5 of the impugned notification and (b) this shall certainly and clearly be a one time measure."

6. Before proceeding further, it is necessary to note that in the conclusion paragraph of our judgment, which has been extracted supra, paragraph 5 of the impugned notification should be read as sub-paragraph 5 of paragraph 13 of the impugned notification. There is no dispute or disagreement between parties before us on this aspect of the matter.

7. Though the prayers in the petitions filed by AREL and ARPL seek leave to permit AREL and ARPL to file petitions for clarification in the aforesaid 13.10.2017 order of this court, we deem it appropriate to hear out the clarification sought and dispose of the petitions.

8. To understand what is the clarification that has been sought by AREL and ARPL, it may be necessary to go back to the factual matrix of the main writ petition very briefly.

9. On factual matrix of the main writ petition, it has to be noticed that originally, an EIA notification dated 14.09.2006 bearing S.O. No. 1533 was issued by MOEF. For the

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sake of convenience and clarity, this 14.09.2006 notification of MOEF bearing S.O. No. 1533 is referred to as 'parent notification'.

10. Many project proponents had commenced work without obtaining prior environment clearance as required under the parent notification. Therefore, a question arose as to whether they can be given ex post facto clearance. It is in this regard that the impugned notification came to be issued. There are several other facts and events between the parent notification and the impugned notification. Considering the limited scope of these miscellaneous petitions and the very short and narrow compass on which this order turns, we refrain from elaboration on those aspects of the matter. Suffice to record that there have been several proceedings, notifications and events between the parent notification and impugned notification.

11. In the parent notification, 'public hearing' has been referred to as 'public consultation'. 'Public consultation' is contained in 'III. Stage (3)' which is part of paragraph 7(i) of parent notification. We deem it appropriate to extract 'public consultation' as contained in the parent notification. The same reads as follows:

""III. Stage (3)- Public Consultation:

(i) "Public Consultation" refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. All Category 'A' and Category B1 projects or activities shall undertake Public Consultation, except the following:—

(a) Modernization of irrigation projects (item 1(c)(ii) of the Schedule).

(b) All projects or activities located within industrial estates or parks (item 7(c) of the Schedule) approved by the concerned authorities, and which are not disallowed in such approvals.

(c) Expansion of Roads and Highways (item 7 (f) of the Schedule) which do not involve any further acquisition of land.

(d) All Building/Construction projects/Area Development projects and Townships (item 8).

(e) All Category 'B2' projects and activities.

(f) All projects or activities concerning national defence and security or involving other strategic considerations as determined by the Central Government.

(ii) The Public Consultation shall ordinarily have two components comprising of:—

(a) A public hearing at the site or in its close proximity-district wise, to be carried out in the manner prescribed in Appendix IV, for ascertaining concerns of local affected persons;

(b) Obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity.

(iii) the public hearing at, or in close proximity to, the site(s) in all cases shall be conducted by the State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) concerned in the specified manner and forward the proceedings to the regulatory authority concerned within 45 (forty five) of a request to the effect from the applicant.

(iv) in case the State Pollution Control Board or the Union territory Pollution Control Committee concerned does not undertake and complete the public hearing within the specified period, and/or does not convey the proceedings of the public hearing within the prescribed period directly to the regulatory authority concerned as above, the regulatory authority shall engage another public agency or authority which is not subordinate to the regulatory authority, to complete the process within a further period of forty five days.

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(v) If the public agency or authority nominated under the sub paragraph (iii) above reports to the regulatory authority concerned that owing to the local situation, it is not possible to conduct the public hearing in a manner which will enable the views of the concerned local persons to be freely expressed, it shall report the facts in detail to the concerned regulatory authority, which may, after due consideration of the report and other reliable information that it may have, decide that the public consultation in the case need not include the public hearing.

(vi) For obtaining responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity, the concerned regulatory authority and the State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) shall invite responses from such concerned persons by placing on their website the Summary EIA report prepared in the format given in Appendix IIIA by the applicant along with a copy of the application in the prescribed form, within seven days of the receipt of a written request for arranging the public hearing. Confidential information including non-disclosable or legally privileged information involving Intellectual Property Right, source specified in the application shall not be placed on the web site. The regulatory authority concerned may also use other appropriate media for ensuring wide publicity about the project or activity. The regulatory authority shall, however, make available on a written request from any concerned person the Draft EIA report for inspection at a notified place during normal office hours till the date of the public hearing. All the responses received as part of this public consultation process shall be forwarded to the applicant through the quickest available means.

(vii) After completion of the public consultation, the applicant shall address all the material environmental concerns expressed during this process, and make appropriate changes in the draft EIA and EMP. The final EIA report, so prepared, shall be submitted by the applicant to the concerned regulatory authority for appraisal. The applicant may alternatively submit a supplementary report to draft EIA and EMP addressing all the concerns expressed during the public consultation."

12. The case of AREL and ARPL is that they fall under clause (d) supra, i.e., 'all building/construction projects/Area development projects and townships (item 8) [item 8(a) to be precise]. Item No. 8(a) is contained in the schedule to the parent notification and we deem it appropriate to extract item No. 8(a) of the Schedule, which is as follows:

(1)	(2)	(3)	(4)	(5)
8		Building/Construction projects/Area Development projects and Townships		
8(a)	Building and Construction projects		>20000 sq.mtrs and < 1,50,000 sq.mtrs. of built-up area#	#(built up area for covered construction; in the case of facilities open to the sky, it will be the activity area)

13. On the above basis, AREL and ARPL have sought a clarification of our order in the main writ petition dated 13.10.2017 saying that public hearing contained in sub paragraph 5 of paragraph 13 of the impugned notification will apply only to categories for which 'public consultation' was necessary under the parent notification. In other

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Page 5 Wednesday, July 26, 2023
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words, it is the specific case of AREL and ARPL that six categories of projects have been exempt from 'pubic consultation' in the parent notification and they need not now be subjected to 'public consultation' because of our order.

14. To be noted, when the clarification petition was filed and first heard on 26.2.2018, it was in the nature of a mere apprehension. However, when it was next listed (a day later) on 01.03.2018, AREL and ARPL produced a letter dated 28.02.2018 from MOEF, which according to them is terms of reference (TOR).

15. Paragraph 6 of TOR is relevant and we deem it appropriate to extract the same, which reads as follows :

> "6. Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change, in pursuance of the provisions of its Notification dated 14th March, 2017, hereby accords approval to the Terms of Reference for Residential building 'Greensville' at Sholinganallur village, Sholinganallur Taluk, Kanchipuram District (Tamil Nadu) by M/s. Appaswamy Real Estates for undertaking Environment Impact Assessment (EIA) and preparation of Environment Management Plan (EMP) as enumerated in Annexure, along with public hearing (As per the Order dated 13.10.2017) by the Hon'ble High Court of Judicature at Madras in W.P. No. 11189 of 2017) for consideration of the proposal of Environmental Clearance to the project."

16. It is the specific case of Mr. P.S. Raman, learned senior counsel appearing for counsel on record for AREL and ARPL that the aforesaid paragraph 6 is a new condition that has been introduced by virtue of/owing to our order in the main writ petition. Mr. Yogeswaran, learned counsel on record for PIL petitioner vehemently opposed this plea and submitted that this argument is untenable. It was submitted by learned counsel for PIL petitioner that AREL and ARPL represent several entities which are violators of parent notification. It was his specific submission that only those who have violated the parent notification will come under the impugned notification and it was vehemently submitted that violators who had not adhered to the parent notification cannot now take umbrage under the parent notification with regard to public consultation alone. In other words, it is his specific submission that one should adhere to the notification in its entirety. The moment somebody has violated the notification, when a reprieve is given by way of the impugned notification, they have to go only by the impugned notification. The reprieve itself is given because of violation of the parent notification.

17. We heard learned Additional Solicitor General Mr. G. Rajagopalan on this.

18. Learned Additional Solicitor General's simple submission is that MOEF had issued the aforementioned TOR dated 28.02.2018 as a matter of abundant caution as they do not want to be seen in breach of orders of this court. In short, his submission was that MOEF preferred to err on the right side.

19. We place on record our appreciation of this fair and forthright submission made by learned Additional Solicitor General. Learned Additional Solicitor General also impressed upon us the need to extend the time for submission of proposals as sought for in W.M.P. No. 3721 of 2018 which has been taken out by MOEF.

20. In response to the request of extension of time for submission of proposals under the impugned notification, Mr. Yogeswaran, learned counsel submitted that MOEF has been receiving and processing applications even when this court was in seizin of the matter. Learned Additional Solicitor General pointed out that there are many who may not have applied because of this court was in seizin of the matter and because of the interim order which was operating.

21. To this, Mr. Yogeswaran, learned counsel also fairly submitted that extension of time if any may not be for 129 days as sought for and a lesser time frame at the discretion of the court may be granted. In view of this consensual approach on this aspect of the matter, we are of the view that elaboration on how 129 days was

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computed is unnecessary.

22. In the light of aforesaid submissions and backdrop, we examine both prayers.

23. With regard to the first prayer made by AREL and ARPL, it was highlighted by Mr. P.S. Raman, learned senior counsel that constructions made by AREL and ARPL are residential apartments and middle income group of citizens have put their hard earned money. It is his specific plea that further delay will make the entire exercise not viable not only for the project proponents, but also for purchasers.

24. In this view of the matter, considering that sub-clause (i)(d) of Stage III of paragraph 7(i) of parent notification as contained in item No. 8(a) of the Schedule being housing projects, we deem it necessary to clarify that projects and project proponents falling under this category alone shall be governed by the 'public consultation' clause in the parent notification.

25. With regard to the prayer of MOEF for extension of time for submission of proposals by project proponents, we are of the view that it will serve the ends of justice if time is extended by 30 (thirty) days from the date of delivery of this order in open court.

26. There is one other aspect of the matter on which there was unanimity and consensus amongst all three counsel before us. With regard to projects falling under sub clause (i)(d) of Stage III of paragraph 7(i) of parent notification alone we have given this clarification qua public consultation. The same is contained in item No. 8(a) of the Schedule to parent notification which has already been extracted supra. This is hereinafter referred to as 'said category' for the sake of convenience and clarity. We are informed that projects falling under the said category are those in which EIA/Environment Management Plan ('EMP' for brevity) will be done by accredited consultants. The clearance which is based on EIA/EMP is granted by MOEF. The consensus amongst three counsel was that EIA/EMP of project proponents and clearance based on EIA/EMP should be uploaded in the official website of MOEF. It was also agreed that EIA/EMA will be uploaded within three days from the date of clearance or any other order based on EIA/EMP by the MOEF. MOEF agreed that such uploading will be done within three working days from the date of such clearance or order.

27. With this, we dispose of these miscellaneous petitions by this common order on the above terms. No costs.

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BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 125/2018
(M.A. Nos. 334/2018 & 793/2018)
(Earlier O.A. No.163/2017 (WZ))

IN THE MATTER OF:

Arvind Pundalik Mhatre
Vs.
Ministry of Environment, Forest and Climate Change &Ors.

CORAM : HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Present: **Applicant :** **Dr. Sudhakar E. Avhad, Mr. Arvind S. Avhad, Mr. Lalit Mohan and Mr. Chetan R. Nagare, Mr. Karri Venkat Reddy, Advs.**

Respondents : **Mr. Mukesh Verma, Adv. Dr. Y.B. Santakke, Director and Dr. AN Harshvardh, RP for MPPCB**
Mr. Prakash Kumar Singh for Central Pollution Control Board
Mr. Shaurya Sahah, Adv.
Ms. Sakshi Popli, Adv. for Mr. Divya Prakash Pande, Adv for MoEF & CC
Mr. Karan Mathur, Adv. and Mr. Iro D'costa, Adv.
Mr. Amit Kumar and Mr. Kumar Abhishek, Advs.
Mr. Guruprasad Pal and Ms. Ramni Taneja, Advs.
Mr. Rajiv Bansal, Sr. Adv., Mr. Kush Sharma, Mr. Prateek Gautam and Ms. Kamna Singh, Advs.
Mr. Tarunvir Singh Khehar, Ms. Guneet Khehar and Mr. Sandeep Mishra, Advs.

	Date and Remarks	Orders of the Tribunal
	Item No. 05 **August 17, 2018** **SS & DV**	1. The grievance raised in these proceedings relates to discharge of effluents in river Kasardi, having adverse impact on the environment. Though a Common effluent treatment plant (CETP) is being managed by the "Taloja CETP Co-operative Society Limited" since 2013, the problem continues. 2. On 04thApril, 2018, the matter was considered by this Tribunal, in the light of the joint inspection report, submitted in pursuance of earlier order of the Tribunal. The joint inspection was conducted by the Central Pollution Control Board and the Maharashtra Pollution Control Board. In the said report, it was found that effluents not meeting the standards, were being

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	Item No. 05 **August 17, 2018** **SS & DV**	discharged as the CETP was not properly maintained. The Tribunal recorded the statement of the respondents that fresh tender was to be issued for the maintenance of the CETP. 3. It was noted that the effluent discharge was high and alarming and was going into the creek wali from which the water was being used for drinking as well. The Taloja CETP Co-operative Society was directed to forthwith stop the discharge which was not meeting the parameters. The Society was also required to deposit a sum of Rs. 5 Crore with the District Magistrate to be kept in a separate fund. The said Society was also directed to commence the work of upgrading the CETP. Thereafter, the Pollution Control Board was directed to conduct an inspection after one month to suggest effective ways to prevent discharge which was not meeting the parameters and also to submit an action plan. 4. On 11th May, 2018, it was noted that the CETP was not made functional. Accordingly, the Pollution Control Board was directed to ensure that the industries not operating their ETPs and releasing their untreated effluents be shut down. 5. On 31st May, 2018, the Tribunal noted that 18 industries were shut down and Show Cause Notices were given to others. Direction was issued to close down other industries continuing to release untreated effluents or not having consent to operate. 6. Again, on 11th July, 2018, this Tribunal referred to the affidavit of the Society dated 11th July, 2018 to the

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	Item No. 05 **August 17, 2018** **SS & DV**	effect that there was huge accumulation of sludge in the sump which was to be removed for which 4 months time was required, there was need to repair 4-5 motors for pumping of the effluents from the sump collection tank; the pipelines were required to be repaired as the same were leaking; the oxygen diffusion system was to be replaced; aeration tank was to be cleaned up; tender has been issued for the sludge removal; present status of the CETP was as per Maharashtra Pollution Control Board parameters; 18 industries were closed and Show Cause Notices were given to 92 industries, on account of which there is fall in the inlet COD levels coming into the Taloja CETP. The Tribunal noted that there was no occasion to reconsider the direction for depositing of Rs. 5 Crore as CETP was still not fully functional and untreated effluents were being discharged for about 5 years. Accordingly, a fresh inspection was directed to be carried out by the Central Pollution Control Board and the Maharashtra Pollution Control Board. It was noted that the turnover of the industries in the area was about Rs. 6,000 Crores annually. There was imminent danger to the life of the local population and to the fauna. It was also observed that further amount may be required to be deposited on assessment of damage to the environment. 7. Today, a joint inspection report of inspection conducted by the Central Pollution Control Board and Maharashtra Pollution Control Board on 31st July, 2018, has been furnished. The report *inter-alia* states that out of 229 effluent generating units, 195 units were sending their effluents to the CETP. The Maharashtra Pollution

	Item No. 05 **August 17, 2018** **SS & DV**	Control Board has issued closure directions to 34 members and show cause directions to 119 units (learned counsel for Maharashtra Pollution Control Board states that 119 is a typing error for 149). The flow meter at the CETP at the inlet and outlet was not operational. Effective aeration was not provided due to chocking in the pores of diffusers in the aeration tank. Housekeeping of CETP was poor. Huge quantity of sludge was found stored near the collection tank of the CETP. 8. It was concluded by the joint inspection team that due to closure of 34 units and show cause directions to 149 units, inlet quality was controlled. There was reduction in the concentration of COD. Final conclusion is as follows:- **"CONCLUSION AND RECOMMENDATIONS:** *Due to closure directions and show cause directions from MPCB to member units 195 out of total effluent generating industrial units in the MIDC are discharging effluent to CETP. Thus, CETP is receiving controlled flow and concentration load in terms of COD and BOD. In spite of that CETP is not able to meet the norms. In full capacity the situation may be much worse. It can be inferred that the inlet condition is temporarily controlled due to closure directions of units. The inlet concentration though well within the design parameters of CETP except pH (acidic range) and Ammonical Nitrogen. The overall reduction of about 22% in the concentration of COD, from inlet to final outlet, indicates poor performance of CETP.* *The CETP has not yet started implementing most of the recommendations made by the joint team of Central Pollution Control Board and MPCB during earlier visit. The only work of de-sludging from the collection tank near distribution chamber has been initiated. The de-sludging activity, handling storage of sludge was not found satisfactory. No proper records for the sludge removal and disposal are maintained by the CETP.* *The diffused aeration system was not found adequate in terms of physical condition and performance.* *The sludge dewatering, handling and storage*

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	Item No. 05 **August 17, 2018** **SS & DV**	*system practiced by CETP found to be unsatisfactory as the SDBs of phase-II is not provided with leachate collection and transfer system. SDBs of Phase-I having leachate collection tank and flexible pipes are reportedly used for transfer of leachate to aeration tank. However, proper and fixed transfer system of leachate to equalization tank needs to be provided for both the phase. The decanter installed at the phase-II was not working.* *Civil structure, railing of collection tank, aeration tank was found damaged and needs improvement.* *The OCEMS and flow meter installed by the CETP at the inlet and outlet was not operational during visit as sensors were observed submerged in the sludge and proper working of sensor in such condition is technically not possible. Leakages from sludge transfer pump, glad leackage, accumulation of acidic wastewater near sludge drying beds of phase-II, storage of sludge on open land adjacent to sludge drying bed near collection tank and overall housekeeping shows negligent approach.* *The final outlet sample collected from CETP significantly exceeds MPCB discharge standards for the concentration of TSS, FDS, COD, BOD, NH3-N, TKN, phenols, PO4-P, Cl, S2, CN, Fe and Pb.* *MIDC has to provide the final disposal point in the deep sea as suggested by NIO. MIDC also need to repair and maintain the leakage in the discharge pipeline.* *It is therefore concluded that the CETP has not taken sincere efforts for execution of recommendations given in the earlier reports submitted to Hon'ble NGT. MPCB is in the opinion that change of the management committee of CETP, administration of Registrar of Societies to newly elected committee are the reason for the same. Thus, CETP continue to violate the MPCB discharge norms.* *It is recommended that CETP should devise systematic time bound approach to address the issues starting from the very first step of treatment scheme to the end. The CETP management is required to revisit the recommendations made in earlier as well as in present reports and also to integrate efforts as stakeholders to implement them without further delay."* 9. The above conclusion clearly shows that the substantial improvement has not taken place and the CETP continues to violate the Maharashtra Pollution

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	Item No. 05 **August 17, 2018** **SS & DV**	Control Board discharge norms. Recommendations have been made that CETP should devise time bound approach to address the issues and to integrate the efforts of the stakeholders and thus implement them without any further delay. We have no reason to reject the report jointly submitted by the Central Pollution Control Board and the Maharashtra Pollution Control Board. 10. On being repeatedly asked the learned Counsel for the Maharashtra Pollution Control Board has not be able to furnish any reply to the question as to why in spite of such serious violations no prosecution has been initiated. Only explanation now furnished is that the default is on the part of the CETP. If the CETP is not working and the effluents continue to be discharged into the river against the norms, the industries whose effluents are being discharged cannot be said to be complying with the law and cannot be absolved of liability under the criminal law. 11. The Maharashtra Pollution Control Board must forthwith perform its legal duties in this regard. The Board cannot remain content with show cause notices if untreated effluents are discharged. Show cause notice must be followed up by further legal action. It is not clear as to why inspite of show cause notice, proceedings are being kept pending for such long time even in emergent situation and in the face of clear inspection reports. There is no clear stand by the Maharashtra Pollution Control Board as to what steps are to be taken for restoring the damage to the environment already caused. We also do not find any action plan for examining the fate of the

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	Item No. 05 **August 17, 2018** **SS & DV**	victims who may have suffered on account of pollution in the river. 12. In above circumstances, we are left with no alternative but to direct that appropriate action be taken under the civil and criminal laws against the erring industries as well as for failure of MIDC and the CETP Co-operative Society, to perform their duties. Action may have to be considered against office bearers who are presently running the Society as well as those who were earlier managing the same so as to stop any discharge above the norms prescribed under the law. The Maharashtra Pollution Control Board may take administrative action against the erring officials besides taking steps for restoring the damage to the environment and also for the rehabilitation for affected inhabitants in the area. 13. In view of complex nature of the problem and also the magnitude of the damage already done and which is being continued, we will enhance the amount of Rs.5 Crore required to be deposited by the Society to Rs. 10 Crore to be deposited with the District Magistrate within one month. The Society may collect the amount from defaulting industrial units. 14. Next question is how the order is to be executed. Section 25 of the NGT Act provides for execution of the order as a decree of Civil Court. Either Tribunal has to act as Civil Court or transfer the execution to Civil Court. When pollution is patent, there is no difficulty in requiring remedial measures being taken for protection of environmental. Execution remains a challenge. Coercive

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	Item No. 05 **August 17, 2018** **SS & DV**	measures prescribed include filing complaint for prosecution under the Act or attachment and arrest under the CPC. The situation of the present nature requires continuous action not only to ensure that pollution stops but also that the damage is restored. In such situation, sui generis proceeding needs to be adopted for execution with this being done order of the Tribunal will remain on paper. The Tribunal has, in several earlier orders, including similar cases in the context of pollution of rivers Ganga, Ghaggar and Hindon appointed monitoring/execution committees headed by former High Court Judges to ensure credible mechanism. This experience appears to have helped the situation. Accordingly, to handle the situation in the present case, we constitute a Monitoring Committee to execute the order of this Tribunal as follows: i. Justice V.M. Kanade, former Judge of Bombay High Court (Phone No. 98203082207), Chairman. ii. Representative of Central Pollution Control Board, Member. iii. Collector of the area, Member. 15. The Committee will take following steps: (i) Take stock of all the actions taken so far in the light of the various directions of the Tribunal. (ii) Propose time bound action plan to deal with the problem. The Committee may suggest the framework for implementation. Preferably a

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	Item No. 05 **August 17, 2018** **SS & DV**	comprehensive, integrated and inclusive strategy with clear measurable indicators of progress and success. 16. The online mechanism for monitoring the performance of individual ETPs and Common Effluent Treatment Plant (CETP) should also be connected to the servers of CPCB and State Pollution Control Boards so that the CPCB can also monitor the data. 17. The Monitoring Committee may also setup a website for receiving and giving information on the subject. 18. The Committee may also involve educational institutions for expectations, awareness and feedback about the results. 19. All the authorities concerned in the State Maharashtra will co-operate and co-ordinate with the Monitoring Committee. The Monitoring Committee can seek such technical and scientific assistance as may be required from any relevant authority. 20. We request the Chief Secretary, Maharashtra to provide all support and facilities to the said Committee to perform its functions. The Committee may send its quarterly reports to this Tribunal by e-mail. The Chief Secretary, Maharashtra may determine the honorarium to be paid to the Committee in consultation with the members. The Committee may requisition the services of such technical experts as may be necessary and may also carry out physical visits to the sites, whenever necessary. They will be entitled to logistic support for performing

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	Item No. 05 **August 17, 2018** **SS & DV**	these functions to be provided under the directions of the Chief Secretary, Maharashtra. The Committee may assume its charge within two weeks from today. The Committee may prepare its Action Plan which may have target of ensuring compliance of prescribed standards preferably within three months. It may meet at such intervals as considered appropriate but once every month and fix next targets. The Committee will be free to take up all incidental issues. All Concerned authorities are expected to cooperate with the Committee subject to any objection being put forward before this Tribunal. The Committee will be free to seek any further directions from this Committee by Email. 21. The above team to make a plan so that damage caused can be reversed and further damage prevented. Execution of such plan is to be overseen Any objection to working of the team can be considered by the Tribunal. 22. The logistic support if required for functioning of the Committee may also be provided by the Maharashtra Pollution Control Board. The Committee will have an action plan prepared for rectifying the situation and fixing the responsibility on the erring persons and institutions and to oversee the implementation of the action plan. 23. The State of Maharashtra may fix their honorarium/remuneration in consultation with the members. A copy of this order be sent to the Chief Secretary, State of Maharashtra for compliance by E-Mail. 24. The Action Plan be prepared by the Committee

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	Item No. 05 **August 17, 2018** **SS & DV**	within one month. The Joint Inspection Committee of the Central Pollution Control Board/Maharashtra Pollution Control Board may submit monitoring analysis report of the industries in question responsible for the discharge of the effluents beyond the norms to the Monitoring Committee at the earliest. 25. The application is disposed of. A copy of this order be forwarded to all concerned through e-mail with a direction to file a report of action taken within three months through e-mail at filing.ngt@gmail.com. List for consideration of the Report of the Monitoring Committee on 05th March, 2019. ....., CP (Adarsh Kumar Goel) ....., JM (Dr. Jawad Rahim) .....,EM (Dr. Nagin Nanda) 17.08.2018

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W.P. (C) No. 1873 of 2018

Electrosteel Steels Limited v. Jharkhand State Pollution Control Board

2018 SCC OnLine Jhar 850 : (2019) 195 AIC 395

In the High Court of Jharkhand at Ranchi

(BEFORE ANUBHA RAWAT CHOUDHARY, J.)

Electrosteel Steels Limited, a Company incorporated under the Companies Act, 1956, Shiyaljori, Jogidih, Bangaria, P.O. & P.S. Chandankeyari, District Bokaro, represented through its Chief Operating Officer, Suresh Kandelwal, son of Shri Banwari Lal Khandelwal, resident of Plot No. 103, Lohanchal Housing Colony, Sector-12, P.O. P.S. Sector-12, District Bokaro ..... Petitioner

v.

1. Jharkhand State Pollution Control Board, through its Member Secretary, at Town Administrative Building, H.E.C. Township, P.O. P.S. Dhurwa, Dist. Ranchi
2. The Chairman, Jharkhand State Pollution Control Board, Town Administrative Building, H.E.C. Township, P.O. P.S. Dhurwa, Dist. Ranchi
3. Secretary, Ministry of Environment, Forest & Climate Change, Govt. of India, Indira Paryavaran Bhawan, Prithavi Wing, Jorbag Road, New Delhi-110003 ..... Respondents

W.P. (C) No. 1873 of 2018
With
I.A. No. 7610 of 2018
Decided on August 25, 2018

For the Petitioner: Mr. Indrajit Sinha, Advocate, Mr. Bibhash Sinha, Advocate

For the U.O.I.: Mr. Rajiv Sinha, A.S.G.I.

For the Respondent Board Mrs. Richa Sanchita, Advocate

The Judgment of the Court was delivered by

ANUBHA RAWAT CHOUDHARY, J.

I.A. No. 7610 of 2018 and I.A. No. 7613 of 2018

1. Heard counsel for the parties.

2. Counsel for the petitioner submits that I.A. no. 7610 of 2018 has been filed for amendment of the writ petition challenging the order dated 21.08.18 which has been passed by the Respondent no 1 during the pendency of this case refusing to grant consent to operate to the petitioner. The other I.A. No. 7613 OF 2018 has been filed for grant of interim relief.

3. Counsel for the petitioner submits that said I.A. has been filed challenging the order passed by the Pollution Control Board whereby a decision has been taken to deny the grant of Consent to Operate to the petitioner and their application has been rejected and the basis of taking the decision is the proceedings before the Ministry of Environment, Forest & Climate Change. He submits that Ministry of Environment, Forest & Climate Change has to take a decision and the clearance given by the Ministry has not yet been withdrawn and therefore the entire matter is depending on the

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decision which has to be taken by the Ministry of Environment, Forest & Climate Change and he submits that the matter pending before the ministry of the Union of India and the order passed by the pollution control board are inter related, therefore petition for amendment may be allowed.

4. He further submits that pursuant to the order dated 16.07.2018, the aforesaid ministry of Union of India has filed a counter affidavit. Union of India has made specific statement that pursuant to the show cause dated 6.6.2012 issued to the petitioner, they are in a position to take final decision in the matter. The counsel submits that a date of hearing in the matter will be shortly fixed for hearing on the reply which has been filed by the petitioner.

5. Counsel for the petitioner submits that in view of the counter affidavit filed by the respondent-Union of India, it is apparent that respondent-Union of India is willing to give hearing to the petitioner taking a final decision on the show cause issued to the petitioner as back as in the year 2012. Counsel further submits that along with the counter affidavit filed in which certain allegations have been made. He submits that the petitioner, without prejudice to his rights and contentions is intending and willing to file appropriate application before the respondent no. 3 i.e. Ministry of Environment, Forest & Climate Change, Government of India, New Delhi, at the time of hearing of the show cause and/or within ten days from today for regularization of any irregularity which might have been committed by the petitioner in connection with the location of plant of the petitioner or in connection with the allegations made against the petitioner. He submits that appropriate order be passed indicating that show cause reply of the petitioner be considered together with the aforesaid application to be filed by the petitioner for regularization, to settle the entire dispute and the petitioner would know as to what is to be done with the industry.

6. Counsel appearing on behalf of the Union of India submits that show cause was issued as back as in the year 2012, but for one reason or the other, the decision on the same has not been taken. However they are likely to take an appropriate decision in the matter in a very short time, and they have to give a hearing to the petitioner and pass final order. He submits that so far as stand of the petitioner in connection with filing application for regularisation of the alleged irregularities etc. in connection with any deviation or any violation of the conditions of environmental clearance is concerned, they are free to take steps for the aforesaid purpose in accordance with law. He has referred to the circulate issued by Government of India, Ministry of Environment and Forests dated 22nd January 2010 which provides that-

> "…….***any shift in location after holding of public hearing will be deemed to be a new proposal and will be appraised afresh as per the procedure prescribed under EIA Notification, 2006 provided the respective Expert Appraisal recorded in the minutes and prior approval of Advisor SEIAA for Category 'A'/Category 'B' projects respectively is obtained for not holding the public hearing for the engaged location afresh***."

7. Counsel appearing on behalf of the Pollution Control Board submits that the unit of the petitioner has not been situated on the same location for which approval of the Union Ministry was taken and accordingly the impugned order has been rightly passed. She also submits that the Unit of the petitioner is situated on forest land. However, she could not dispute the fact that the decision of the Pollution Control Board is directly dependent on the decision which is yet to be taken by the Ministry of Forest and Environment and Climate Change pursuant to aforesaid show cause notice issued in the year 2012.

8. After hearing counsel for the parties and after considering the materials on record this court finds that the issue involved in the order dated 21.08.18 which has been passed by the Respondent no 1 during the pendency of this case, refusing to

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grant concent to operate to the petitioner, has been co-related to the decision to be taken by the respondent no 3 pursuant to the show cause notice issued to the petitioner in the year 2012 and the hearing in the matter is likely to be given shortly by the respondent no. 3. Accordingly the petition for amendment of the writ petition i.e. I.A. No. 7610 of 2018 challenging the order dated 21.08.2018 passed by the State Pollution Control Board is hereby allowed.

9. Counsel for the petitioner is directed to file the amended writ petition and serve copies upon the respondents within a period of one week from today. The respondents may file their response to the amended writ petition within a period of two weeks thereafter.

10. So far as interim relief is concerned, this court finds that the order passed by the respondent-Jharkhand State Pollution Control Board dated 23.08.2018 appears to be directly dependent on the final decision which is yet to be taken by the Ministry of Environment, Forest & Climate Change on the show cause issued to the petitioner as back as in the year 2012. As per the submission made by the counsel appearing on behalf of Union of India, they are shortly going to take a final decision in the matter after hearing the petitioner. Accordingly the operation, implementation and execution of the order dated 23.08.2018 passed by Jharkhand State Pollution Control Board is hereby stayed till 27.09.2018 and the interim order dated 16.07.2018 is hereby extended till 27.09.2018.

11. So far as decision of the Ministry of Environment, Forest & Climate Change are concerned, considering the fact that the unit of the petitioner is running unit and large number of employees are working in this unit of the petitioner, this court consider it appropriate that the issue regarding the environmental clearance of the petitioner should be decided at the earliest.

12. It is further observed that it is open to the petitioner to approach the Union of India with their proposal/application for regularization of the alleged violation, without prejudice to their rights (including right, title, interest, possession and nature of property of the petitioner) and advance submissions before the respondent authority of Union of India pursuant to the show cause notice issued to them dated 6.6.2012 and the appropriate authority may, if possible, simultaneously consider the aforesaid application of the petitioner for regularization along with the show cause reply of the petitioner such that entire dispute is decided and the petitioner may also have a clarity about the fate of its unit. The decision which is to be taken by the Union of India be brought on record by either of the parties by filing supplementary affidavit latest by 25.09.2018.

13. I.A. No. 7610 of 2018 and I.A. No. 7613 OF 2018 are hereby disposed of.

14. It is made clear that this court has not gone into the merits of the claim of the petitioner and it will be open to the respondent no 3 to take decision as per law.

15. Post this case on 27.09.2018.

16. Let a copy of this order be handed over to the counsel for the parties.

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(2020) 17 Supreme Court Cases 157 : 2020 SCC OnLine SC 347

In the Supreme Court of India

(BEFORE DR D.Y. CHANDRACHUD AND AJAY RASTOGI, JJ.)

ALEMBIC PHARMACEUTICALS LIMITED . . Appellant;

Versus

ROHIT PRAJAPATI AND OTHERS . . Respondents.

Civil Appeal No. 1526 of 2016[†] with Nos. 3175, 6604-605 of 2016 and 1555 of 2017, decided on April 1, 2020

A. **Environment Law — Environmental Clearance/NOC/Environment Impact Assessment (EIA) — Ex post facto environmental clearance (EC) to industrial units — Impermissibility of — Held, the concept of an ex post facto environmental clearance is in derogation of the fundamental principles of environmental jurisprudence and is an anathema to the EIA Notification dt. 27-1-1994 — An EC can be issued only after various stages of the decision-making process have been duly completed in accordance with law — Allowing for an ex post facto clearance would essentially condone the operation of industrial activities without the grant of an EC**

— Revocation of ex post facto EC when not warranted — Proportionality principle — Applicability of — Imposition of penalties for having caused environmental degradation and not having obtained ECs in lawful manner, instead of revocation of ECs and closure of units (*see* Shortnote *B*)

— In the absence of an EC, there would be no conditions that would safeguard the environment — Moreover, if the EC was to be ultimately refused, irreparable harm would have been caused to the environment — In either view of the matter, environment law cannot countenance the notion of an ex post facto clearance — This would be contrary to both the precautionary principle as well as the need for sustainable development — The additional measures adopted by the industries subsequently cannot act as correctives for historical wrongs and cannot compensate for the damage already caused to the environment as a result of manufacturing activities which were carried on without ECs

B. **Environment Law — General Principles of Environmental Law — Polluter Pays Principle — Remedial action/Reclamation/Rehabilitation measures/Compensation/Disgorgement of gains of wrongdoer/Other measures — Revocation of ECs which had been granted ex post facto and closure of industrial units concerned — When warranted — Matters to be considered — Proportionality principle — Applicability of — Imposition of penalties for having caused environmental degradation and not having**

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obtained ECs in lawful manner, instead of revocation of ECs and closure of units

— Industries in dispute operated without an EC for several years after issuance of the EIA Notification of 1994 — Each of them had subsequently received ECs including amended ECs for expansion of existing capacities

Page: 158

— These ECs had been operational for a long time — In addition, all the industrial units in dispute had made infrastructural investments and employed significant numbers of workers in their units

— In this view of the matter and taking a balanced approach, held, directions of NGT for revocation of the ECs and for closure of the units do not accord with the principle of proportionality — At the same time, the Court cannot be oblivious to the environmental degradation caused by all industrial units in dispute that operated without valid ECs —The industries in dispute have evaded the legally binding regime of obtaining ECs — They cannot escape the liability incurred on account of such non-compliance — Penalties must be imposed for the disobedience with a binding legal regime

— Thus, held, three industries in present case to deposit compensation quantified at Rs 10 crores each — Amount shall be deposited with GPCB and it shall be duly utilised for restoration and remedial measures to improve the quality of the environment in the industrial area in which the industries operate

— Constitution of India — Art. 14 — Administrative Law — Judicial Review — Grounds for Judicial Review — Proportionality

C. **Environment Law — EIA Notification, 1994 — Cl. 8 of the Explanatory Note — Exemption under — Entitlement — Matters to be established and burden of establishing the same — Explained — Held, exemption must be construed in its strict sense according to its plain terms**

— Held, the burden lies on the project proponent who seeks to alter the state of the environment or to impact on the environment to demonstrate that the terms on which an exemption has been granted have been fulfilled

— None of the industries in dispute furnished an exhaustive catalogue of what were the "relevant clearances from the State Government" that had to be obtained under the provisions of the law as it then stood — A holistic analysis of the environmental impact of an industrial activity is only accounted for once all the steps listed out in EIA Notification of 1994 are followed — In that view of the matter, held, none of the industries in dispute were entitled to the benefit of the exemption contained in Cl. 8 of the Explanatory Note to the EIA Notification of 1994

D. **Environment Law — National Green Tribunal Act, 2010 — S. 16 —**

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Jurisdiction of NGT under — Scope of — Jurisdiction of NGT to strike down Circular dt. 14-5-2002 — Said circular whether issued under EP Act, 1986

— Held Circular dt. 14-5-2002 providing for ex post facto EC is contrary to the statutory Notification dt. 27-1-1994 and it does not stipulate how the detrimental effects on the environment would be taken care of if the project proponent is granted an ex post facto EC — Thus the administrative Circular dt. 14-5-2002 is not a measure protected by S. 3 of the Environment (Protection) Act — Hence there was no jurisdictional bar on NGT to enquire into legitimacy or vires of Circular dt. 14-5-2002

Page: 159

— Moreover, the administrative Circular dt. 14-5-2002 is contrary to the EIA Notification 1994 which has a statutory character — The circular is unsustainable in law — Environment (Protection) Act, 1986, S. 3

The Environmental Impact Assessment Notification dated 27-1-1994 issued by the MoEF in exercise of its powers under Section 3(1) and Section 3(2)(*v*) of the Environment (Protection) Act, 1986 read with Rule 5(3)(*d*) of the Environment (Protection) Rules, 1986 mandated prior environmental clearances ("ECs") for setting up and expansion of industrial projects falling within thirty categories. The deadline for obtaining an EC under the EIA Notification of 1994 was extended by various Circulars to 31-3-1999 and thereafter to 30-6-2001. By the impugned Circular dated 14-5-2002, which was quashed by NGT, the Ministry of Environment and Forest ("MoEF") extended the period till 31-3-2003 for those industrial units which had gone into production without obtaining an EC under the EIA Notification of 1994 to apply for and obtain an ex post facto EC.

The Circular dated 14-5-2002, allowed for ex post facto ECs, subject to a graded contribution into an earmarked fund based on the investment cost of the project. The Circular dated 14-5-2002 was challenged before the High Court. The proceedings were subsequently transferred to NGT. NGT by its decision dated 8-1-2016 held that the law did not permit the grant of an ex post facto clearances and that the Circular dated 14-5-2002 was an internal communication and did not override the provisions of the EIA Notification dated 27-1-1994 which had been issued in exercise of statutory powers conferred by Section 3 of the Environment (Protection) Act, 1986.

Having held that the concept of an "ex *post facto* environmental clearance" was not sustainable with reference to any provision of law, NGT issued directions that the authorities shall not grant consent for an industrial activity covered by the EIA Notification of 1994 without the steps mandated by the notification such as screening, scoping, public hearing and decision being fulfilled. All the industrial activities which were being operated without a valid EC and consent to operate

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directed to be closed down within one month. Each of the units directed to deposit a compensation of Rs 10 lakhs for having caused environmental degradation. The amount deposited was directed to be used for the restoration of the environment in and around the industrial area.

The order passed by NGT was challenged before the Supreme Court.

The appellants contended that the ex post facto clearance granted to them cannot be set aside by the order of NGT. Accordingly, no question of closing down the manufacturing units of the appellants can arise. The requirement of an ex post facto public hearing was introduced by an amendment in 1997 to the EIA Notification of 1994 and it is a valid procedure. In case, there is any violation of law, closure of industrial units cannot be ordered in view of significant investment and expansion undertaken by the industry. If the order of NGT prevails, the appellant would be prejudiced and suffer an irreparable loss. The appellants have employed large number of employees at its manufacturing unit.

The respondents contended that the Circular dated 14-5-2002 is illegal because environmental jurisprudence does not recognise any concept of ex post facto

Page: 160

clearances. Any ex post facto approval is void and the benefit of the circular cannot be given to such an industry. The Circular dated 14-5-2002 does not mention its source or authority of law. The source of the circular is not traceable to Section 3 of the Environment (Protection) Act, 1986 because the circular does not protect or improve the quality of the environment. The circular allows defaulters to get ex post facto clearances and does not encourage compliance with the law. The Comprehensive Environmental Pollution Index Report by the Central Pollution Control Board indicates that the air, water and soil parameters in and around the industrial area where the industrial units are located, are among the most critical in India. Even if the Supreme Court were to hold that the closure of the industries should not be ordered, compensation should be directed to be paid by them for restoration of the environment. These industries have brazenly operated for years without environmental clearances.

The issues to be determined by the Supreme Court were:

(*i*) Whether in view of the requirement of a prior EC under the EIA Notification of 1994, a provision for an ex post facto EC to industrial units could be validly made by means of the Circular dated 14-5-2002,

(*ii*) Jurisdiction of NGT to strike down rules or regulations made under the Environment (Protection) Act, 1986,

(*iii*) Legality of revocation of ECs by NGT.

Held :

In view of the law laid down in *Sterlite Industries*, (2019) 19 SCC 479, while exercising its jurisdiction under Section 16 of the NGT Act, NGT cannot strike down

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rules or regulations made under the Environment (Protection) Act, 1986. However the Circular dated 14-5-2002 cannot be regarded as to have been issued by the MoEF pursuant to its powers under Section 3 of the Environment (Protection) Act, 1986. Because the Union of India has not pleaded the case that the Circular dated 14-5-2002 is a measure which is traceable to the provisions of Section 3. On the contrary, in its pleadings the Union of India construed it as a "purely administrative decision". The omission in the appeal to make any attempt to sustain the Circular dated 14-5-2002 with reference to the provisions of Section 3 of the Environment (Protection) Act, 1986 is significant. For an action of the Central Government to be treated as a measure referable to Section 3 it must satisfy the statutory requirement of being necessary or expedient "for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environment pollution". The Circular dated 14-5-2002 in fact does quite the contrary. It allowed defaulting industrial units which had commenced activities without an EC to cure the default by an ex post facto clearance. Being an administrative decision, it is beyond the scope of Section 3 and cannot be said to be a measure for the purpose of protecting and improving the quality of the environment. The circular notes that there were defaulting units which had failed to comply with the requirement of obtaining an EC as mandated. The circular provided for an extension of time and inexplicably introduced the notion of an ex post facto clearance. In effect, it impacted the obligation of the industrial units to be in compliance with the law.

(Paras 18 to 21)

The concept of ex post facto clearance is fundamentally at odds with the EIA Notification dated 27-1-1994. The EIA Notification of 1994 contained a stipulation

that any expansion or modernisation of an activity or setting up of a new project listed in Schedule I "shall not be undertaken in any part of India unless it has been accorded environmental clearance". The language of the notification is as clear as it can be to indicate that the requirement is of a prior EC. A mandatory provision requires complete compliance. The words "shall not be undertaken" read in conjunction with the expression "unless" can only have one meaning : before undertaking a new project or expanding or modernising an existing one, an EC must be obtained. When the EIA Notification of 1994 mandates a prior EC, it proscribes (command against) a post activity approval or an ex post facto permission. What is sought to be achieved by the administrative Circular dated 14-5-2002 is contrary to the statutory Notification dated 27-1-1994. The Circular dated 14-5-2002 does not stipulate how the detrimental effects on the environment would be taken care of if the project proponent is granted an ex post facto EC. Thus the administrative circular is not a measure protected by Section 3 of the 1986 Act. Hence there was no jurisdictional bar on NGT to enquire into its legitimacy or vires. Moreover, the

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administrative circular is contrary to the EIA Notification 1994 which has a statutory character. The circular is unsustainable in law.

(Paras 18 to 21)

T.N. Pollution Control Board v. *Sterlite Industries (India) Ltd.*, (2019) 19 SCC 479, *distinguished*

BSNL v. *TRAI*, (2014) 3 SCC 222, *referred to*

The concept of an ex post facto EC is in derogation of the fundamental principles of environmental jurisprudence and is an anathema to the EIA notification dated 27-1-1994. It is detrimental to the environment and could lead to irreparable degradation. The reason why a retrospective EC or an ex post facto clearance is alien to environmental jurisprudence is that before the issuance of an EC, the statutory notification warrants a careful application of mind, besides a study into the likely consequences of a proposed activity on the environment. An EC can be issued only after various stages of the decision-making process have been completed. Requirements such as conducting a public hearing, screening, scoping and appraisal are components of the decision-making process which ensure that the likely impacts of the industrial activity or the expansion of an existing industrial activity are considered in the decision-making calculus. Allowing for an ex post facto clearance would essentially condone the operation of industrial activities without the grant of an EC. In the absence of an EC, there would be no conditions that would safeguard the environment. Moreover, if the EC was to be ultimately refused, irreparable harm would have been caused to the environment. In either view of the matter, environment law cannot countenance the notion of an ex post facto clearance. This would be contrary to both the precautionary principle as well as the need for sustainable development.

(Paras 22 and 23)

Common Cause v. *Union of India*, (2017) 9 SCC 499, *followed*

M.C. Mehta v. *Union of India*, (2004) 12 SCC 118, *cited*

The additional measures adopted by the industries subsequently, such as the installation of latest pollution capturing technologies, recent consents from GPCB and certification of "zero discharge" units, will not cure the failure to obtain ECs before the projects commenced operation. These measures are simply to ensure compliance with the pollution standards and requirements of law that exist as of date. These measures have no bearing on determining whether the industrial units were in the past operating in compliance with the requisite environmental

standards. These measures cannot act as correctives for historical wrongs and cannot compensate for the damage already caused to the environment as a result

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of manufacturing activities which were carried on without ECs.

(Para 26)

Plea that the EIA Notification of 1994 did not apply to their manufacturing units as they were covered by the exemption in terms of Clause 8 of the Explanatory Note, cannot be accepted because before the exemption contained in Clause 8 applies, it was necessary for projects listed in Schedule I to obtain all relevant clearances from the State Government including an NOC from the State Pollution Control Board. It was in other words not sufficient to merely obtain an NOC from the State Pollution Control Board. The exemption which was carved out in the Explanatory Note was to ensure that activities which had received all required clearances at the State level, following the acquisition of land should be protected. In fact, many of them would also involve the commencement of production prior to 27-1-1994. The Explanatory Note stated that where production had not yet commenced, the IAA would have to be intimated. In order to be covered within the scope of the exemption, the burden is on the industry to demonstrate that they fulfilled conditions spelt out in Clause 8 of the Explanatory Note. The EIA notification 1994 is a significant instrument in effectuating the implementation of the precautionary principle. The burden lies on the project proponent who seeks to alter the state of the environment or to impact on the environment to demonstrate that the terms on which an exemption has been granted have been fulfilled. An exemption must be construed in its strict sense according to its plain terms. None of the three industries before the Court have furnished an exhaustive catalogue of what were the "relevant clearances from the State Government" that had to be obtained under the provisions of the law as it then stood.

(Paras 27 and 28)

There has been a gross abdication of responsibility by all the three industries in terms of obtaining timely consents and authorisations from the GPCB. There exists a distinction between obtaining relevant clearances and consents from the State Pollution Control Board and obtaining an environmental clearance in accordance with the procedure laid down under the EIA Notification of 1994. A consent order issued by the State Pollution Control Board allows an industry to operate within the prescribed emission norms. However, the consent orders do not account for the social cost and impact of undertaking an industrial activity on the environment and its surroundings. A holistic analysis of the environmental impact of an industrial activity is only accounted for once all the steps listed out in EIA Notification of 1994 are followed. The purpose of setting in place specific requirements such as public hearing, screening, scoping and appraisal is to foster deliberative decisions and protect environmental concerns. The detailed process listed out in the EIA Notification of 1994 for obtaining an EC allows for minimising the adverse environmental impact of any industrial activity and improving the quality of the environment. One must adopt an ecologically rational outlook towards development. Given the social and environmental impacts of an industrial activity, environment compliance must not be seen as an obstacle to development but as a

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measure towards achieving sustainable development and intergenerational equity. In that view of the matter none of the three industries were entitled to the benefit of the exemption contained in Clause 8 of the Explanatory Note to the EIA Notification of 1994.

(Paras 35 and 36)

The industrial units in dispute have been operating in an unregulated manner and in defiance of the law. Some of the environmental damage caused by the operation of the industrial units would be irreversible. However, to the extent

Page: 163

possible some of the damage can be corrected by undertaking measures to protect and conserve the environment. Even though it is not possible to individually determine the exact extent of the damage caused to the environment by the three industries, several circumstances must weigh with the Court in determining the appropriate measure of restitution. First, it is not in dispute that all the three industries did obtain ECs, though this was several years after the EIA Notification of 1994 and the commencement of production. Second, subsequent to the grant of the ECs, the manufacturing units of all the three industries have also obtained ECs for an expansion of capacity from time to time. Third, the MoEF had issued a circular on 5-11-1998 permitting applications for ECs to be filed by 31-3-1999, which was extended subsequently to 30-6-2001. On 14-5-2002, the deadline was extended until 31-3-2003 subject to a deposit commensurate to the investment made.

(Paras 37 and 38)

Goa Foundation (1) v. *Union of India*, (2005) 11 SCC 559, *referred to*

Though the industries in dispute operated without an EC for several years after the EIA Notification of 1994, each of them had subsequently received ECs including amended ECs for expansion of existing capacities. These ECs have been operational since 2003. In addition, all the three units have made infrastructural investments and employed significant number of workers in their industrial units. In this backdrop and taking a balanced approach the directions of NGT for the revocation of the ECs and for closure of the units do not accord with the principle of proportionality. At the same time, the Court cannot be oblivious to the environmental degradation caused by all three industries units that operated without valid ECs. The three industries in dispute have evaded the legally binding regime of obtaining ECs. They cannot escape the liability incurred on account of such non-compliance. Penalties must be imposed for the disobedience with a binding legal regime. The breach by the industries cannot be left unattended by legal consequences.

(Paras 41 and 42)

The breach by the industries cannot be left unattended by legal consequences. The amount should be used for the purpose of restitution and restoration of the

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environment. Instead and in place of the directions issued by NGT, it would be in the interests of justice to direct the three industries to deposit compensation quantified at Rs 10 crores each. The amount shall be deposited with GPCB and it shall be duly utilised for restoration and remedial measures to improve the quality of the environment in the industrial area in which the industries operate.

(Para 42)

Electrotherm (India) Ltd. v. *Patel Vipulkumar Ramjibhai*, (2016) 9 SCC 300, *relied on*

Lafarge Umiam Mining (P) Ltd. v. *Union of India*, (2011) 7 SCC 338, *distinguished on issue of ex post facto clearance but relied on for determining appropriate measure of restitution*

Rohit Prajapati v. *Union of India*, Original Application No. 66 of 2015, order dated 8-1-2016 (NGT), *partly reversed*

Techi Tagi Tara v. *Rajendra Singh Bhandari*, (2018) 11 SCC 734, *cited*

RM-D/64462/S

Chronological list of cases cited ***on page(s)***

1. (2019) 19 SCC 479, *T.N. Pollution Control Board* v. *Sterlite Industries (India) Ltd.* 172*d*, 172*e-f*, 173*b-c*

2. (2018) 11 SCC 734, *Techi Tagi Tara* v. *Rajendra Singh Bhandari* 170*e*

3. (2017) 9 SCC 499, *Common Cause* v. *Union of India* 172*a*, 175*b*, 175*c-d*, 175*f-g*

4. (2016) 9 SCC 300, *Electrotherm (India) Ltd.* v. *Patel Vipulkumar Ramjibhai* 171*b-c*, 187*e-f*, 187*g*

5. Original Application No. 66 of 2015, order dated 8-1-2016 (NGT), *Rohit Prajapati* v. *Union of India* **(partly reversed)** 164*b-c*, 164*g*, 167*f*, 189*b-c*

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6. (2014) 3 SCC 222, *BSNL* v. *TRAI* 172*e*

7. (2011) 7 SCC 338, *Lafarge Umiam Mining (P) Ltd.* v. *Union of India* 171*a-b*, 186*f*, 186*f-g*, 187*a*, 187*e*

8. (2005) 11 SCC 559, *Goa Foundation (1)* v. *Union of India* 170*g-h*, 186*e-f*

9. (2004) 12 SCC 118, *M.C. Mehta* v. *Union of India* 175*d-e*

The Judgment of the Court was delivered by

DR D.Y. CHANDRACHUD, J.— By a judgment dated 8-1-2016[1], the Bench of the National Green Tribunal ("NGT") for the Western Zone held that a circular issued by the Union Ministry of Environment and Forests ("MoEF") on 14-5-2002 is contrary to law. The circular envisaged the grant of ex post facto environmental clearances. NGT issued a slew of directions including the revocation of environmental clearances and for closing down industrial units operating without valid consents. On 17-5-2016, NGT dismissed an application for review filed by one of the affected industrial units. The industrial units and MoEF are in appeal[2].

2. The Environmental Impact Assessment ("EIA") Notification of 27-1-1994 mandated prior environmental clearances ("ECs") for setting up and expansion of industrial projects falling within thirty categories. The deadline for obtaining an EC under the EIA Notification of 1994 was extended by various circulars to 31-3-1999 and thereafter to 30-6-2001. By the Circular dated 14-5-2002, which was quashed by NGT, MoEF extended the period till 31-3-2003 for those industrial units which had gone into production without obtaining an EC under the EIA Notification of 1994 to apply for and obtain an ex post facto EC. The Circular indicated that it had been decided:

> "... to extend the deadline up to 31-3-2003 so that defaulting units could avail of this last and final opportunity to obtain ex post facto environmental clearance...."

3. The Circular dated 14-5-2002, allowed for ex post facto ECs, subject to a graded contribution into an earmarked fund based on the investment cost of the project. The first and the second respondents challenged the Circular dated 14-5-2002 before the High Court of Gujarat. The proceedings were subsequently transferred to NGT. NGT by its decision dated 8-1-2016[1] held that the law did not permit the grant of an ex post facto clearances and that the Circular dated 14-5-

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2002 was an internal communication and did not override

the provisions of the EIA Notification dated 27-1-1994 which had been issued in exercise of statutory powers conferred by Section 3 of the Environment (Protection) Act, 1986.

4. Having held that the concept of an "ex post facto environmental clearance" was not sustainable with reference to any provision of law, NGT issued the following directions:

4.1. The authorities of the Union of India, including the MoEF, State of Gujarat, Gujarat Pollution Control Board ("GPCB") and District Collectors shall not grant consent for an industrial activity covered by the EIA notification of 1994 without the steps mandated by the notification such as screening, scoping, public hearing and decision being fulfilled.

4.2. The ECs granted to the industrial units of the sixth to ninth respondents shall be revoked.

4.3. All the industrial activities which were being operated without a valid EC and consent to operate shall be closed down within one month.

4.4. Each of the units shall deposit a compensation of Rs 10 lakhs for having caused environmental degradation.

4.5. The amount deposited shall be used for the restoration of the environment in and around the industrial area of Ankleshwar in the State of Gujarat.

5. The private respondents before NGT who were affected by the above directions are:

(*i*) United Phosphorous Ltd. — the sixth respondent;

(*ii*) Unique Chemicals — the seventh respondent;

(*iii*) Darshak (P) Ltd. — the eighth respondent; and

(*iv*) Nirayu (P) Ltd. — the ninth respondent.

The private respondents are engaged in the manufacture of pharmaceuticals and bulk drugs at the industrial area of Ankleshwar in the State of Gujarat. Alembic Pharmaceuticals Ltd. is the appellant in the lead appeal before this Court. Darshak Private Ltd. merged with the appellant in 2002 pursuant to a scheme of amalgamation sanctioned by the High Court of Gujarat. Nirayu Private Ltd. was acquired by the appellant under a slump sale on 1-1-2008. Following this exercise, the manufacturing units of erstwhile Darshak Private Ltd. and Nirayu Private Ltd. have come to be known as API-I and API-II, respectively.

EIA Notification of 1994

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6. The EIA Notification was issued by the MoEF on 27-1-1994, in exercise of its powers under Section 3(1) and clause (*v*) of Section 3(2) of the

Environment (Protection) Act, 1986 read with Rule 5(3)(*d*) of the Environment (Protection) Rules, 1986. The EIA notification stipulated that:

> "... on and from the date of publication of this notification in the Official Gazette, expansion or modernisation of any activity (if pollution load is to exceed the existing one) or new project listed in Schedule I to this notification, shall not be undertaken in any part of India unless it has been accorded environmental clearance by the Central Government in accordance with the procedure hereinafter specified in this notification."

7. The EIA notification stipulated that any person who desired to undertake a new project, or the expansion or modernisation of an existing industry, listed in Schedule I shall submit an application to the Secretary, MoEF. Entry 8 of Schedule I includes industries engaged in manufacturing bulk drugs and pharmaceuticals. The application had to be accompanied by a project report including, inter alia, an EIA report and an environmental management plan prepared in accordance with the guidelines issued by the Union Government through the MoEF from time to time. The notification spelt out the procedure to be followed upon the submission of the application including an evaluation and assessment by a stipulated agency. Clause 3(*a*) which was (substituted on 4-5-1994) provided that:

> "... no construction work primarily or otherwise relating to the setting up of the project may be undertaken till the environmental and site clearances is obtained."

8. On 10-4-1997, the EIA Notification of 1994 was amended by making a public hearing mandatory for thirty categories of activities which required an EC. On 5-11-1998, the MoEF issued a circular recording that though the EIA Notification of 1994 was in effect since 27-1-1994, units covered by the notification had been set up without obtaining prior ECs. The GPCB had despite the advice of the MoEF allowed units to operate without valid ECs. In this backdrop, the Circular dated 5-11-1998 provided that:

> "Since number of such proposals are large in number and many of the units have not applied for environmental clearance genuinely out of ignorance it has been decided to consider their case for

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environmental clearance on merits. This will apply only to those proposals which are received in the Ministry till 31-3-1999. Simultaneously State Pollution Control Boards have also been advised to issue requisite notices to the units to apply for environmental clearance. In case of those units which have already started production, we may consider the proposals on merits and if necessary suggest additional mitigative measures. A formal environmental clearance will be issued in these cases after approval by the competent authority."

9. By a Circular dated 27-12-2000, the MoEF directed all State Pollution Control Boards to issue fresh notices to all defaulting units and extended the deadline to obtain ECs from 31-3-1999 to 30-6-2001. In spite of this, there

were delinquent units which had either failed to apply for an EC or had failed to complete the requirement of a public hearing before the extended date. By the Circular dated 14-5-2002, the deadline was extended to 31-3-2003. The circular stated that:

"Keeping the foregoing in view, it has been decided to extend the deadline up to 31-3-2003 so that defaulting units could avail of this last and final opportunity to obtain ex post facto environmental clearance. This would apply to all such units, which had commenced construction activities/operations without obtaining prior environmental clearance in violation of the EIA Notification of 27-1-1994."

10. In terms of the circular, those defaulting units seeking an expansion were to earmark a separate fund for "eco-development measures including community development measures in Indian projects areas" on a graded scale linked to the investment in the project. This was indicated in a tabulated form which read thus:

A	Projects with investment up to Rs 100 crores	1% of the project cost with a minimum of Rs 50,000
B	Projects with investment beyond Rs 100 crores and up to Rs 1000 crores	0.5% of the project cost subject to a minimum of Rs 1 crore and a maximum of Rs 2.5 crores
C	Projects with investment exceeding Rs 1000 crores	0.25% of the project cost subject to a maximum of Rs 5 crores

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Units which failed to comply with the extended deadline were to be proceeded against.

The challenge to the ex post facto Circular dated 14-5-2002

11. A petition was instituted under Article 226 of the Constitution by the first and second respondents in the present lead appeal before the High Court of Gujarat challenging the Circular dated 14-5-2002 and seeking the revocation of the clearances which were granted to the industrial units in question. The case was transferred to the Western Zonal Bench of NGT by the High Court of Gujarat on 21-4-2015. NGT by its judgment dated 8-1-2016[1] set aside the Circular dated 14-5-2002 and issued consequential directions which have been noted in the earlier part of this judgment. Unique Chemicals Ltd., the seventh respondent before NGT, preferred a review petition against the judgment of NGT which was dismissed. The affected industrial units and the MoEF are in appeal before this Court.

12. The issue to be adjudicated is whether in view of the requirement of a prior EC under the EIA Notification of 1994, a provision for an ex post facto EC to industrial units could be validly made by means of the Circular dated 14-5-2002.

13. During the course of the submissions, Mr Kapil Sibal, learned Senior Counsel appearing on behalf of Alembic Pharmaceuticals Ltd. has urged the following submissions:

13.1. The issue is academic as both the units of the appellant have been granted an EC for subsequent expansion to a much higher capacity after conducting a public hearing and upon consideration of all material factors. The relevant details in support of the submission are thus:

Darshak Private Ltd. (API-I)

(*a*) An EC was granted on 14-5-2003 for a capacity of 15 MT per month;

(*b*) An EC was granted on 16-4-2008 for expansion of capacity from 15 MT per month to 25 MT per month; and

(*c*) An EC was granted on 31-1-2017 for a further expansion of capacity from 25 to 75 MT per month.

Nirayu Private Ltd. (API-II)

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(*a*) An EC was granted on 14-5-2003 for a capacity of 47 MT per month; and

(*b*) An EC was granted on 20-12-2016 for an expanded capacity of 300 MT per month.

13.2. The EIA Notification of 1994 omits the expression "prior". This is contrasted with the EIA Notification dated 14-9-2006 which stipulates the requirement of a "prior" EC. While a prior EC is mandatory under the Notification dated 14-9-2006, it was not under the earlier Notification dated 27-1-1994.

13.3. Once an EC has been granted for a much larger capacity after conducting a prior public hearing, the question as to whether the first EC for a lesser capacity was valid, is of no significance. Since both the units have an EC for a larger capacity, the satisfaction for granting an EC for a lesser capacity would be subsumed.

13.4. The EIA Notification of 1994 did not apply to the two units of the appellant (API-I and API-II). Clause 8 of the Explanatory Note to the EIA Notification of 1994 provides that where a no-objection certificate ("NOC") from GPCB has been obtained before 27-1-1994, an EC is not required. In this context it has been submitted that:

(*a*) On 17-7-1992, GPCB granted an NOC to establish and manufacture to the manufacturing unit of API-I;

(*b*) On 29-5-1997 and 27-7-1998, GPCB granted an authorisation to operate under the Air (Prevention and Control of Pollution) Act, 1981 ("the Air Act") to API-I;

(*c*) On 11-10-1999, GPCB granted API-I an authorisation to operate under the Water (Prevention and Control of Pollution) Act, 1974 ("the Water Act");

(*d*) On 24-5-1985, GPCB granted API-II a consent order under the Water Act;

(*e*) On 9-10-1991, GPCB granted a site clearance certificate to API -II;

(*f*) On 12-5-1993, GPCB granted an NOC to API-II to establish and for the manufacture of drugs;

(*g*) On 23-9-1993 and 13-11-1999, GPCB granted a consent under the Water Act to API-II;

(*h*) On 14-12-2001, GPCB granted an authorisation to API-II to operate under the Hazardous Waste (Management and Handling)

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Rules, 1989 ("the Hazardous Waste Rules"); and

(*i*) On 1-9-1999, 14-12-2001 and 7-3-2008, GPCB granted a consolidated consent and authorisation to API-II.

13.5. A public hearing was not mandatory under the EIA Notification of 1994. Clause 4 of the Explanatory Note confers a discretion to call for a hearing in case of projects that may cause large-scale displacement or with severe environmental ramifications.

13.6. If the order of NGT prevails, the appellant would be prejudiced and suffer an irreparable loss. The appellant has made an investment of over Rs 293 crores and employed a labour force of over 1000 workers.

13.7. The first respondent who was the petitioner before NGT chose to target only the appellant and two others out of over ninety different entities which were granted similar clearances. This cherry picking of certain select units demonstrates the mala fide nature of the proceedings.

14. During the course of his submissions, Mr C.U. Singh, learned Senior Counsel appearing on behalf of United Phosphorus Ltd. has urged the following submissions:

14.1. The Circular dated 5-11-1998, by which the deadline for obtaining ECs under the EIA Notification of 1994 was extended to 30-6-2001 was not challenged. The Circular dated 5-11-1998 specifically noted that the State Pollution Control Board had despite the advice of the MoEF allowed units to operate without valid ECs.

14.2. United Phosphorus Ltd. had all requisite ECs that were granted by GPCB for the existing and expanded capacity. In this context it has been submitted:

(*a*) An EC was granted on 17-7-2003 for manufacturing Phorate and Terbuphose (300 MT per month combined) and Acephate (80 MT per month);

(*b*) An EC was granted on 15-4-2008 for the expansion of capacity for manufacturing pesticides and intermediate products. Production of Phorate and Terbuphose was increased from 300 MT per month to 500 MT per month, and production of Acephate was increased to 1000 MT per month;

(*c*) An EC was granted on 10-1-2020 for an enhanced capacity of 9546 MT per month;

14.3. The complainant, the first respondent in the lead appeal,

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attended the public hearing held on 16-1-2002 prior to the grant of an EC on 17-7-2003 and raised no objections.

14.4. If the order of NGT prevails, the appellant would be prejudiced and suffer an irreparable loss. The appellant has employed approximately 400 permanent and contract workers at its manufacturing unit.

14.5. The challenge by the first and second respondents was to the EIA Notification 1994 which did not apply to the manufacturing unit of the appellant. At the relevant time, the appellant was exempted from obtaining an EC since it had all requisite permissions. In this context it has been submitted:

(*a*) On 3-10-1992, GPCB granted an NOC to the appellant for setting up a manufacturing unit;

(*b*) On 17-11-1995 and 2-4-1996, GPCB granted NOCs for expansion and manufacturing additional products;

(*c*) On 27-8-2009, GPCB granted a consolidated consent and authorisation to the appellant's manufacturing unit;

(*d*) On 25-7-2012, GPCB issued an NOC for the expansion of the appellant's manufacturing unit; and

(*e*) On 11-5-2015 and 27-5-2017, GPCB granted a consolidated consent and authorisation for expanded operations.

15. Appearing for Unique Chemicals Ltd., Dr Abhishek Singhvi, learned Senior Counsel urged the following submissions:

15.1. NGT did not have the jurisdiction to entertain the petition filed by the first and second respondents in view of the decision of this Court in *Techi Tagi Tara* v. *Rajendra Singh Bhandari*[3].

15.2. The EC granted in 2007 superseded the earlier EC granted in 2002. Therefore, the question of validity of the earlier EC does not arise. In this context it has been submitted:

(*a*) An EC was granted on 23-12-2002 for a capacity of 78.02 MT per month for manufacturing bulk drugs and intermediates;

(*b*) An EC was granted on 8-8-2007 for an increase in manufacturing capacity from 78.02 MT per month to 116.12 MT per month; and

(*c*) An EC was granted on 30-6-2018 for an increase in the manufacturing capacity to 290 MT per month. On 10-4-2019, the above EC was amended allowing an increase in the number of products permitted to be manufactured by the appellant.

15.3. The ex post facto clearance granted to the appellant cannot be set aside by the order of NGT in terms of the decision of this Court in *Goa Foundation (1)* v. *Union of India*[4], where 95 industrial projects were accorded ex post facto

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clearances in terms of the Circular dated 14-5-2002. Accordingly, no question of closing down the manufacturing units of the appellants can arise.

15.4. The requirement of an ex post facto public hearing was introduced by an amendment in 1997 to the EIA Notification of 1994. The legality of an ex post facto public hearing has been upheld by this Court in *Lafarge Umiam Mining (P) Ltd.* v. *Union of India*[5].

15.5. In various cases where there has been a violation of law, this Court has not ordered the closure considering the significant investment and expansion undertaken by the industry. In *Electrotherm (India) Ltd.* v. *Patel Vipulkumar Ramjibhai*[6], this Court did not order closure of the plant since a significant expansion had already taken place and the industry was functioning.

15.6. If the order of NGT prevails, the appellant would be prejudiced and suffer an irreparable loss. The appellant has employed approximately 400 employees at its manufacturing unit.

15.7. The EIA Notification 1994 did not apply to the manufacturing unit of the appellant. The manufacturing unit of the appellant was exempt from obtaining an EC as it had all the requisite permissions. In this context it has been submitted:

(*a*) On 30-9-1995, GPCB issued an "air consent order" under the Air Act;

(*b*) On 9-1-1996, GPCB issued an authorisation under the Hazardous Waste Rules;

(*c*) On 16-4-1996, GPCB issued a "water consent order" under the Water Act;

(*d*) On 15-4-2009, GPCB granted a consolidated consent and authorisation to the manufacturing unit of the appellant;

(*e*) On 11-6-2010 and 26-6-2012, GPCB amended the consolidated consent and authorisation granted to the appellant on 13-4-2009;

(*f*) On 30-5-2011, GPCB granted consent to set up a gas-based power generation plant having a capacity of 400 kW at the manufacturing unit of the appellant;

(*g*) On 2-11-2013, GPCB granted a fresh consolidated consent and authorisation to the manufacturing unit of the appellant; and

(*h*) On 25-1-2019 and 25-10-2019, GPCB granted a fresh and revised consolidated consent and authorisation, respectively for an increase in the number of products permitted to be manufactured at

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the manufacturing unit of the appellant.

16. Appearing for the first and second respondents, Mr Siddharth Seem, learned counsel has urged the following submissions before this Court:

16.1. The Circular dated 14-5-2002 is illegal because environmental jurisprudence does not recognise any concept of ex post facto clearances. Any ex post facto approval is void and the benefit of the circular cannot be given to such an industry. In this regard, reliance was placed upon the decision of this Court in *Common Cause* v. *Union of India*[7].

16.2. The Circular dated 14-5-2002 does not mention its source or authority of law. The source of the circular is not traceable to Section 3 of the Environment (Protection) Act, 1986 because the circular does not protect or improve the quality of the environment. The circular allows defaulters to get ex post facto clearances and does not encourage compliance with the law.

16.3. The Comprehensive Environmental Pollution Index Report by the Central Pollution Control Board indicates that the air, water and soil parameters in and around the industrial area of Ankleshwar in the State of Gujarat, where the three industrial units are located, are among the most critical in India.

16.4. Even if this Court were to hold that the closure of the industries should not be ordered, compensation should be directed to be paid by them for restoration of the environment. These industries have brazenly operated for years without environmental clearances.

17. The rival submissions fall for our consideration.

18. We first address the challenge to the jurisdiction of NGT to strike down rules or regulations made under the Environment (Protection) Act, 1986. In *T.N. Pollution Control Board* v. *Sterlite Industries (India) Ltd.*[8] ("*Sterlite*") this Court analysed the adjudicatory functions which have been entrusted to NGT under the National Green Tribunal Act, 2010 ("the NGT Act"). R.F. Nariman, J. speaking for a two-Judge Bench held that while exercising its jurisdiction under Section 16, NGT cannot strike down rules or regulations made under the Environment (Protection) Act, 1986. In coming to this conclusion, the Court relied on the decision in *BSNL* v. *TRAI*[9], where the appellate power contained in Section 14 of the Telecom Regulatory Authority of India Act, 1997 ("the TRAI Act") was interpreted. After adverting to this decision, R.F.

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Nariman, J. concluded that : (*T.N. Pollution Control Board case*[8], SCC p. 524, para 43)

> "*43.* … NGT has no general power of judicial review akin to that vested under Article 226 of the Constitution of India possessed by the High Courts of this country."

19. While placing reliance on the above decision, Mr A.N.S. Nadkarni, learned Additional Solicitor General made an attempt to demonstrate that the power to issue the Circular dated 14-5-2002 that extended the deadline for defaulting units to avail of an ex post facto clearance until 30-3-2003 could well be traceable to Section 3 of the Environment (Protection) Act, 1986. Section 3, to the extent relevant, provides thus:

> "**3. *Power of Central Government to take measures to protect and improve environment***.—(1) Subject to the provisions of this Act, the Central

Page: 173

Government shall have the power to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution."

20. Section 3(1) is an enabling provision for the Central Government to undertake all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. This limb of the submission of the Additional Solicitor General is crucial to the issue as to whether NGT has exceeded its jurisdiction since the decision in *Sterlite*[8] holds that NGT, while exercising its appellate jurisdiction, "cannot strike down rules or regulations made *under this Act*". In the present case, to demonstrate that NGT did not have the jurisdiction to strike down the Circular dated 14-5-2002, it was urged that the circular was issued by the MoEF pursuant to its powers under Section 3 of the Environment (Protection) Act, 1986. There is an inherent difficulty in accepting the submission. Before this Court, the Union of India has not pleaded the case that the Circular dated 14-5-2002 is a measure which is traceable to the provisions of Section 3. On the contrary, in its pleadings the Union of India construed it as a "purely administrative decision". Ground (*iii*) in Para 3 of the memo of appeal states the position of the Union Government:

> "Because the Hon'ble Tribunal failed to appreciate that after the EIA Notification 1994 the opportunity to seek ex post facto

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environmental clearance was given to industries in background of far-reaching impact in terms of direct loss of livelihood of the employees working in the units which also supply inputs to other units and their indirect employment. *It was submitted to the Hon'ble High Court of Gujarat that issuance of Circular dated 14-5-2002, based on which environmental clearance was given, was purely an administrative decision before taking stringent action*."

(emphasis supplied)

21. The omission in the appeal to make any attempt to sustain the Circular dated 14-5-2002 with reference to the provisions of Section 3 of the Environment (Protection) Act, 1986 is significant. For an action of the Central Government to be treated as a measure referable to Section 3 it must satisfy the statutory requirement of being necessary or expedient "for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environment pollution". The Circular dated 14-5-2002 in fact does quite the contrary. It purported to allow an extension of time for industrial units to comply with the requirement of an EC. The EIA Notification dated 27-1-1994 mandated that an EC has to be obtained before embarking on a new project or expanding or modernising an existing one. The EIA Notification of 1994 has been issued under the provisions of the Environment (Protection) Act, 1986 and the Environment Protection Rules, 1986, with the

object of imposing restrictions and prohibitions on setting up of new projects or expansion or modernisation of existing project. The measures are based on the precautionary principle and aim to protect the interests of the environment. The Circular dated 14-5-2002 allowed defaulting industrial units which had commenced activities without an EC to cure the default by an ex post facto clearance. Being an administrative decision, it is beyond the scope of Section 3 and cannot be said to be a measure for the purpose of protecting and improving the quality of the environment. The circular notes that there were defaulting units which had failed to comply with the requirement of obtaining an EC as mandated. The circular provided for an extension of time and inexplicably introduced the notion of an ex post facto clearance. In effect, it impacted the obligation of the industrial units to be in compliance with the law. The concept of ex post facto clearance is fundamentally at odds with the EIA Notification dated 27-1-1994. The EIA Notification of 1994 contained a stipulation that any expansion or modernisation of an activity or setting up of a new project listed in

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Schedule I "shall not be undertaken in any part of India unless it has been accorded environmental clearance". The language of the notification is as clear as it can be to indicate that the requirement is of a prior EC. A mandatory provision requires complete compliance. The words "shall not be undertaken" read in conjunction with the expression "unless" can only have one meaning : before undertaking a new project or expanding or modernising an existing one, an EC must be obtained. When the EIA Notification of 1994 mandates a prior EC, it proscribes a post activity approval or an ex post facto permission. What is sought to be achieved by the administrative Circular dated 14-5-2002 is contrary to the statutory Notification dated 27-1-1994. The Circular dated 14-5-2002 does not stipulate how the detrimental effects on the environment would be taken care of if the project proponent is granted an ex post facto EC. The EIA Notification of 1994 mandates a prior environmental clearance. The circular substantially amends or alters the application of the EIA Notification of 1994. The mandate of not commencing a new project or expanding or modernising an existing one unless an environmental clearance has been obtained stands diluted and is rendered ineffective by the issuance of the administrative Circular dated 14-5-2002. This discussion leads us to the conclusion that the administrative circular is not a measure protected by Section 3. Hence there was no jurisdictional bar on NGT to enquire into its legitimacy or vires. Moreover, the administrative circular is contrary to the EIA Notification 1994 which has a statutory character. The circular is unsustainable in law.

22. Mr Kapil Sibal, learned Senior Counsel appearing on behalf of Alembic Pharmaceuticals Ltd. sought to urge that the EIA Notification dated 27-1-1994 contains an omission of the expression "prior" and contrasted this with the EIA Notification dated 14-9-2006 which stipulates the requirement of a "prior" EC. This, in his submission is an indicator that a prior EC is mandatory under the Notification dated 14-9-2006 but was not so under the earlier Notification dated 27-1-1994. This interpretation was not supported by Mr A.N.S. Nadkarni, learned Additional Solicitor General who categorically submitted that the

requirement under the Notification dated 27-1-1994 was of a prior EC. We are unable to accept the submission of Mr Kapil Sibal.

22.1. The terms of the EIA Notification dated 27-1-1994 leave no manner of doubt that a prior EC was mandated before a new project was commenced or before undertaking any expansion or modernisation

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of an existing project. The absence of the expression "prior" in the EIA Notification dated 27-1-1994 makes no difference since the words "shall not be undertaken … unless" postulate the requirement of a prior EC. Speaking for a two-Judge Bench of this Court in *Common Cause* v. *Union of India*[7] ("*Common Cause*"), Madan B. Lokur, J. rejected the submission which was urged on behalf of mining leaseholders that : (SCC p. 549, para 108)

> "*108*. … the possibility of getting an ex post facto EC was a signal to the mining leaseholders that obtaining an EC was not mandatory or that if it was not obtained, the default was retrospectively condonable."

22.2. Disagreeing with the submission, the Court held : (*Common Cause case*[7], SCC p. 553, para 125)

> "*125*. We are not in agreement with the learned counsel for the mining leaseholders. *There is no doubt that the grant of an EC cannot be taken as a mechanical exercise. It can only be granted after due diligence and reasonable care since damage to the environment can have a long-term impact. EIA 1994 is therefore very clear that if expansion or modernisation of any mining activity exceeds the existing pollution load, a prior EC is necessary and as already held by this Court in M.C. Mehta*[10] *even for the renewal of a mining lease where there is no expansion or modernisation of any activity, a prior EC is necessary. Such importance having been given to an EC, the grant of an ex post facto environmental clearance would be detrimental to the environment and could lead to irreparable degradation of the environment. The concept of an ex post facto or a retrospective EC is completely alien to environmental jurisprudence including EIA 1994 and EIA 2006*. We make it clear that an EC will come into force not earlier than the date of its grant."
>
> (emphasis supplied)

23. The concept of an ex post facto EC is in derogation of the fundamental principles of environmental jurisprudence and is an anathema to the EIA Notification dated 27-1-1994. It is, as the judgment in *Common Cause*[7] holds, detrimental to the environment and could lead to irreparable degradation. The reason why a retrospective EC or an ex post facto clearance is alien to environmental jurisprudence is that before the issuance of an EC, the statutory notification warrants a careful application of mind, besides a study into the likely consequences of a proposed activity on the environment. An EC can be issued only after various stages of the decision-making process have been completed. Requirements such as conducting a public hearing, screening,

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scoping and appraisal are components of the decision-making process which ensure that the likely impacts of the industrial activity or the expansion of an existing industrial activity are considered in the decision-making calculus. Allowing for an ex post facto clearance would essentially condone the operation of industrial activities without the grant of an EC. In the absence of an EC, there would be no conditions that would safeguard the environment. Moreover, if the EC was to be ultimately refused, irreparable harm would have been caused to the environment. In either view of the matter, environment law cannot countenance the notion of an ex post facto clearance. This would be contrary to both the precautionary principle as well as the need for sustainable development.

24. In order to enable the Court to assess the status of compliance, the material which has been produced on the record by : (*i*) Alembic Pharmaceuticals Ltd.; (*ii*) United Phosphorous Ltd.; and (*iii*) Unique Chemicals Ltd. has been compiled in a tabulated form for each of the three industries. For Alembic Pharmaceuticals Ltd., the data for its two industrial units — Darshak Private Ltd. (API-I) and Nirayu Private Ltd. (API-II) — has been analysed separately. For each of the three industries, Table A below consists of the list of permissions, consents and authorisations obtained by the industry from various authorities. Table B contains a list of ECs which were granted from time to time to each industrial unit. The position as tabulated below is based on the material which has been disclosed on the record of these proceedings:

Table A : List of permissions, consents and authorisations granted to Alembic Pharmaceuticals Ltd.	
Darshak (API-I)	
Date	*Permission/Consent/Authorisation Granted*
17-7-1992	GPCB issued a no-objection certificate to establish an industrial unit for the manufacture of the following items at API-I : (*i*) Ciprofloxacin (1.25 MT pm); and (*ii*) Norfloxacin (2.5 MT pm)
11-6-1997	GPCB granted no-objection certificate for manufacturing additional items at API-I
29-5-1997	GPCB issued air consent order authorising to operate API-I
11-7-1997, 12-7-1997 and 27-7-1998	GPCB granted no-objection certificate for manufacturing of additional items at API-I
31-3-1999	GPCB issued air consent order authorising to

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	operate API-I
11-10-1999	GPCB issued water consent order authorising to operate API-I
Between 27-9-2002 — 23-12-2011	GPCB issued various consents under the Air Act, Water Act and Hazardous Waste Rules.
Nirayu Private Ltd. (API-II)	
Date	*Permission/Consent/Authorisation Granted*
12-7-1984	Factory licence was issued in favour of Nirayu Private Ltd.
24-5-1985	GPCB issued water consent order authorising to operate API-II
9-10-1991	GPCB issued a site clearance certificate to establish an industrial unit and manufacture the following items at API-II : (*i*) CIMC chloride (2000 kg pm); and (*ii*) Cloxacillin sodium (500 kg pm)

Page: 177

12-5-1993	GPCB granted a no-objection certificate to establish an industrial unit and manufacture the following items : (*i*) Acetone thiosemicarbazone (2 MT pm); (*ii*) 2 Mercapta (5 MT pm); (*iii*) Methoxy orthoxymethyl chloride (0.3 MT pm); and (*iv*) Solvent ether (7 MT pm)
1-9-1993	GPCB issued authorisation to operate API-II under the Hazardous Waste Rules
23-9-1993	GPCB issued water consent order authorising to operate API-II
4-12-1995	GPCB granted no-objection certificate for manufacturing additional items at API-II
4-10-1996 and 17-4-1998	GPCB issued air consent order to operate API-II
1-9-1999	GPCB granted consolidated consent and authorisation to operate API-II
12-11-1999	GPCB issued water consent order to operate API-II
14-12-2001	GPCB issued authorisation to operate API-II under the Hazardous Waste Rules

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Between 27-9-2002 — 6-1-2015	GPCB issued various consents under the Air Act, Water Act and Hazardous Waste Rules.

Table B : List of environmental clearances granted to Alembic Pharmaceuticals Ltd.

Darshak (API-I)			
Date of Application	*Date of Public Hearing*	*EC for Expansion (Quantity)*	*Date EC Granted*
21-7-2001	30-1-2002	Manufacturing of various bulk drugs and intermediate products with a total capacity of 15 MT pm	14-5-2003 as per the 1994 EIA notification
8-12-2006	9-10-2007	Expansion of total capacity of bulk drugs from 15 to 25 MT pm	16-4-2008 as per the 2006 EIA notification
16-9-2015	12-6-2015	Expansion of total capacity of active pharmaceutical ingredients from 25 to 75 MT pm	31-1-2017 as per the 2006 EIA notification
Nirayu Private Ltd. (API-II)			
Date of Application	*Date of Public Hearing*	*EC for Expansion (Quantity)*	*Date EC Granted*
20-7-2001	30-1-2002	Manufacturing of various bulk drugs and intermediate products	14-5-2003 as per the 1994 EIA notification

		with a total capacity of 47 MT	

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		pm	
28-3-2016	12-6-2015	Expansion of total capacity of active pharmaceutical ingredients and intermediates from 47 to 300 MT pm	20-12-2016 as per the 2006 EIA notification

Table A : List of permissions, consents and authorisations granted to United Phosphorus Ltd.

Unit No. 2 — Plots Nos. 3405 and 3406

Date	*Permission/Consent/Authorisation Granted*
31-1-1992	Gujarat Industrial Development Corporation granted land to the appellant to establish and run Unit No. 2
9-3-1992	GPCB issued no-objection certificate for operation of Unit No. 2 in relation to manufacturing of various products
3-10-1992	GPCB issued no-objection certificate to set up a unit to manufacture the following items at Unit No. 2 : (*i*) Carbendazim; (*ii*) Quinalphos; and (*iii*) Paraquat
1993	Unit No. 2 commenced manufacturing activities
17-11-1995	GPCB granted no-objection certificate for expansion of Unit No. 2 for manufacturing of two additional products — Phorate and Terbuphose (300 MT pm combined)
2-4-1996	GPCB granted no-objection certificate for expansion of Unit No. 2 for the manufacture of Acephate (80 MT per month)
27-8-2009	GPCB granted a consolidated consent and authorisation to Unit No. 2
25-7-2012	GPCB issued consent to establish (NOC) for expansion of Unit No. 2
11-5-2015 and 27-4-2017	GPCB granted a consolidated consent and authorisation for the expanded operations

Table B : List of environmental clearances granted to United Phosphorus Ltd.

Unit No. 2 — Plots Nos. 3405 and 3406

Date of	*Date of*	*EC for Expansion*	*Date EC Granted*

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Application	*Public Hearing*	*(Quantity)*	
21-8-2002	16-1-2002	Manufacturing of Phorate and Terbuphose (300 MT pm combined) and Acephate (80 MT per month)	17-7-2003 as per EIA Notification of 1994
20-10-2007	-	Expansion of pesticides and intermediate	15-4-2008 as per EIA Notification of 2006

Page: 179

		products — Production of Phorate and Terbuphose to be increased to 500 MT pm combined — Production of Acephate to be increased to 1000 MT pm	
-	-	Enhanced capacity of 9546 MT per month (as per written submissions)	10-1-2020 as per EIA Notification of 2006

Table A : List of permissions, consents and authorisations granted to Unique Chemicals Ltd.	
Unit at Plot No. 5	
Date	*Permission/Consent/Authorisation Granted*
14-8-1995	GPCB issued a no-objection certificate to establish and run a unit (site clearance) at Plot No. 5
30-9-1995	GPCB issued air consent order authorising to

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	operate unit at Plot No. 5
25-12-1995	GPCB issued a no-objection certificate to set up and manufacture the following items at the unit at Plot No. 5 : (*i*) Dichlotofenance sodium (6 MT pm); (*ii*) Nifedipine (2 MT pm); (*iii*) Indolinone (6.9 MT pm); and (*iv*) Pefloxacin (3 MT pm)
9-1-1996	GPCB issued authorisation under the Hazardous Waste Rules
16-4-1996	GPCB issued water consent order authorising to operate unit at Plot No. 5
24-4-1996	Unit at Plot No. 5 commenced manufacturing activities
15-4-2009	GPCB granted a consolidated consent and authorisation to the unit at Plot No. 5
11-6-2010 and 26-6-2012	GPCB amended the consolidated consent and authorisation to the unit at Plot No. 5 granted on 15-4-2009
30-5-2011	GPCB granted no-objection certificate to set up a gas-based power generation plant of a capacity of 400 kW at the unit at Plot No. 5
2-11-2013	GPCB granted a fresh consolidated consent and authorisation to the unit at Plot No. 5 for manufacturing of bulk drugs and intermediates
1-7-2016	The appellant was certified as a zero liquid discharge unit
25-1-2019	GPCB granted a new consolidated consent and authorisation to the unit at Plot No. 5
25-10-2019	GPCB issued a revised consolidated consent and authorisation for increase in the number of products that were permitted to be manufactured at the unit at Plot No. 5

Table B : List of environmental clearances granted to Unique Chemicals Ltd.			
Unit at Plot No. 5			
Date of	*Date of Public*	*EC for*	*Date EC Granted*

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Application	*Hearing*	*Expansion (Quantity)*	
30-6-2001	25-1-2002	Total capacity 78.02 MT pm of bulk drugs and intermediates. Manufacturing of : (*i*) Diclofenac sodium intermediates and derivates (40 MT pm); (*ii*) Nifedipine and its intermediates (2 MT pm); (*iii*) Indelinone (7 MT pm); (*iv*) Pefloxacin and its intermediates (3 MT pm); (*v*) 2 methyl imldazole (15 MT pm); (*vi*) Phentolamine HCL (10 MT pm); (*vii*) Diltazem HCL (1 MT pm); and (*viii*) other co-products	23-12-2002 as per EIA Notification 1994
12-1-2007	Exempt — proposed project located in notified industrial area	For an increase in manufacturing of bulk drugs and intermediates from a total capacity from 78.02 MT pm to 116.12 MT pm. For an increase	8-8-2007 as per EIA Notification 2006

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		in manufacturing of co-products from a total capacity of 103 MT pm to 297 MT pm. For setting up a captive power plant with 1.3 MW capacity.	
16-3-2018	Exempt — proposed project located in notified industrial area	For an increase in manufacturing of bulk drugs and intermediates from a total capacity from 78.02 MT pm to 290 MT pm by setting up of synthetic	30-6-2018 as per EIA Notification 2006

Page: 181

		organic chemicals manufacturing plant	
		Amendment to the EC dated 30-6-2018 increasing the number of products permitted to be manufactured by the appellant at the unit at	10-4-2019 as per the 2006 EIA notification

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		Plot No. 5	

25. The position that emerges from the record is that in the case of all the three industries, ECs were applied for nearly a decade after the introduction of the EIA Notification 1994. In the meantime, the industries had been set up and had commenced production. GPCB issued a notice to United Phosphorus Ltd. on 30-4-2001 directing them to apply for an EC. On 9-12-2000, GPCB issued a notice to Darshak Private Ltd. (API-I) and Nirayu Private Ltd. (API-II) directing them to apply for and obtain an EC in accordance with the EIA Notification of 1994. Darshak Private Ltd. (API-I) of Alembic Pharmaceuticals Ltd., applied for an EC on 21-7-2001 which it was granted on 14-5-2003. Subsequent applications for expansion of capacity were submitted on 8 -12-2006 and 16-9-2015 for which ECs were granted on 16-4-2008 and 31-1-2017, respectively. Nirayu Private Ltd. (API-II), initially applied for an EC on 20-7-2001 and the EC was granted on 14-5-2003. The application for the grant of an EC for an extended capacity was submitted on 28-3-2016 and the EC was granted on 20-12-2016. In the case of United Phosphorous Ltd., the initial EC was sought on 21-8-2002 and it was granted on 17-7-2003. An application for expansion of capacity was submitted on 20-10-2007 and it was granted on 15-4-2008. An EC for the further expansion of capacity was granted on 10-1-2020. In the case of Unique Chemicals Ltd., the initial application for an EC was submitted on 30-6-2001 and it was granted on 23-12-2002. Subsequent applications for expansion in capacity were submitted on 12-1-2007 and 16-3-2018 for which ECs were granted on 8-8-2017 and 30-6-2018, respectively. An amendment to the EC dated 30-6-2018 was granted on 10-4-2019. The documents disclosed by the three industries demonstrate that no ECs as mandated by the EIA Notification of 1994 were sought before the commencement or expansion of operations. The terms of the EIA Notification of 1994 envisage that expansion or modernisation of any activity (if the pollution load is to exceed the existing one) or a new project listed in Schedule I shall not be undertaken unless it has been granted an EC. In the present case, all the three industries continued to operate in the teeth of the EIA Notification 1994.

26. The learned counsel appearing for the three industries have relied on a range of additional measures adopted, such as the installation of latest pollution capturing technologies, recent consents from GPCB and certification of "zero

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discharge" units. These measures adopted subsequently will not cure the failure to obtain ECs before the projects commenced operation. These measures are simply to ensure compliance with the pollution standards and requirements of law that exist as of date. These submissions have no bearing on determining whether the industrial units were in the past operating in compliance with the requisite environmental standards. These measures cannot act as correctives for historical wrongs and cannot compensate for the damage already caused to the environment as a result of manufacturing activities which were carried on without ECs.

27. The learned counsel for the three industries urged that the EIA Notification of 1994 did not apply to their manufacturing units as they were covered by the exemption in terms of Clause 8 of the Explanatory Note. The issue which needs to be considered is whether the industries were covered by the exemption and were not required to obtain ECs. Clause 8 of the Explanatory Note to the EIA Notification of 1994 states thus:

> "8. *Exemption for projects already initiated*
>
> For projects listed in Schedule I to the notification in respect of which the required land has been acquired and all relevant clearances of the State Government including NOC from the respective State Pollution Control Board have been obtained before 27-1-1994, a project proponent will not be required to seek environmental clearance from the IAA. However, those units who have not as yet commenced production will inform the IAA."

28. Before the exemption contained in Clause 8 applies, it was necessary for projects listed in Schedule I to obtain all relevant clearances from the State Government including an NOC from the State Pollution Control Board. It was in other words not sufficient to merely obtain an NOC from the State Pollution Control Board. The exemption which was carved out in the Explanatory Note was to ensure that activities which had received all required clearances at the State level, following the acquisition of land should be protected. In fact, many of them would also involve the commencement of production prior to 27-1-1994. The Explanatory Note stated that where production had not yet commenced, the IAA would have to be intimated. In order to be covered within the scope of the exemption, the burden is on the industry to demonstrate before this Court that they fulfilled conditions spelt out in Clause 8 of the Explanatory Note. The EIA Notification 1994 is a significant instrument in effectuating the implementation of the precautionary principle. The burden lies on the project proponent who seeks to alter the state of the environment or to impact on the environment to demonstrate that the terms on which an exemption has

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been granted have been fulfilled. An exemption must be construed in its strict sense according to its plain terms. None of the three industries before the Court have furnished an exhaustive catalogue of what were the "relevant clearances from the State Government" that had to be obtained under the provisions of the law as it then stood.

Page: 183

29. With this background, we will now assess individually whether the industries in question qualified for the exemption provided by Clause 8 of the Explanatory Note.

1. *Alembic Pharmaceuticals Ltd.*

(*i*) *Darshak Private Ltd. (API-I)*

30. The material produced on the record indicates that on 17-7-1992, GPCB had issued an NOC to establish an industrial unit and manufacture two pharmaceuticals products. However, the NOC for manufacturing additional items was issued only on 11-6-1997 subsequent to the EIA Notification dated 27-1-1994. The NOC dated 17-7-1992 issued by GPCB clearly states:

> "We would like to inform you that the proposed location for this industrial plant is acceptable to us *provided that you will implement the following measure for the prevention and control of environmental pollution*:
>
> (A)-(C) * * *
>
> (D) Adequate arrangement for the management and handling of hazardous waste shall be made:
>
> IMPORTANT NOTE
>
> (1)-(2) * * *
>
> (3) The applicant/entrepreneur *shall be required to obtain the following from the Board prior to commencement of production*:
>
> (*a*) Consent under the Water (Prevention and Control of Pollution) Act, 1974.
>
> (*b*) Consent under the Air (Prevention and Control of Pollution) Act, 1981.
>
> (*c*) Authorisation under the Hazardous Waste (Management and Handling) Rules, 1989 under the Environment (Protection) Act, 1986."
>
> (emphasis supplied)

31. GPCB while granting the NOC to establish an industrial unit

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required the project proponent to undertake certain measures for the prevention and control of environmental pollution including installation of treatment plants, discharge of effluents within prescribed limits and the creation of a green belt around the industrial unit. One of the points under the "Important Note" states that the project proponent "shall be required to obtain" from the Board "prior to commencement of production" requisite consents and authorisations under the Air Act, Water Act and Hazardous Waste Rules. The language used in the NOC makes it clear that obtaining consents and authorisations under various environment related legislations was a mandatory precondition and not merely directory. In the present case, the authorisation under the Air Act was issued only on 29-5-1997 and 31-3-1999. The authorisation under the Water Act was issued on 11-10-1999. Clause 8 of the Explanatory Note states that for the exemption to apply, it was necessary for projects listed in Schedule I to have

Page: 184

obtained all relevant clearances from the State Government including an NOC from the State Pollution Control Board. The evidence produced on the record by Darshak Private Ltd. indicates that it did not have the requisite consents and authorisations under the Air Act, Water Act and Hazardous Waste Rules prior to the EIA Notification 1994. Many of the consents and permissions were obtained subsequently and not prior to the EIA Notification of 1994. Accordingly, the manufacturing unit of Darshak Private Ltd. (API-I) is not covered under the exemption under Clause 8 of the Explanatory Note to the EIA Notification of 1994.

(ii) Nirayu Private Ltd. (API-II)

32. A factory licence was issued on 12-7-1984 to API-II. On 24-5-1985, GPCB issued a water consent order under the Water Act. This was valid only for the manufacture of anaesthetic Ether. GPCB issued a site clearance certificate on 9-10-1991 for the manufacture of CIMC Chloride and Cloxacillin Sodium. An NOC to establish an industrial unit and to manufacture products was issued on 12-5-1993 and one for expansion on 4-12-1995. It is relevant to note that the NOC dated 12-5-1993 issued by GPCB to Nirayu Private Ltd. (API-II) is worded in exactly the same manner as the NOC dated 17-7-1992 issued to Darshak Private Ltd. (API-I). The NOC dated 12-5-1993 issued to Nirayu Private Ltd. (API-II) also mandates that the project proponent "shall be required to obtain" from the Board "prior to commencement of production" requisite consents and authorisations under the Air Act, Water Act and Hazardous Waste Rules from GPCB. In the case of Nirayu

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Private Ltd. (API-II), authorisation under the Hazardous Waste Rules was issued on 1-9-1993. Consent to operate API-II under the Water Act was issued on 12-11-1999. GPCB issued consolidate consent and authorisation to operate API-II on 14-12-2010. From the above narration which is based on the disclosures made by Nirayu Private Ltd., it is evident that all consents and permissions had not been obtained prior to the EIA Notification of 1994. Accordingly, the manufacturing unit of Nirayu Private Ltd. (API-II) is not covered under the exemption under Clause 8 of the Explanatory Note to the EIA Notification of 1994.

2. *United Phosphorous Ltd.*

33. On 31-1-1992, Gujarat Industrial Development Corporation granted land to the appellant to establish and run its unit. On 9-3-1992 and 3-10-1992, GPCB issued an NOC for the operation of the unit. The unit commenced manufacturing in 1993. It is relevant to note that the NOC dated 3-10-1993 also mandates that the project proponent "shall be required to obtain" from the GPCB "prior to commencement of production" requisite consents and authorisations under the Air Act, Water Act and Hazardous Waste Rules. United Phosphorous Ltd. has not disclosed the dates on which it received authorisations under the relevant environmental legislation. It has placed on record a consolidated consent and authorisation that was issued much later on

27-8-2009 under the Air Act, Water Act and Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008. The disclosures which have been made are patently incomplete. No material has been produced to indicate that all relevant clearances from the State Government including the NOC from GPCB had been obtained prior to the EIA Notification 1994. Accordingly, they cannot be granted the benefit of the exemption under Clause 8 of the Explanatory Note to the EIA Notification of 1994.

3. *Unique Chemicals Ltd.*

34. The material produced on the record indicates that GPCB issued an NOC to establish and run the manufacturing unit on 14-8-1995. It is evident from the Table enlisting the list of relevant permissions, consents and authorisations that all permissions were received after the EIA Notification 1994 was issued. Clearly, Unique Chemicals Ltd. is not entitled to the benefit of the exemption contained in Clause 8 of the Explanatory Note to the EIA Notification 1994.

35. From the material placed on the record by the industries, it

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becomes evident that there has been a gross abdication of responsibility by all the three industries in terms of obtaining timely consents and authorisations from the GPCB. There exists a distinction between obtaining relevant clearances and consents from the State Pollution Control Board and obtaining an environmental clearance in accordance with the procedure laid down under the EIA Notification of 1994. A consent order issued by the State Pollution Control Board allows an industry to operate within the prescribed emission norms. However, the consent orders do not account for the social cost and impact of undertaking an industrial activity on the environment and its surroundings. A holistic analysis of the environmental impact of an industrial activity is only accounted for once all the steps listed out in EIA Notification of 1994 are followed. The purpose of setting in place specific requirements such as public hearing, screening, scoping and appraisal is to foster deliberative decisions and protect environmental concerns. The detailed process listed out in the EIA Notification of 1994 for obtaining an EC allows for minimising the adverse environmental impact of any industrial activity and improving the quality of the environment. One must adopt an ecologically rational outlook towards development. Given the social and environmental impacts of an industrial activity, environment compliance must not be seen as an obstacle to development but as a measure towards achieving sustainable development and intergenerational equity.

36. We have therefore come to the conclusion that none of the three industries were entitled to the benefit of the exemption contained in Clause 8 of the Explanatory Note to the EIA Notification of 1994.

37. The issue which must now concern the Court is the consequence which will emanate from the failure of the three industries to obtain their ECs

until 14-5-2003 in the case of Alembic Pharmaceuticals Ltd., 17-7-2003 in the case of United Phosphorous Ltd., and 23-12-2002 in the case of Unique Chemicals Ltd. The functioning of the factories of all three industries without a valid EC would have had an adverse impact on the environment, ecology and biodiversity in the area where they are located. The Comprehensive Environmental Pollution Index ("CEPI") Report issued by the Central Pollution Control Board for 2009-2010 describes the environmental quality at 88 locations across the country. Ankleshwar in the State of Gujarat, where the three industries are located showed critical levels of pollution[11]. In the Interim Assessment of CEPI for 2011, the Report indicates similar critical figures[12] of

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pollution in the Ankleshwar area. The CEPI scores for 2013[13] and 2018[14] were also significantly high. This is an indication that industrial units have been operating in an unregulated manner and in defiance of the law. Some of the environmental damage caused by the operation of the industrial units would be irreversible. However, to the extent possible some of the damage can be corrected by undertaking measures to protect and conserve the environment.

38. Even though it is not possible to individually determine the exact extent of the damage caused to the environment by the three industries, several circumstances must weigh with the Court in determining the appropriate measure of restitution. First, it is not in dispute that all the three industries did obtain ECs, though this was several years after the EIA Notification of 1994 and the commencement of production. Second, subsequent to the grant of the ECs, the manufacturing units of all the three industries have also obtained ECs for an expansion of capacity from time to time. Third, the MoEF had issued a Circular on 5-11-1998 permitting applications for ECs to be filed by 31-3-1999, which was extended subsequently to 30-6-2001. On 14-5-2002, the deadline was extended until 31-3-2003 subject to a deposit commensurate to the investment made. The circulars issued by the MoEF extending time for obtaining ECs came to the notice of this Court in *Goa Foundation (1)* v. *Union of India*[4]. Fourth, though in the context of the facts of the case, this Court in *Lafarge Umiam Mining (P) Ltd.* v. *Union of India*[5] ("*Lafarge*") has upheld the decision to grant ex post facto clearances with respect to limestone mining projects in the State of Meghalaya. In *Lafarge*[5], the Court dealt with the question of whether ex post facto clearances stood vitiated by alleged suppression of the nature of the land by the project proponent and whether there was non-application of mind by the MoEF while granting the clearances. While upholding the ex post facto clearances, the Court held that the native tribals were involved in the decision-making process and that the MoEF had

adopted a due diligence approach in reassuring itself through reports regarding the environmental impact of the project. S.H. Kapadia, C.J. speaking for the three-Judge Bench observed : [*Lafarge Umiam Mining (P) Ltd. case*[5], SCC p. 380, para 119]

> *"119. The time has come for us to apply the constitutional "doctrine of proportionality" to the matters concerning environment as a part of the process of judicial review in contradistinction to*

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merit review. It cannot be gainsaid that utilisation of the environment and its natural resources has to be in a way that is consistent with principles of sustainable development and intergenerational equity, but balancing of these equities may entail policy choices. In the circumstances, barring exceptions, decisions relating to utilisation of natural resources have to be tested on the anvil of the well-recognised principles of judicial review. Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that the decision-maker has taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision? Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint. Once this is ensured, then the doctrine of "margin of appreciation" in favour of the decision-maker would come into play."

(emphasis supplied)

39. After adverting to the decision in *Lafarge*[5], another Bench of three learned Judges of this Court in *Electrotherm (India) Ltd.* v. *Patel Vipulkumar Ramjibhai*[6], dealt with the issue of whether an EC granted for expansion to the appellant without holding a public hearing was valid in law. Uday Umesh Lalit, J. speaking for the Bench held thus : (*Electrotherm case*[6], SCC p. 312, para 19)

"*19*. … the decision-making process in doing away with or in granting exemption from public consultation/public hearing, was not based on correct principles and as such the decision was invalid and improper."

40. The Court while deciding the consequence of granting an EC without public hearing did not direct closure of the appellant's unit and instead held thus : (*Electrotherm case*[6], SCC p. 312, para 20)

"*20*. At the same time, we cannot lose sight of the fact that in pursuance of environmental clearance dated 27-1-2010, the expansion of the project has been undertaken and as reported by CPCB in its affidavit filed on 7-7-2014, most of the recommendations made by CPCB are complied with. In our considered view, the interest of justice would be

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subserved if that part of the decision exempting public consultation/public hearing is set aside and the matter is relegated back to the authorities concerned to effectuate public consultation/public hearing. *However, since the expansion has been undertaken and the industry has been functioning, we do not deem it appropriate to order closure of the entire plant as directed by the High Court*. If the public consultation/public hearing results in a negative mandate against the expansion of the project, the authorities would do well to direct and ensure scaling down of the activities to the level that was permitted by environmental clearance dated 20-2-2008. If public consultation/public hearing reflects in favour of the expansion of the project, environmental clearance dated 27-1-2010 would hold good and be fully operative. *In other words, at this length of time when the expansion has already been undertaken, in the peculiar facts of this case and in order to meet ends of justice, we deem it appropriate to change the nature of requirement of public consultation/public hearing from pre-decisional to post-decisional. The public consultation/public hearing shall be organised by the authorities concerned in three months from today*."

(emphasis supplied)

41. Guided by the precepts that emerge from the above decisions, this Court has taken note of the fact that though the three industries operated without an EC for several years after the EIA Notification of 1994, each of them had subsequently received ECs including amended ECs for expansion of existing capacities. These ECs have been operational since 14-5-2003 (in the case of Alembic Pharmaceuticals Ltd.), 17-7-2003 (in the case of United Phosphorous Ltd.), and 23-12-2002 (in the case of Unique Chemicals Ltd.). In addition, all the three units have made infrastructural investments and employed significant numbers of workers in their industrial units.

42. In this backdrop, this Court must take a balanced approach which holds the industries to account for having operated without environmental clearances in the past without ordering a closure of operations. The directions of NGT for the revocation of the ECs and for closure of the units do not accord with the principle of proportionality. At the same time, the Court cannot be oblivious to the environmental degradation caused by all three industries units that operated without valid ECs. The three industries have evaded the legally binding regime of obtaining ECs. They cannot escape the liability incurred on account of such non-compliance. Penalties must be imposed for the disobedience with a binding legal regime. The breach by the industries cannot be left unattended by legal consequences. The amount should be used for the purpose of restitution and restoration of the environment. Instead and

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in place of the directions issued by NGT, we are of the view that it would be in the interests of justice to direct the three industries to deposit compensation quantified at Rs 10 crores each. The amount shall be deposited with GPCB and it shall be duly utilised for restoration and remedial measures to improve the quality of the environment in the industrial area in which the industries operate.

Page: 189

43. Though we have come to the conclusion, for the reasons indicated, that the direction for the revocation of the ECs and the closure of the industries was not warranted, we have issued the order for payment of compensation as a facet of preserving the environment in accordance with the precautionary principle. These directions are issued under Article 142 of the Constitution. Alembic Pharmaceuticals Ltd., United Phosphorous Ltd. and Unique Chemicals Ltd. shall deposit the amount of compensation with GPCB within a period of four months from the date of receipt of the certified copy of this judgment. This deposit shall be in addition to the amount directed by NGT. Subject to the deposit of the aforesaid amount and for the reasons indicated, we allow the appeals and set aside the impugned judgment of NGT dated 8-1-2016[1] insofar as it directed the revocation of the ECs and closure of the industries as well as the order in review dated 17-5-2016. Pending application(s), if any, shall stand disposed of.

———

† Arising from the Judgment and Order in *Rohit Prajapati* v. *Union of India* (National Green Tribunal, Original Application No. 66 of 2015, dt. 8-1-2016)

[1] *Rohit Prajapati* v. *Union of India*, Original Application No. 66 of 2015, order dated 8-1-2016 (NGT)

[2] Civil Appeal No. 1526 of 2016 (Alembic Pharmaceuticals Ltd.); Civil Appeal No. 3175 of 2016 (United Phosphorus Ltd.); Civil Appeals Nos. 6604-605 of 2016 (Unique Chemicals); and Civil Appeal No. 42756 of 2016 (Union of India).

[3] *Techi Tagi Tara* v. *Rajendra Singh Bhandari*, (2018) 11 SCC 734

[4] *Goa Foundation (1)* v. *Union of India*, (2005) 11 SCC 559

[5] *Lafarge Umiam Mining (P) Ltd.* v. *Union of India*, (2011) 7 SCC 338

[6] *Electrotherm (India) Ltd.* v. *Patel Vipulkumar Ramjibhai*, (2016) 9 SCC 300

[7] *Common Cause* v. *Union of India*, (2017) 9 SCC 499

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[8] *T.N. Pollution Control Board* v. *Sterlite Industries (India) Ltd.*, (2019) 19 SCC 479

[9] *BSNL* v. *TRAI*, (2014) 3 SCC 222

[10] *M.C. Mehta* v. *Union of India*, (2004) 12 SCC 118

[11] CEPI score — 88.50

[12] CEPI score — 85.75

[13] CEPI score — 80.93

[14] CEPI score — 80.21

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2020 SCC OnLine Jhar 796

In the High Court of Jharkhand at Ranchi

(BEFORE ANUBHA RAWAT CHOUDHARY, J.)

W.P. (C) No. 1873 of 2018
With
I.A. No. 4608 of 2020

Electrosteel Steels Limited ... Petitioner;

Versus

Jharkhand State Pollution Control Board and Others ... Respondents.

With
W.P. (C) No. 4850 of 2018
With
I.A. No. 4607 of 2020

Electrosteel Steels Limited ... Petitioner;

Versus

Union of India and Others ... Respondents.

W.P. (C) No. 1873 of 2018; I.A. No. 4608 of 2020; W.P. (C) No. 4850 of 2018; and I.A. No. 4607 of 2020
Decided on September 16, 2020

Advocates who appeared in this case:

For the Petitioner : Mr. Krishnan Venugopal, Senior Advocate
Mr. Indrajit Sinha, Advocate
Mr. Bibhash Sinha, Advocate
Mr. Ninad Laud, Advocate
For the U.O.I. : Mr. Vikramjit Banerjee, Senior Advocate (ASGI)
Mr. Pratyush Kumar, Advocate
For the Resp.-State : Mr. Rajiv Ranjan, Advocate General
Mr. Sanjeev Thakur, Advocate
Mr. Rakesh Kr. Shahi, Advocate
For the Resp. - J.S.P.C.B. : Mr. Rajiv Ranjan, Advocate General
Mrs. Richa Sanchita, Advocate
For proposed Intervenor : Mr. Abhay Mishra, Advocate

The Judgment of the Court was delivered by

ANUBHA RAWAT CHOUDHARY, J.:— Heard learned counsels appearing for the parties on the point of extension of interim relief.

2. Heard Mr. Abhay Mishra, Advocate for the proposed intervenor opposing the prayer.

3. The learned Senior counsel for the petitioner refers to the interim orders for which prayer has been made for extension.

4. In WP(C) No. 1873 of 2018 this court passed an interim order on 16th July 2018 in the following terms:—

> *"Considering the submissions made by the counsel for the parties, this Court grants interim order to the extent that till the next date the petitioner be allowed to operate under the supervisory regulatory control of the respondent-Board, who may*

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carry out periodical checks as to the adherence by the petitioner to the aforesaid Pollution Control Acts.

5. In WP(C) No. 4850 of 2018, this court passed an interim order on 27th September 2018 in the following terms:—

"18. As this court prima-facie finds that the impugned order in this case has been passed in total violations of principles of natural justice therefore in such circumstances this writ petition is being entertained.

21. This court further prima-facie finds that the impugned order has serious repercussions on the unit of the petitioner which is a running unit and has caused prejudice to the petitioner on account of violations of principles of natural justice. This court further finds that the balance of convenience is in favour of the petitioner. Accordingly, operation, implementation and execution of the impugned order dated 20.09.2018 (Annexure-19) is hereby stayed till the next date.

23. However, this order will not be an impediment for the petitioner if the petitioner chooses to apply for statutory clearance as indicated in the impugned order without prejudice to the contention of the petitioner in this writ petition."

6. The above interim orders have been extended from time to time by this Hon'ble Court and on number of the occasions with the consent of the parties. The matter regarding extension of interim relief pursuant to the present interlocutory applications was heard on earlier occasions and the prayer was opposed by the Jharkhand State Pollution Control Board and the learned ASGI representing Union of India also expressed reservations on such prayer, but today, the learned Advocate General appearing for the State of Jharkhand as well as Jharkhand State Pollution Control Board upon instructions has consented for extension of interim relief, although no such affidavit has been filed. The Union of India has filed an affidavit clearly expressing no objection to extension of interim relief. However, the Union of India in their affidavit has clearly stated that the matter regarding environmental clearance, which is now pending before the competent authority, does not relate to regularisation of the violations done by the petitioner and it has been submitted that a fresh matter regarding environmental clearance is under consideration by the competent authority for which terms of reference has been issued in the month of August 2020 as annexed with the interlocutory applications and also with the affidavit filed by the Union of India. The learned ASGI has raised objection to the term "regularisation", as used by the petitioner in their petition seeking extension of interim relief. The extension of interim relief is not being opposed by the respondents due to the reason that the unit of the petitioner is a running unit manufacturing steel having a large number of employees and the Union of India in their earlier affidavit had taken a stand that closure of this industry would not be in the interest of the country and more so under COVID 19 pandemic situation. However, the learned counsel for the proposed intervenor has strongly opposed the prayer for extension of interim relief.

7. I.A. No. 4607 of 2020 and I.A No. 4608 of 2020 seeking extension of interim relief was heard on 04.09.2020 and it was submitted that there were subsequent developments and communication dated 28.08.2020 issued by Union of India to the Jharkhand State Pollution Control Board to take action under Section 19 of the Environment Protection Act, but the said letter was not on record and admittedly no notice as such was issued to the petitioner pursuant to the communication received from the Union of India. In this background, office was directed to post these cases on 08.09.2020 and the interim orders granted earlier in these cases were extended till 08.09.2020.

8. After passing of the order dated 04.09.2020, a copy of the letter dated 28.08.2020 was forwarded to this court by the learned counsel of the Union of India issued by the Ministry of Environment, Forest and Climate Change, Government of

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India to the Secretary, Department of Environment and Forest, Government of Jharkhand requesting to initiate legal action against the petitioner by invoking power under Section 15 read with Section 19 of Environment (protection) Act, 1986 for the period for which the unit has been in violation. A copy was also marked to the Jharkhand State Pollution Control Board. A written note of arguments was also filed by the petitioner after passing of order dated 04.09.2020. Since certain documents were filed after hearing on 04.09.2020, the final order on interlocutory applications seeking extension of interim orders could not be passed on 08.09.2020 and accordingly the matter was adjourned and was directed to be posted on 16.09.2020 and it was left open to the respondents to file their reply and interim orders were extended. On 08.09.2020 it was also submitted by the learned counsel for the petitioner that one practical difficulty in shutting down the plant is that considerable period of around two months is required for shutting down, failing which, it will cause irreparable damage to the plant and machinery and then to restart the plant, six months is technically required.

9. In the aforesaid written note of arguments, it was mainly stated that—

i. The plant of the petitioner is being operated under the supervisory regulatory control of the Respondent JSPCB, which has not issued a single notice so far to the petitioner alleging violation or non-compliance with environmental norms. No damage to the environment has been alleged and/or assessed by any competent authority.

ii. In the interlocutory applications seeking extension of interim reliefs, the petitioner has placed on record the letter dated 25 August 2020 communication the terms of reference granted by the Violations Committee of the Environment Appraisal Committee (EAC) but there is no direction for closure of the plant.

iii. It was expressly recorded in the order dated 27 September 2018 passed in WPC 4850 of 2018 that the application made by the petitioner for statutory clearances such as the forest clearance and the environmental clearance would be "without prejudice" and the writ petitioner has not given up its claims or contention, either expressly or impliedly till date including the fact that the steel plant is not situated on a forest land and likewise the petitioner also disputed the assessment of the respondents that the location of the plant was changed. It was also stated that many criminal cases against the petitioner alleging violation of the provisions of Indian Forest Act and the Forest (Conservation) Act, 1980 on the ground that the petitioner has encroached upon a forest land and no Forest Clearance was obtained by the Petitioner) have been quashed by this Hon'ble Court and the location of the plant was within the knowledge of the ministry at the time of giving environmental clearance. Assuming without admitting that there have been any violations of environmental norms, this is not a case where the original violators are still in control of the plant. This entire exercise of applying for statutory clearances was only to amicably resolve the disputes which have been continuing for a long time.

iv. The direction to lodge a criminal prosecution is in the teeth of the provisions of the Insolvency and Bankruptcy Code, 2016, especially Section 32A, which was inserted recently only to protect resolution applicants from penal actions. The petitioner company and the new management would be protected by virtue of Section 32A of the IBC.

v. The contention on behalf of the intervener-applicant that the petitioner is seeking to get an order of ex post facto approval from this Hon'ble Court is completely misconceived. The case of the petitioner stands on a completely different footing from other cases decided by any other court including by the Hon'ble Supreme Court. It should not be lost sight of that the petitioner was granted an

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Environmental Clearance in the year 2008, while in the other cases, the plants in question had been operationalised prior to grant of any environmental clearance. It is in that context that the Hon'ble Supreme Court of India in the case of Alembic Pharmaceutical *v.* Rohit Prajapati, *2020 SCC OnLine SC 347, observed that the concept of ex post facto approval is antithetical to environmental jurisprudence.*

vi. The respondents have neither indicated nor brought on record any material to show that there has been such a change in the situation which requires vacation of the interim order or discontinuance of the same.

vii. The petitioner has been bought over by new management under the aegis of the Vedanta Group at a cost of Rs. 5320 crores with a further investment of Rs. 600 crores by way of debottlenecking and process improvements, of which Rs. 80 crores have been spent only on environmental measures.

viii. The consequences of discontinuing the interim orders and bringing the plant to a grinding halt would be the following:

(a) At a stage when India's GDP has come down by 23.9% in the first quarter of FY2020-21, the nation and the State of Jharkhand would lose Rs. 4200 crores worth of steel production (which has increased from Rs. 3000 crores under the old management due to better practices and better pricing after new management took over).

(b) The petitioner's steel plant has 3000 employees on its rolls and a further 7000 contractual employees. In addition, the livelihoods of over 30,000 persons in the transport and logistics sector, suppliers of raw materials and inputs, etc., is dependent on the plant. When their families are taken into account, the number of persons whose livelihoods would be severely compromised by loss of jobs due to shutting the plant, especially during the Covid pandemic, would be massive.

(c) The petitioner is paying about Rs. 800 crores in taxes to the State of Jharkhand and to the Government of India, by way of GST and other taxes. This would also adversely affect the ability of the State and the Union to fund social services as well as the development of infrastructure.

(d) The petitioner's plans to invest an additional Rs. 5000 crores to expand the plant from 1.5 MTPA to 3 MTPA would also be severely compromised.

10. After hearing the learned counsel for the parties, this court finds as under.

11. WP(C) No. 1873 of 2018 was filed initially seeking a direction upon the respondents to issue formal consent to operate the plant for the period from 01.01.2018 to 31.12.2022 for which, application with all requisites was submitted to the respondent - State Pollution Control Board on 24.08.2017.

12. In the writ petition, I.A. No. 4322 of 2018 was filed which was listed on 16.07.2018. On that day, it was submitted by the petitioner that the application for renewal of consent to operate under the provision of Air (Prevention and Control of Pollution) Act, 1981 and Water (Prevention and Control of Pollution) Act, 1974, was pending before the respondent No. 1 since 24.08.2017 but no final order was passed and it was valid till 31.12.2017. It was submitted that on the one hand the application was kept pending and on other hand, the petitioner was facing difficulty in running its Unit and under the provisions of law, the application was to be disposed of within a period of four months.

13. To the aforesaid submissions made on 16.07.2018, the respondent Nos. 1 and 2 submitted that there was no difficulty in taking decision on the application which was filed by the petitioner and counsel had received instructions that a final decision on that application can be taken within a period of four weeks from the date of receipt of a copy of that order and she could not dispute the fact that the Unit of the Petitioner

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cannot be made to suffer on account of non-disposal of their application which was pending since 2017 as stated above.

14. In the aforesaid back ground the following interim order was passed on 16.07.2018:—

"After hearing counsel for the parties and after considering the materials on record, this Court finds that admittedly the consent which was granted to the petitioner expired on 31.12.2017 and the application for consent was made on 24.08.2017 but no order has been passed on the same till date and accordingly, as on date, the consent to operate is not available to the petitioner. This Court finds that the petitioner cannot be made to suffer on account of non-action on the part of the respondent-Board. Accordingly, this Court directs the respondent-Board to take a final decision on the application filed by the petitioner as back as on 24.08.2017, within a period of four weeks from the date of receipt/production of a copy of this order and bring the order which may be passed on record by filing an affidavit.

Considering the submissions made by the counsel for the parties, this Court grants interim order to the extent that till the next date the petitioner be allowed to operate under the supervisory regulatory control of the respondent-Board, who may carry out periodical checks as to the adherence by the petitioner to the aforesaid Pollution Control Acts."

15. In the order dated 16.07.2018 it was also observed that from perusal of letter dated 18.12.2017 at Annexure-7, it appeared that a letter had been issued by the Jharkhand State Pollution Control Board to the Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi, that one show-cause was issued as back as in the year 2012 but final outcome was not known to the Jharkhand Pollution Control Board. In view of the letter, the Union of India, through Ministry of Environment, Forest and Climate Change, Government of India, was made party respondent in the case, and it was observed that the newly added respondent, Union of India may file their counter-affidavit within a period of four weeks. The matter was adjourned and directed to be posted on 24.08.2018 and interim order was granted till 24.08.2018. It was this interim order which was extended from time to time.

16. Thereafter one **I.A. No. 7610 of 2018** was filed by the petitioner for amendment of the writ petition being W.P. (C) No. 1873 of 2018 challenging the order dated 21.08.2018 which was passed by the respondent No. 1 during the pendency of the case refusing to grant 'Consent to Operate' to the petitioner on the ground that the environmental clearance given to the petitioner by the Ministry of Environment, Forest and Climate Change was not yet withdrawn. It was submitted that the matter was pending before the Ministry and the order which was passed by the Pollution Control Board was inter-related. The Union of India had made specific statement that pursuant to show cause issued to the petitioner dated 06.06.2012 they were in a position to take final decision in the matter.

17. In view of certain allegations made in the counter affidavit, the petitioner had submitted that without prejudice to their rights and contentions, the petitioner was intending and willing to file appropriate application before the respondent no. 3 i.e. Ministry of Environment, Forest and Climate Change, Government of India, New Delhi for regularization of any irregularity which might have been committed by the petitioner in connection with location of plant of the petitioner or in connection with the allegation made against the petitioner.

18. Vide order dated 25.08.2018, the petition for amendment of the writ petition being I.A. No. 7610 of 2018 challenging the order dated 21.08.2018 passed by the State Pollution Control Board was allowed. So far as the extension of interim relief is concerned, following order was passed which reads as under:

***"10**. So far as interim relief is concerned, this court finds that the order passed*

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by the respondent-Jharkhand State Pollution Control Board dated 23.08.2018 appears to be directly dependent on the final decision which is yet to be taken by the Ministry of Environment, Forest & Climate Change on the show cause issued to the petitioner as back as in the year 2012. As per the submission made by the counsel appearing on behalf of Union of India, they are shortly going to take a final decision in the matter after hearing the petitioner. Accordingly, the operation, implementation and execution of the order dated 23.08.2018 passed by Jharkhand State Pollution Control Board is hereby stayed till 27.09.2018 and the interim order dated 16.07.2018 is hereby extended till 27.09.2018."

19. This court finds that the aforesaid interim order staying the operation, implementation and execution of the order dated 23.08.2018 passed by Jharkhand State Pollution Control Board, refusing to grant consent to operate was not extended on 27.09.2018 and it lost its force after 27.09.2018. In fact, on 27.09.2018, only the interim order dated 16.07.2018 was extended till 10.10.2018. Thus, even in absence of any interim order with regards to consent to operate, the petitioner continued to operate by virtue of interim order dated 16.07.2018.

20. The final order was passed by the Union Ministry and communicated to the petitioner vide letter dated 20.09.2018 indicating that the competent authority of the union government had decided to revoke the environmental clearance which was ordered to the petitioner vide letter dated 21.02.2008 with immediate effect in accordance with Section 5 of the Environment (Protection) Act, 1986 with a further direction that the petitioner may apply for environmental clearance afresh after clearing all the issues as per rule.

21. Thus, the main grievance of the petitioner in the writ petition being WP(C) No. 1873 of 2018 that the consent to operate could not be denied to the petitioner during the pendency of the show cause issued by the Ministry of Environment, Forest and Climate Change as back as in the year 2012 did not survive any longer by virtue of final decision taken to revoke the environmental clearance which was ordered to the petitioner vide letter dated 21.02.2008 with immediate effect as a result of the aforesaid show cause issued in the year 2012.

22. However, the said communication dated 20.09.2018 was challenged by the petitioner in another writ petition being W.P. (C) No. 4850 of 2018. The said writ petition was taken up by this court on 27.09.2018 and on that day the learned counsel appearing on behalf of the Union of India had raised preliminary objection regarding the maintainability of the writ petition but the writ petition was entertained as this court *prima-facie* found that the impugned order was passed in total violation of the principles of natural justice. The case was tagged with W.P. (C) No. 1873 of 2018 *and* while considering the interim relief, following order was passed on 27.09.2018:—

"21. This court further prima-facie finds that the impugned order has serious repercussions on the unit of the petitioner which is a running unit and has caused prejudice to the petitioner on account of violations of principles of natural justice. This court further finds that the balance of convenience is in favour of the petitioner. Accordingly, operation, implementation and execution of the impugned order dated 20.09.2018 (Annexure-19) is hereby stayed till the next date.

23. However, this order will not be an impediment for the petitioner if the petitioner chooses to apply for statutory clearance as indicated in the impugned order without prejudice to the contention of the petitioner in this writ petition."

23. Thereafter the following developments had taken place:—

A. On 05.11.2018 it was submitted that the petitioner had chosen to apply for statutory clearance without prejudice to the contention of the petitioner in the writ petition and substantial progress had taken place. Upon this, the learned Advocate General of the State of Jharkhand had submitted that on the next date

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of hearing, he may bring on record the present status of the application of forest diversion proposal which was said to have been filed by the petitioner. The matter was directed to be posted on 11.12.2018 and interim orders of the two cases were extended.

B. Thereafter on 11.12.2018 a joint prayer was made by the learned counsel for the parties to finally dispose of the matter and it was agreed that they would advance their argument on 08.01.2019 and the matter was directed to be posted for 'Final Disposal' on 08.01.2019 and interim orders passed in both the cases were extended till 08.01.2019.

C. The date of final hearing was extended and fixed on 23.01.2019 and it was also observed that the proceeding will commence on 23.01.2019 at 10 : 30 A.M. and if not concluded on 23.01.2019 the matter will continue on 24.01.2019 and interim orders passed in both the cases were extended only till 23.01.2019.

D. Thereafter on 23.01.2019, a submission was made by the learned Advocate General appearing on behalf of the State of Jharkhand that the proposal for afforestation given by the petitioner was under active consideration and it was submitted by the learned Assistant Solicitor General of India appearing on behalf of the Union of India that if the proposal is sent by the State, they will immediately take steps and it is likely to take three months' time for a final decision from the date of receipt of the proposal. Considering this aspect of the matter, the matter was adjourned till 16.05.2019 and with the consent of the parties the interim order dated 16.07.2018 passed in W.P. (C) No. 1873 of 2018 and interim order dated 27.09.2018 passed in W.P. (C) No. 4850 of 2018 were directed to be extended till 16.05.2019.

E. On 16.05.2019, it was submitted by the learned counsel appearing on behalf of the petitioner that the matter was at the advanced stage. The matter was adjourned and was directed to be posted on 25.07.2019 and the interim orders were also extended.

F. On 25.07.2019, it was submitted by the Union of India that proposal for obtaining forest clearance had been received by the Ministry of Environment, Forest and Climate Change on 20.06.2019 and accordingly it would take some time for the Union of India to take a final decision in the matter. The counsel for the Union of India on instructions had submitted that the proposal was under active consideration of the concerned authority under the aforesaid ministry. The learned Advocate General had also expressed that he had no objection to the extension of the interim relief as because the State Government had forwarded the proposal for forest clearance to Union of India.

G. The matter was adjourned to 17.10.2019 considering the intervening Pooja vacation and the Union of India was also directed to file necessary affidavit in order to bring on record the final outcome of the decision relating to pending proposal. On 17.10.2019, it was submitted by the learned counsel appearing on behalf of the Union of India that matter regarding forest clearance of the unit of the petitioner was under active consideration. It was submitted that at least three months' time would be required for the Union of India to take a final decision. It was submitted by the learned counsel appearing on behalf of the Pollution Control Board that although a petition for vacating the interim relief had been filed and had been pending before this court, but on account of subsequent development which was brought on record by the Union of India by filing supplementary affidavit, she did not press the stay vacating petition for the present subject to the condition that the petitioner would comply with all the pollution norms in order to safeguard the interest of the environment. Learned Advocate General appearing on behalf of the State of Jharkhand had also

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submitted that at that stage he had no serious objection to the extension of interim relief which was prayed for by the petitioner as the interest of the nation was involved.

H. The matter was adjourned awaiting the final decision of Union of India and the interim orders were extended till 26.02.2020 subject to the condition that the petitioner would comply to the provisions, norms in order to safeguard the interest of the environment. Thereafter the matter was again adjourned from time to time awaiting the final decision of Union of India and ultimately it was directed to be posted on 04.09.2020. On 04.09.2020, the present interlocutory applications were filed seeking extension of interim relief and the subsequent development/order was brought on record.

24. This court finds that major developments have taken place in the month of August 2020 when the Expert Appraisal Committee held its 35th meeting in connection with the proposal of the petitioner which the petitioner had given without prejudice to its contentions before this Court in the writ petition. The said minutes have been brought on record. Minutes of 35th meeting of Expert Appraisal Committee held on 6th-7th August 2020 deals with the proposal involving violation of EIA Notification, 2006. The Observation and recommendation of the EAC in the meeting indicates that the proposal was forwarded by the Industry Sector to Violation sector after approval of the Competent Authority to take appropriate action on the application submitted by the petitioner vide proposal dated 03.03.2020 which was considered by the EAC (Violation sector) in the said meeting. The EAC after detailed deliberations appraised the proposal on merit and confirmed the case to be of violation of the EIA Notification, 2006, recommended for issuing Standard Terms of Reference, applicable to such project and **directed that the State Government/SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.**

25. This Court finds that the fresh proposal which was submitted by the petitioner without prejudice, has culminated in issuing Standard Terms of Reference, applicable to such project under violation of the general condition no. (ii) of the EC dated 21.02.2008 and also violation of the provisions of the EIA Notification, 2006 and it is alleged that the unit of the petitioner is located 5.3 k.m. from the above original co-ordinate i.e. 23 “40’ N & 86 “20’ E as mentioned in the EIA report without the prior approval of the ministry. After observing the violations specific directions have been issued to the State Government/SPCB to take action against the project proponent under the provisions of section 15 and 19 of the Environment (Protection) Act, 1986, and further no consent to operate is to be issued till the project is granted Environmental clearance. A follow up letter to this direction has also been issued.

26. As stated in the interlocutory applications for extension of interim order, as per the recommendation with regard to terms of reference as a result of aforesaid 35th meeting of Expert Appraisal Committee for Violation Sector held on 06th - 07th August, 2020, the petitioner appointed a consultant and it would require at least six months' time to complete the process. Though, in the interlocutory application, the petitioner has repeatedly used the term “regularization” but the Union of India has objected to this term and has submitted that there is no concept of regularisation in case of environmental clearance in view of the judgment passed by the Hon'ble Supreme Court reported in 2020 SCC OnLine SC 347 (*Alembic Pharmaceuticals Ltd.* v. *Rohit Prajapati*”, there can be no question of post-facto clearance.

27. This Court finds that neither terms of reference nor the observations/directions contained therein nor the follow-up letter dated 28.08.2020 are subject matter of challenge before this Court and if the interim orders granted by this Court are

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extended, the same would amount to staying the directions contained in the terms of reference as well as the follow-up letter dated 28.08.2020. If the said allegation regarding location of the unit of the petitioner is correct then the petitioner has been operating without any environmental clearance and if any environmental clearance is ultimately given for the unit at the present location, the same cannot operate retrospectively in view of the judgment passed by the Hon'ble Supreme court reported in 2020 SCC OnLine SC 347 (*Alembic Pharmaceuticals Ltd.* v. *Rohit Prajapati*", wherein it has been held as under:

> *"27. The concept of an ex post facto EC is in derogation of the fundamental principles of environmental jurisprudence and is an anathema to the EIA notification dated 27 January 1994. It is, as the judgment in Common Cause holds, detrimental to the environment and could lead to irreparable degradation. The reason why a retrospective EC or an ex post facto clearance is alien to environmental jurisprudence is that before the issuance of an EC, the statutory notification warrants a careful application of mind, besides a study into the likely consequences of a proposed activity on the environment. An EC can be issued only after various stages of the decision - making process have been completed. Requirements such as conducting a public hearing, screening, scoping and appraisal are components of the decision-making process which ensure that the likely impacts of the industrial activity or the expansion of an existing industrial activity are considered in the decision-making calculus. Allowing for an ex post facto clearance would essentially condone the operation of industrial activities without the grant of an EC. In the absence of an EC, there would be no conditions that would safeguard the environment. Moreover, if the EC was to be ultimately refused, irreparable harm would have been caused to the environment. In either view of the matter, environment law cannot countenance the notion of an ex post facto clearance. This would be contrary to both the precautionary principle as well as the need for sustainable development."*

28. This court also finds that in the said judgment the Hon'ble supreme court by invoking Article 142 of the Constitution of India passed certain directions taking a balanced approach and prevented closure of the industry.

29. This Court also finds that while issuing the terms of reference, the concerned authority had also taken into consideration the fact that the NCLT vide order dated 17.04.2018 under Section 31(1) of the IBC approved the Resolution Plan submitted by the Vedanta Limited for the petitioner vide its order dated 10.08.2018 and consequently, Vedanta Limited had acquired 90% equity shareholding in the petitioner company with effect from 04.06.2018 and also reconstituted the Board of Directors of the petitioner company. Admittedly, the directions and findings of terms of reference contained in communication dated 25.08.2020 and the follow-up letter dated 28.08.2020 are not under challenge.

30. In such circumstances the interim orders which have continued so far, cannot be extended as the same would amount to staying the directions contained in aforesaid communication dated 25.08.2020 and follow-up letter dated 28.08.2020 wherein a clear direction has been issued to the Jharkhand State Pollution Control Board not to issue consent to operate the unit of the petitioner which is said to have been situated 5.3 KM away from the spot for which environmental clearance was earlier given to the petitioner and subsequently cancelled. It appears at this stage that the unit at its present location has been operating without any environmental clearance ever issued to the petitioner in view of the aforesaid communication dated 25.08.2020

31. Accordingly, this court is not inclined to extend the interim orders passed by this Court in view of the aforesaid judgment of the Hon'ble Supreme Court.

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32. At this stage, the learned Senior counsel appearing on behalf of the petitioner has strenuously submitted that some time space may be given as they intend to move the Hon'ble Supreme Court against this order and if the unit of the petitioner comes to a grinding halt in absence of interim order, the petitioner would suffer irreparable injury. He has submitted that it may be observed that the interim orders granted earlier would cease to operate with effect from a later date.

33. To this submission, the learned counsel appearing on behalf of the Union of India as well as the learned Advocate General representing the State of Jharkhand and Jharkhand State Pollution Control Board have no serious objection.

34. Consequently, I.A. No. 4608 of 2020 in W.P.(C) No. 1873 of 2018 and I.A. No. 4607 of 2020 in W.P.(C) No. 4850 of 2018 are hereby dismissed with a direction that the interim orders granted earlier would cease to operate on and from 23.09.2020.

35. Since the matter was fixed for final arguments today, the Court had asked the learned senior counsel for the petitioner to commence the arguments in the present cases, but the learned senior counsel appearing on behalf of the petitioner has prayed for adjournment as the petitioner proposes to move the Hon'ble Supreme Court against this order refusing to extend the interim relief.

36. Accordingly, post these cases on 04.11.2020 under appropriate heading in view of the intervening Durga Pooja vacation.

37. It will be open to the parties to use the web copy of the present order on account of Covid-19 situation.

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Item No. 02 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Appeal No. 34/2020(WZ)
(I.A. Nos. 66/2020 & No. 67/2020)

Tanaji B. Gambhire Appellant

Versus

Chief Secretary Government of Maharashtra & Ors. Respondent(s)

Date of hearing: 24.05.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Appellant: Mr. Nitin Lonkar, Advocate

ORDER

1. This appeal has been preferred against order of SEIAA, Maharashtra dated 31.03.2020 granting Environmental Clearance (EC) for the construction project "Ganga Altus" at Sr. No. 22/2 P. Plot B1, Kharadi, Pune, by the project proponent (PP) M/s Goel Ganga India Private Limited. The construction project in question is on plot area 13,652.42m^2 with FSI 34,804.98m^2 and non-FSI 32,898.07 m^2. Building configuration is as follows:-

Building Name	***Number of floors***	***Height (Mtrs.)***
Wing D	*LG+GR+P1+P2+P3+P4+P5+24 Floors*	*95.7*
Wing E	*LG+GR+P1+P2+P3+P4+P5+24 Floors*	*95.7*
Wing F	*LG + GR + 4*	*18.90*
Club House	*G+1*	*6.45*

2. Grievance in this appeal is that originally EC was granted on 19.09.2008 for office building and hotel for 40 rooms having total plot area

of 20072 sq. m., total BUA of 38586 sq.m. but the PP changed the scope of the project in violation of the EC and raised construction. In the changed project, there is structure of 3 residential buildings with 232 flats and 68 shops with total BUA of 37975 sq. m., having total water requirement of 167 KLD, waste water generated from complex will be 150 KLD, solid waste generated will be 631 KGPD (Dry=263 KGPD & wet=368 KGPD), total parking 656 scooters and 528 cycles and further sought expansion by way of EC dated 31.03.2020 under challenged of Plot B1 having the structure of 3 residential buildings with 384 flats, 29 shops and 5 offices with total BUA of 67703.05 sq. m. having total water requirement of 323 KLD, waste water generated from complex will be 262 KLD, solid waste generated will be 1055 KGPD (Dry=441 KGPD & wet=614 KGPD), total parking 653 cars, 993 scooters and 64 cycles and sought *ex-post facto* EC.

3. It is submitted that the construction project is illegal being without the mandatory prior EC. E*x-post facto* EC is not substitute for prior EC as evaluation of impact on environment cannot be fully gone into as held by the Hon'ble Supreme Court in the case of the same PP viz. *Goel Ganga Developers India Pvt. Ltd. v UOI*[1]. There are further judgements of the Hon'ble Supreme Court to the same effect in *Alembic Chemicals v Rohit Prajapati*[2] and *Keystone developers v. Anil Tharthare*[3]. If the construction project is without prior EC, the project has either to be demolished or if it is found that environmental damage can be restored, the project can be permitted on payment of assessed compensation on polluter pays principle which needs to be spent for restoration of the environment. The authorities have thus failed to follow the binding law.

[1] (2018) 18 SCC 257
[2] 2020 SCC OnLine SC 347
[3] (2020) 2 SCC 666

4. Since we are coming across the grievance of continuous violation of environment norms in construction projects being completed without prior EC and the SEIAA, Maharashtra is neither requiring demolition nor payment of assessed compensation to comply with the rule of law and protection of environment, it will be appropriate to require the SEIAA, Maharashtra to review its working in the light of the judgments of the Hon'ble Supreme Court and violations frequently being alleged, including the present case. A proper SOP be laid down for grant of EC in such cases so as to address the gaps in binding law and practice being currently followed. The MoEF may also consider circulating such SOP to all SEIAAs in the country. In this regard, we may refer to the directions in the earlier order of this Tribunal dated 1.2.2021 in OA 837/2018, Sandeep Mittal vs. MoEF, wherein it was inter-alia, directed:

> "**MoEF&CC may give due attention for proper constitution of SEIAAs in the States to ensure the projects of category 'B' and 'B-1' are properly scrutinized."**

The MoEF&CC may file its action taken report in the matter before the next date.

5. We also constitute a joint Committee of MoEF&CC, CPCB, and Maharashtra State PCB to look into the present matter and suggest a remedial action plan for the present case, including the quantum of compensation to be recovered, as far as possible within three months. The CPCB and State PCB will be nodal agency for coordination and compliance. Another connected matter between same parties for a different project being Appeal No. 32/2020(WZ) is also being dealt with by a separate order today and this direction will also apply to the said case. Infact, to avoid duplication if the SEIAA, Maharashtra itself reviews all such cases, to avoid unnecessary and repeated litigation. The Committee

may conduct proceedings online but if possible, visit the site. The Committee may also interact with the concerned parties. The report of the joint Committee may be filed by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF before the next date. While submitting the report to this Tribunal, a copy of the report thereof be also forwarded to the PP and the applicant who may file their comments, if any, before the next date by e-mail.

6. The applicant may serve set of papers on the MoEF&CC, CPCB, SEIAA, Maharashtra and State PCB to facilitate the compliance of the above order.

A copy of this order be forwarded to the MoEF&CC, CPCB, SEIAA, Maharashtra and State PCB by email for compliance.

List for further consideration on 10.11.2021.

In view of order in the main appeal, no order is called for in I.A.s. which stand disposed of.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

M. Sathyanarayanan, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

May 24, 2021
Appeal No. 34/2020(WZ)
(I.A. Nos. 66/2020 & No. 67/2020)
A

Item No. 07 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 287/2020
(I.A. No. 10/2021)

(With report dated 03.03.2021)

Dastak N.G.O. Applicant

Versus

Synochem Organics Pvt. Ltd. & Ors. Respondent(s)

Date of hearing: 03.06.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Applicant: Dr. S.S. Hooda, Advocate

Respondent: Mr. Anil Grover, Senior AAG with Mr. Rahul Khurana, Advocate for State of Haryana and HSPCB
Ms. Sunita Bhardwaj, Advocate for MoEF&CC
Mr. A.K. Prasad, Advocate for CGWA
Mr. Sunil Chadha, Senior Advocate with Mr. Akshay Chadha, Advocate for R-6
Mr. Pardeep Gupta, Advocate for R-1
Mr. Shiv Mangal Sharma and Mr. Sourabh Rajpal, Advocate for R-3,5&7
Mr. Ashu Jain, Advocate

ORDER

1. This application seeks quashing of the order of State of Haryana dated 10.11.2020 allowing manufacturers of formaldehyde, requiring prior Environmental Clearance (EC), to operate for six months without EC, subject to making application for EC within 60 days. The applicant submits that requirement of prior EC is mandatory. There is no jurisdiction with the State to exempt the same. Reference has been made to an order of this Tribunal dated 28.11.2019 in *O.A. No. 840/2019, Ayush Garg v. Union of India & Ors.* to the effect that consent to establish

to such establishments is liable to be removed. Accordingly, closure order was passed by the State PCB but thereafter the impugned order has been passed by the State of Haryana. It is further stated that the industries are using ground water of approximately 6 Lakhs litres per day without requisite permission of the Ground Water Authority. There is also non-compliance of Manufacture, Storage, and Import of Hazardous Chemicals Rules, 1989. No requisite safety measures have been allotted. There has been incidents of damage to the crops, soil and ground water for which no adequate compensation has been recovered. TDS of the water has been reduced to almost zero by use of Hydrochloric Acid (33%) and pH level has increased. Untreated effluents are dumped back into the ground water through reverse borewells. In the condensation process, excess steam is discharged, using chimney adding to the air pollution. There is no mechanism to check leaching of methanol from underground tanks. This is one of the causes of cancer. As per statistics, 39% of national deaths from cancer are taking place in the State of Haryana.

2. The matter last considered on 9.12.2020 and finding *prima-facie* merit in the case of the applicant, the contesting respondents were required to show cause why impugned order dated 10.11.2020 passed by the State of Haryana be not quashed. Operative of the part of the order is as follows:-

> *"1…xxx……xxx……xxx*
>
> *2. We prima facie find the impugned order to be without jurisdiction. Requirement of prior environmental clearance cannot be dispensed with. This legal position has been recently reiterated in Alembic Pharmaceuticals Ltd. v. Rohit Prajapati & Ors., 2020 SCC Online 347. Learned Counsel for Respondent Nos. 1 and 6 have put in appearance without notice and have relied upon specific condition in the Notification dated 14.09.2006 to the effect that prior EC is not required where such prior EC is obtained by the industrial area,*

where a unit is set up. There is no merit in the submission as there is nothing to show that such prior EC has been obtained by the industrial area in question.

*3. Accordingly, let the contesting respondents show cause why the impugned order be not quashed by their response by email before the next date. The applicant may provide a set of papers and a copy of this order to all the contesting respondents and file an affidavit of service within one week.***"**

3. Accordingly, the State of Haryana has filed an action taken report dated 03.03.2021 through the Secretary, Environment *inter-alia* stating as follows:-

"*3. That for the purpose of environmental protection certain restriction and prohibition on new projects and activities, or on the expansion or modernization of the existing project or activities based on their potential environmental impact were imposed vide S.O. 1533 dated 14.09.2006 by MoEF, GOI. under schedule to the aforementioned notification, the process of manufacturing of Formaldehyde is covered under provision 5(f) which requires prior Environmental Clearance (EC) from the competent authorities State Environment Impact Assessment Authority(SEIAA)/MoEF & CC, GOI, before establishment and operation of such units, besides other mandatory clearances as applicable.*

4. That 15 formaldehyde units (list attached at Annexure — R/1) were issued consent to establish and consent to operate by Haryana State Pollution Control Board at different times which were later revoked by the HSPCB for violating provision 5(f) of schedule to EIA Notification 2006 on the ground that no prior environmental clearance was obtained before establishment and operation of these units.

5. That a representation was received from all Haryana formaldehyde manufacturing association, Yamunanagar dated 23.10.2020 addressed to Additional Chief Secretary to Govt. of Haryana department of Environment and Climate Change, Chandigarh requesting to allow such formaldehyde units to operate and give sufficient time reasonable to obtain the Environmental Clearance from MoEF & CC and SEIAA on the basis of parity that same decision was taken by State of Rajasthan in similar case (Annexure —R/2). The copy of order of Rajasthan State Pollution Control Board was annexed with aforementioned representation.

6. That keeping in view the fact that units were established with the requisite consent from Haryana State Pollution Control Board and were operating with the necessary pollution control measures, as prescribed by Board, along with the investment in plant and machinery incurred by the individual units in establishing their plants, possible stock of raw material used for production, the case was referred to Government of Haryana by Haryana State Pollution Control Board for granting interim relief to

these units for obtaining environmental clearance from the appropriate authority.

7. The units were granted interim relief on basis of the fact that notification dated 14.09.2006 is being re-drafted by MoEF & CC and the zero draft has been circulated to all the States and other Stake holders for comments. The finalization and publication of revised notification is likely to take some time and that window for accepting application seeking environmental clearance is not kept open at present by the MoEF & CC.

Further, it is to mention here specifically that from the facts and circumstances of the given case, it can easily be inferred that the industries were operating in good faith with valid CTE/CTOs granted by Haryana State Pollution Control Board. Alongside it was admitted by Haryana State Pollution Control Board that the units in question were posing any pollution hazards and that only procedural laps was the deficiency against these units.

8. That keeping in view all the aforementioned facts, Government of Haryana vide order No. 16/14/2020-3Env. dated 11.11.2020 (Annexure—R/3) decided to allow these units to continue their operation for a period of 6 months without invoking any legal action against the procedural laps occurred, with the condition that these units will apply for environmental clearance within a period of 60 days from the date of issuance of this communication."

4. Reply has also been filed on behalf of the contesting Respondents Nos. 3, 5 and 7 which is in identical terms. It is stated that the contesting respondents have now sought EC in violation category. It is also stated that Central Government has delegated powers to the Haryana Government vide Notification dated 10.02.1988 which enables the State to exempt units from seeking EC and thus order dated 10.11.2020 of the State of Haryana is valid. The point of requirement of EIA was never raised for about 9 years during which the private respondents have functioned which shows that the Authorities themselves were not aware about this requirement. The private respondents were merely given breathing time to comply with the law. The said units are not causing any pollution and even if prior EC is not

taken, Principle of Proportionalities applies as held in Alembic Chemicals v Rohit Prajapati[1].

5. We have heard learned counsel for the parties and with their assistance perused the records.

6. While the period of operation of the impugned order is over, we have gone into the matter on merits in view of contest by the private respondents.

7. It is clear from the stand of the State itself that prior EC is required under EIA Notification dated 14.09.2006 (Entry 5(f) of the Schedule. Once it is so there is no justification to permit function of such units in violation of mandate of law. In *Alembic Chemicals v Rohit Prajapati & Ors.,* 2020 SCC Online 347, the Hon'ble Supreme Court has made it clear that prior EC requirement cannot be dispensed with. While it is true that having regard to the fact situation therein particularly grant of EC later, the units were not closed and instead were required to pay compensation for the period the units functioned without prior EC, it does not mean that in absence of prior EC the units can be allowed to function by paying compensation. We thus hold that without prior EC the units cannot be allowed to operate. The State has no power to exempt the requirement of prior EC or to allow the units to function without EC on payment of compensation. Same view has been taken in *O.A. No. 840/2019, Ayush Garg v. UOI & Ors.* which has been dealt with by a separate order today.

8. As regards the stand of the private respondents that the State has delegated power under section 3(3) of the Environment (Protection) Act,

[1] 2020 SCC OnLine SC 347

which implies that the State could exempt EIA requirement, neither any such delegation is shown nor the State claims to have such power or to have exercised such power. A statement has been made on behalf of the private respondents as well as State that the units now stand closed. Learned Counsel for the private respondents also submitted that their units have been functioning in a bonafide manner without causing pollution. Though they did not have EC only for want of knowledge of such requirement, they had requisite consents to establish and operate which have been renewed from time to time. They wish to comply with law and have also applied for EC.

9. We are of the view that since prior EC is statutory mandate, the same must be complied. We have no doubt that the stand of the private respondents will be duly considered by the concerned regulatory authorities, including the MoEF&CC on merits and in accordance with law but till compliance of statutory mandate, the units cannot be allowed to function. For past violations, the concerned authorities are free to take appropriate action in accordance with polluter pays principle, following due process.

The application is disposed of.

In view of order in the main matter, I.A. No. 10/2021 also stands disposed of.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

M. Sathyanarayanan, JM

Brijesh Sethi, JM

Dr. Nagin Nanda, EM

June 03, 2021
Original Application No. 287/2020
A

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2021 SCC OnLine Mad 12936

In the High Court of Madras[†]

(BEFORE T.S. SIVAGNANAM AND S. ANANTHI, JJ.)

Fatima ... Petitionerer;

Versus

Union of India, Rep by its Secretary to the Government ... Respondent.

WP(MD) No. 11757 of 2021 and WMP(MD) No. 9241 of 2021

Decided on July 15, 2021

Petition filed praying that in the circumstances stated therein and in the affidavit filed therewith the High Court may be pleased to issue a writ of Certiorari calling for the records of the respondent culminating in Office memorandum dated 07/07/2021 bearing number F. No. 22-21/2020-IA. III, Quash the same.

Prayer in WMP(MD). 9241/2021 : To stay the operation of the impugned office memorandum issued by the respondent dated 07/07/2021 bearing number F. No. 22-21/2020/--IA. III, pending disposal of the writ petition and thus render justice.

ORDER

1. This petition coming up for orders on this day, upon perusing the petition and the affidavit filed in support thereof and upon hearing the arguments of Mr. A. YOGESHWARAN, Advocate for the petitioner the court made the following order:—

This writ petition has been filed as a public interest litigation challenging the validity of the office memorandum dated 07.07.2021, issued by the respondent.

2. We have heard Mr. A. Yogeshwaran, learned counsel appearing for the writ petitioner and Mr. L. Victoria Gowri, learned Assistant Solicitor General of India, accepts notice for the respondent.

3. The impugned office memorandum is challenged as being wholly without jurisdiction, contrary to the Environment Impact Assessment Notification, 2006, *ultra vires* the powers of the respondent under the Environment (Protection) Act, 1986 and violative of the various principles enunciated by the Hon'ble Supreme Court, while interpreting Article 21 and Article 48-A of the Constitution of India.

4. Further, it is submitted that the impugned notification is in gross violation of the undertaking given before the Hon'ble Full Bench of this Court in W.P. No. 11189 of 2017, wherein, the Court took note of the submissions made on behalf of the Government of India, that the notification impugned therein is only a one-time measure. Further, it is submitted that the respondent failed to see that concept of *ex-post facto* approval is alien to environment jurisprudence and it is anathema to the Environment Impact Assessment Notification, 2006.

5. Further, it is submitted that the impugned notification is in gross violation of the judgment of the Hon'ble Supreme Court in the case of *Alembic Pharmaceuticals Ltd.* v. *Rohit Prajapati*, 2020 SCC OnLine SC 347 and the orders passed by the National Green Tribunal, Principal Bench, New Delhi, in the case of *S.P. Muthuraman* v. *Union of India*, 2015 SCC OnLine NGT 169.

6. Identical grounds were considered by us in a challenge to an office memorandum dated 19.02.2021, which provided a procedure for granting *post facto* clearance under Coastal Regulation Zone (CRZ) Notification 2011, on the ground that despite no such provisions in the notification and being contrary to the earlier judgments and undertaking. The said writ petition in W.P(MD). No. 8866 of 2021 was admitted and by

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order dated 30.04.2021, the said office memorandum dated 19.02.2021 has been stayed.

7. The core issue in this writ petition is whether the Government of India could have issued the office memorandum and brought about the Standard Operating Procedure for dealing with violators, who failed to comply with the mandatory condition of obtaining prior environment clearance under the Environment Impact Assessment Notification 2006, read with the provisions of Environment (Protection) Act, 1986. This issue was considered by the Hon'ble Supreme Court in *Alembic Pharmaceuticals Ltd.* (cited supra), and it was held that such office memorandum in the nature of circular is without jurisdiction. The operative portion of the judgment reads as follows:

> *"...What is sought to be achieved by the administrative circular dated 14 May 2002 is contrary to the statutory notification dated 27 January 1994. The circular dated 14 May 2002 does not stipulate how the detrimental effects on the environment would be taken care of if the project proponent is granted an ex post facto EC. The EIA notification of 1994 mandates a prior environmental clearance. The circular substantially amends or alters the application of the ETA notification of 1994. The mandate of not commencing a new project or expanding or modernising an existing one unless an environmental clearance has been obtained stands diluted and is rendered ineffective by the issuance of the administrative circular dated 14 May 2002. This discussion leads us to the conclusion that the administrative circular is not a measure protected by Section 3. Hence there was no jurisdictional bar on the NGT to enquire into its legitimacy or vires. Moreover, the administrative circular is contrary to the EIA Notification 1994 which has a statutory character. The circular is unsustainable in law."*

8. Despite the above decision, once again the Government of India, Ministry of Environment, Forest and Climate Change have chosen to adopt the route of issuing the office memorandum and virtually setting at naught the provisions of the Environment Impact Assessment Notification and the Environment (Protection) Act.

9. Before the Hon'ble First Bench, a public interest litigation was filed by the Puducherry Environment Protection Association, challenging the notification dated 14.03.2017, on identical grounds and the Hon'ble First Bench by judgment dated 13.10.2017, recorded the submissions of the learned Assistant Solicitor General of India that the said notification was a one-time measure and accordingly, disposed of the writ petition.

10. Once again, the Ministry of Environment, Forest and Climate Change have issued the impugned office memorandum. Thus, from what we have noted above, we are of the clear view that the petitioner has made out a *prima facie* case for entertaining the writ petition. Accordingly, the writ petition is **admitted** and there shall be an order of interim stay.

11. List the matter after twelve weeks.

---

† Madurai Bench

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Item No. 03 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 298/2020

Vineet Nagar Applicant

Versus

Central Ground Water Authority & Ors. Respondent(s)

Date of hearing: 21.12.2021

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Applicant: Mr. Harpreet Singh Popli, Advocate

Respondent(s): Mr. Divya Prakash Pande, Advocate for MoEF & CC
Mr. Nidhesh Gupta, Senior Advocate with Mr. Tarun Gupta, Advocate for M/s Suchem Organics Pvt. Ltd. (R-15)
Mr. Rachit Mittal, Advocate for M/s JRS Industries (R-31)

ORDER

1. Prayer in this application is for remedial action against illegal operation of industrial units of the private respondents in the States of Haryana, Rajasthan, UP and Punjab, manufacturing formaldehyde and its different resins (including melamine formaldehyde, urea formaldehyde and phenol formaldehyde) without requisite EC as per EIA Notification dated 14.09.2006.

2. The matter was earlier dealt with by this Tribunal vide order dated 03.06.2021. The Tribunal held that in view of EIA Notification dated 14.09.2006, prior EC was required for units falling under Entry 5 (f) of Schedule to the said Notification. The Tribunal followed order of the same

date in *O.A. No. 287/2020, Dastak N.G.O. v. Synochem Organics Pvt. Ltd. & Ors.* as follows:-

> *"7. It is clear from the stand of the State itself that prior EC is required under EIA Notification dated 14.09.2006 (Entry 5(f) of the Schedule. Once it is so there is no justification to permit function of such units in violation of mandate of law. In Alembic Chemicals v Rohit Prajapati & Ors., 2020 SCC Online 347, the Hon'ble Supreme Court has made it clear that prior EC requirement cannot be dispensed with. While it is true that having regard to the fact situation therein particularly grant of EC later, the units were not closed and instead were required to pay compensation for the period the units functioned without prior EC, it does not mean that in absence of prior EC the units can be allowed to function by paying compensation. We thus hold that without prior EC the units cannot be allowed to operate. The State has no power to exempt the requirement of prior EC or to allow the units to function without EC on payment of compensation. Same view has been taken in O.A. No. 840/2019, Ayush Garg v. UOI & Ors. which has been dealt with by a separate order today.*
>
> *8. As regards the stand of the private respondents that the State has delegated power under section 3(3) of the Environment (Protection) Act, which implies that the State could exempt EIA requirement, neither any such delegation is shown nor the State claims to have such power or to have exercised such power.* ***A statement has been made on behalf of the private respondents as well as State that the units now stand closed****. Learned Counsel for the private respondents also submitted that their units have been functioning in a bonafide manner without causing pollution. Though they did not have EC only for want of knowledge of such requirement, they had requisite consents to establish and operate which have been renewed from time to time. They wish to comply with law and have also applied for EC.*
>
> *9. We are of the view that since prior EC is statutory mandate, the same must be complied.* ***We have no doubt that the stand of the private respondents will be duly considered by the concerned regulatory authorities, including the MoEF&CC on merits and in accordance with law but till compliance of statutory mandate, the units cannot be allowed to function. For past violations, the concerned authorities are free to take appropriate action in accordance with polluter pays principle, following due process."***

3. In view of above, the Tribunal directed as follows:-

> *" 3. The above principle has to be followed in all other States where such units are functioning without prior EC. In the present application grievance is also against similar units functioning in the States of Rajasthan, UP and Punjab or any other State, in addition to Haryana for which above order has been passed. This needs to be checked by concerned statutory authorities and remedial action taken, following due process of law.*

> *4.* ***Accordingly, we dispose of this application with a direction to MoEF&CC, CPCB and Chief Secretaries, SEIAAs, PCBs/PCCs of all States/UTs to ensure compliance of law, following due process. They may issue appropriate directions in the matter****."*

4. On appeal, the Hon'ble Supreme Court vide order dated 13.9.2021 in *CA 5154/2021* and *5125/2021* set aside order of the Tribunal and remanded the matter after granting opportunity of hearing to the parties who were appellants before the Hon'ble Supreme Court. The operative part of the order is reproduced below:-

> *" We need not go into the question of whether or not environmental clearance is necessary.* ***The decision may be taken by the learned Tribunal in accordance with law after giving the appellants an opportunity of hearing. The appellants may file their submissions and documents, if any, on which they wish to rely before the learned Tribunal.***
>
> *The judgment and order impugned is set aside. The matter is remitted back to the learned National Green Tribunal* ***for deciding the same in accordance with law after affording an opportunity of hearing to the appellants. The consequential orders shall also stand set aside. It is clarified that consequential orders are those orders which have been passed consequent to the impugned order of the learned Tribunal and any preexisting orders."***

5. Accordingly, vide order dated 18.10.2021, the Tribunal granted time for filing submissions/documents. Reply has been filed on 17.11.2021 by Suchem Organics Pvt. Ltd. ('Suchem') and also by M/s JRS Industries (JRS).

6. We have heard learned counsels for the parties. We proceed to deal with the cases of the two projects.

SUCHEM

7. Learned counsel for the applicant submits that EC is mandatory in view of Notification dated 14.09.2006. The said industrial units did not have requisite EC. Suchem had 'consent to operate' which expired in 2017 which has since been rejected on 28.06.2021 by the Rajasthan State PCB.

There were deficiencies in the operation of the unit on account of which show cause notice dated 13.07.2017 was issued to which no adequate reply was submitted. The unit was informed about the applicability of EC requirement on 28.07.2019. The unit applied for EC as mentioned in the reply of the unit. As per application for EC (Annexure A-3 to the reply of Suchem), the capacity is proposed to be enhanced from 1000 M.T per month to 2500 M.T per month. Even after knowing the requirement of grant of EC, the unit continued to operate. Renewal consent to operate was thus rejected on 28.06.2021 followed by order of closure dated 14.07.2021. The unit has filed NOC dated 09.06.1994 granted by the State PCB for implementation of Pollution Control measures for proposed plant to manufacture Formaldehyde at plot No. G-1-787-789 Ind. Area, Bhiwadi. The NOC does not mention the date of actual operation. The said document mentions as follows:-

> *".....industry will not commence production unless the satisfactory operation of the Pollution Control measures is done by the industry in presence of concerning Regional Officer and is duly certified by him before commencement of production."*

8. In the Udyog Aadhaar Registration Certificate (Annexure A-2), date of commencement is mentioned as 16.02.1994 while in the application for EC of which acknowledgement dated 21.10.2019 is annexed as annexure A-3, the date of incorporation of the company itself is mentioned as 06.04.1994. EIA notification prior to 14.9.2006 is dated 27.1.1994. Even if notification dated 14.9.2006 did not apply, notification dated 27.1.1994 applied. In any case, after enhancement of capacity in 2019, EC is mandatory and has been sought by the PP itself. Till it is granted, the unit cannot function, in view of rejection of consent and order of closure, unless such orders are challenged at any appropriate forum. Closure of the said unit is not consequential to the order of this Tribunal. While order of the

Tribunal is mentioned, the same is not the sole basis. The PCB has held that EC is required and also consent has been rejected. In any case, this aspect has to be considered by the PCB and unless consent is given, the unit cannot function.

9. Learned counsel for MoEF&CC supported the stand of the Applicant to the effect that atleast after 2019 when capacity has been enhanced, EC is mandatory and till closure order is quashed and EC is granted, the unit cannot function.

10. Stand of learned counsel for Suchem is that date of NOC should be taken as commencement of manufacturing and as per understanding the PP, no EC was required. EC has already been applied for and there is no bar to grant of EC. Further, pending consideration, the unit should be allowed to function as held by Hon'ble Supreme Court in judgement dated 09.12.2021 in *Civil Appeal Nos. 7576-7577 of 2021, Electrosteel Steels Limited v. Union of India and ors*. Matters are pending before the Hon'ble Supreme Court on the same issue, arising out of the order of this Tribunal dated 03.06.2021 and stay is operating in favor of other similarly placed industrial units.

11. Learned Counsel for the applicant opposed the above submissions and reiterated prayer for direction of not allowing the unit to operate till compliance. He submitted that the judgement in *Electrosteel Steels Limited* does not help the PP. Legal position that prior EC is mandatory remains and observations relied are only in a fact situation different from the present matter. He referred to peculiar facts of the case noted in the said judgement that the unit had the EC and issue of requirement of EC on shifting to new site. Ex post facto EC was granted. The management was successor to earlier management under NCLT approved resolution plan.

Irregularities were of previous management. It was held in para 81 that principle in Alembic Pharmaceuticals Ltd. vs. Rohit Prajapati and Ors., 2020 SCC OnLine SC 347 was unexceptional but distinguishable in peculiar facts where EC was already there but there was technical irregularity. Ex post facto EC had also been granted as interim measure. EIA had already been conducted. This factual position does not exist. Only similarity is that the PP in this case has applied for EC.

12. We have considered the rival submissions. We find that as far as Suchem is concerned, atleast from 2019 when capacity has been enhanced, EC is required. For the earlier period, it is for the State PCB to verify the factual position. If initially EC was not required, the State PCB may determine whether any process change or capacity enhancement took place after initial set up. On violations being established, action may be taken accordingly. It is not necessary to issue direction to stop the operation of the unit in view of expiry of consent in the year 2017, rejection to consent renewal, closure order and pendency of application for EC due to capacity enhancement. However, there cannot be any direction to allow operation of the unit till orders of the State PCB are challenged. As submitted by the applicant, closure is not a consequence of order of this Tribunal alone but on merits of the violations by the unit. The judgement in *Electrosteel Steels Limited,* supra, stands on different footing as submitted on behalf of the applicant, noted above in Para 11. In that case, EC had been granted earlier and the irregularity was held to be of technical nature and that too by previous management. On such peculiar facts, principle of law laid down in Alembic supra was distinguished. In the present case EC has never been granted. Accordingly, we direct that the State PCB may permit the unit to operate only if it complies with the law which requires EC and a valid consent. This order will also be subject to

any contra decision of the Hon'ble Supreme Court in pending matters. The matter of Suchem is disposed of accordingly.

JRS

13. The stand of M/s JRS is that it applied for 'consent to establish' on 23.08.2018 which was granted on 14.09.2018 but revoked on 13.08.2020. The unit applied for EC on 07.10.2020 which is pending. However, the State PCB has allowed operation on 13.11.2020 for six months with a condition that EC application should be filed but later, on 19.01.2021, 'consent to operate' was refused. It is orally stated by the PP that the unit has not started operation. Submission is that there is no case for demand of any compensation from the said unit for the past violations.

14. Since the Tribunal has merely asked the unit not to operate till compliance which order has to be reiterated. As regards past violations, the Tribunal has asked the State Board to verify the factual position before taking any action for the past violations. No further order is necessary. This order will also be subject to any contra decision of the Hon'ble Supreme Court in pending matters. The matter will stand disposed of accordingly.

15. It is made that all units manufacturing formaldehyde and its different resins (including melamine formaldehyde, urea formaldehyde and phenol formaldehyde) without requisite EC as per EIA Notification dated 14.09.2006 will be governed by the requirement of such EC. Respective State PCBs may take further action in accordance with law, subject to any contra order of Hon'ble Supreme Court.

OA is accordingly disposed of.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. Nagin Nanda, EM

December 21, 2021
Original Application No. 298/2020
AB

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH
NEW DELHI

ORIGINAL APPLICATION NO. 64/2016 (WZ)
(M.A. No. 01/2021, M.A. No. 02/2021, M.A. No. 03/2021, M.A. No. 04/2021, M.A. No. 05/2021, M.A. No. 06/2021, M.A. No. 08/2021, M.A. No. 11/2021, M.A. No. 12/2021 I.A. No. 31/2021, I.A. No. 33/2021 & I.A. No. 62/2021)

IN THE MATTER OF:

1. **Akhil Bhartiya Mengela Samaj Parishad**
   Mengela Samaj Bhawan,
   At Post Satpati,
   Ta. Dist. Palghar-401 405

2. **Ashok Thakoji Tandel**
   President of the Applicant No. 1,
   C-209, Sagar Samrat, Causeway Road,
   Mahim, Mumbai- 400 016

3. **Narender Purushram Naik**
   Secretary of the Applicant No. 1
   618/D6 Anand Mangal Society
   Sector No. 6,
   Charkop, Chandivali,
   Mumbai-400 067

4. **Vaibhav Ashok Vaze**
   President, Youth Wing of the Applicant No. 1
   Vasgaon, Vazewadi, Post Varor,
   Taluka Dahanu,
   Dist. Palghar-401 503

Applicant(s)

Verses

1. **Maharashtra Pollution Control Board**
   Through its Member Secretary,
   Kalpatru Building, Sion Mumbai

2. **The Maharashtra Industrial Development Corporation**
   Udyog Sarathi, Mahakali Caves Road,
   Andheri East, Mumbai- 400 093
   Marol Industrial Area

3. **Tarapur Environment Protection Society**
   Plot no AM-29/Pt,
   Nr Shivaji Nagar,
   MIDC Tarapur
   Dist Thane- 401 506

4. **The State of Maharashtra**
   Through its Principal Secretary,
   Environment Department, Mantralaya,

Madam Kama Road,
Nariman Point, Hutatma Rajguru Chowk,
Mumbai, Maharashtra-400 032

5. **The Union of India**
Through the Secretary, Ministry of Environment, Forests and Climate Change
Paryavaran Bhavan,
Lodi Road, New Delhi

6. **Central Pollution Control Board**
Parivesh Bhavan
CBD-cum-Office Complex East Arjun Nagar,
Delhi-110 032

7. **Fisheries Department**
Through the Commissioner of Fisheries Department,
Taraporvala Aquarium, Netaji Subhash Marg
Charni Road, Mumbai- 400 002

8. **JSW Steel Coated Products Ltd.**
JSW Centre,
Bandra Kurla Complex,
Mumbai-400 051

Respondent(s)

Counsel for Applicant(s):
Ms. Gayatri Singh, Senior Advocate with Ms. Meenaz Kakalia, Advocate

Applicant in IAs: Mr. Vinod Khera, Advocate in IAs 31/2021, 62/2021 & 77/2021

Counsel for Respondent(s):
Mr. Atmaram N.S. Nadkarni, Senior Advocate with Mr. Devashish Bharuka and Mr. Raghunath Mahabal, Advocates for TIMA (Respondent No. 9)
Mr. Sajan Poovayya, Senior Advocate with Mr. Amit Agashe, Advocate for TEPS (Respondent No. 3)
Mr. Rahul Garg, Advocate for MoEF&CC
Mr. Aman Bhalla, Advocate for CPCB
Mr. Mukesh Verma, Advocate for MPCB

PRESENT:
HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE BRIJESH SETHI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Reserved on: 30th September, 2021
Pronounced and uploaded on: 24th January, 2022

JUDGMENT

BY HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER

SYNOPSIS

1. Pleadings	**Para no**	**Page no**
a) Reply dated 30.06.2016 by MPCB	16-29	15-24
b) Reply dated 01.07.2016 by CPCB	30-31	24-25
c) Affidavit dated 30.06.2021	32-33	25-26
d) Reply dated 26.07.2016 by MIDC	34-45	26-33
e) Reply dated 11.08.2016 by TEPS	46-49	33-40
f) Reply dated 29.10.2016 by MPCB	50-53	40-45
g) Affidavit dated 05.12.2016 by MPCB	54-60	45-48
h) Affidavit dated 05.12.2016 by TEPS	61-65	48-52
i) Affidavit dated 16.12.2016 by MIDC in reply to MA 352/2016	66	52-53
j) Affidavit dated 16.12.2016 by MIDC in reply to MA 400/2016	67	53-54
k) Affidavit dated 14.02.2017 by MPCB	68-72	54-57
l) Affidavit dated 10.04.2017 by TIMA	73-77	57-60
m) Affidavit dated 04.05.2017 by MPCB	78-80	60-61
n) Rejoinder dated 30.05.2017 to Affidavit dated 04.05.2017	81	61-62
o) Affidavit dated 30.05.2017 by TIMA	82-83	62-66
p) Affidavit dated 30.05.2017 by TEPS	84-87	66-70
q) Affidavit dated 21.07.2017 by MIDC	88	70
r) Affidavit dated 31.07.2017 by TEPS	89-90	70-72
s) Written Submission dated 07.12.2017 by applicant	91-98	72-77
t) Additional Affidavit dated 30.08.2019 by MPCB	99	78-80
u) Rejoinder Affidavit dated 03.09.2016	120-123	88-94
v) Application dated 01.07.2020 by applicant	124	94
w) IA 93/2020 of R-3 & 9	157	113-114
x) Application dated 27.08.2020 by Maharashtra Organic Metalic Catalyst	158-161	114-119
2. Orders of NGT-during proceedigs	100-115	80-85
3. Disposed of OA orders	162-163	119-122
4. Committee Reports dated		
a) 02.01.2020	116-119	85-88
b) 18.06.2020	125-147	94-105
c) 27.07.2020	148-156	105-113
d) 11.01.2021 by CPCB	168-169	143-149
5. Pleadings brought on record after Supreme Court's order dated 14.12.2020		
a) MA 1/2021 by TEPS	164	122-123
b) MA 2/2021 by TIMA	165-167	123-143
c) Affidavit dated 04.01.2021 by TEPS	170-171	149-151
d) Response dated 18.02.2021 by applicant	172	151-158
e) Affidavit dated 18.03.2021 by TEPS	173-175	158-159
f) Affidavit dated 22.03.2021 by TIMA	176-177	159-163
g) IA 31/2021 by Ankit Petroproducts Ltd.	178	163-164
h) Affidavit dated 01.04.2021 by TEPS	179	164-165
i) MA 12/2021	180	165
j) Committee reply dt. 15.4.2021/3.5.2021 to report dated 19.06.2020	181	165
k) Response/revised report dated 12.08.2021 by Committee	182	166-174
l) Additional Affidavit dated 01.09.2021 by TIMA	183	174-175
m) Additional Affidavit dated 01.09.2021 by TEPS	184	175
n) MA 3/2021 & 4/2021	809-811	522-523
o) MA 5/2021 & 6/2021	812	523
p) MA 8/2021	813	523-524
6. Issue 1	185-190	175-179
7. Issue 2	191-505	179-418
8. Objections by individual industries	506-808	418-522
9. Offence under Prevention of Money Laundering Act, 2002	822-847	530-540
10. Operative Part	849-852	541-549

1. Raising grievance of discharge of untreated effluents into Arabian Sea at Navapur, and into creeks and nallas in the vicinity, in flagrant violations of provisions of Environment (Protection) Act, 1986 (hereinafter referred to as 'EP Act, 1986'), Water (Prevention and Control of Pollution) Act, 1974 (hereinafter referred to as '**Water Act, 1974**') and Air (Prevention and Control of Pollution) Act, 1981 (hereinafter referred to as '**Air Act, 1981**'), by industries established in the industrial area, set up by Maharashtra Industrial Development Corporation (hereinafter referred to as '**MIDC**') at Tarapur, present application has been filed by four applicants namely; Akhil Bhartiya Mangela Samaj, Ashok Thakoji Tandel, Narendra Parushram Naik and Vaibhav Ashok Vaze under Sections 14, 15, 17, 18 (1) and 20 of National Green Tribunal Act, 2010 (hereinafter referred to as '**NGT Act, 2010**'). Applicants have impleaded, besides statutory bodies namely; Maharashtra Pollution Control Board (respondent 1) (hereinafter referred to as '**MPCB**'), MIDC (respondent 2), State of Maharashtra through Principal Secretary , Environment Department (respondent 4) (hereinafter referred to as '**State Government**'), Union of India through Secretary, Ministry of Environment, Forest and Climate Change, (respondent 5) (hereinafter referred to as '**MoEF&CC**'), Central Pollution Control Board (Respondent 6) (hereinafter referred to as '**CPCB**'), Fisheries Department through Commissioner of Fisheries Department (respondent 7) (hereinafter referred to as '**CFD**'), private respondents namely; Tarapur Environment Protection Society (respondent 3) (hereinafter referred to as '**TEPS**') and JSW Steel Coated Products Ltd. (respondent 8) (hereinafter referred to as '**JSWSCPL**'), alleging that they are responsible for causing pollution and damage to environment, on account of discharge of untreated effluent in the nearby rivers, creeks and nallas which of ultimately reach to Arabian

Sea at Navapur, District Palghar, in State of Maharashtra. Respondent 9, an association of industries established at Tarapur Industrial Area was impleaded later on.

2. Respondent 3, i.e., TEPS, is a company incorporated under Section 25 of Companies Act, 1956, formed for exclusively looking after matters relating to environmental protection and pollution control in Tarapur Industrial Area of MIDC (hereinafter referred to as '**TIA MIDC**'). The affected water bodies, as per applicant, included Murbe creek running through Murbe till Mahagoan, Murbe-Satpati creek and Navapur-Dandi creek; and affected villages include Tarapur, Kamboda, Ghivali, Uchchheli, Dandi, Navapur, Alevadi, Murabe, Kharekuran, Satapati, Shirganv, Wadarai, Tembi, Dadara, Mahim and Kelave.

Pleadings in OA

3. Facts in brief, pleaded in the application, are that, Tarapur is a small town in Palghar District, State of Maharashtra. It is more known as "Industrial Town" located about 45 km North of Virar, on the Western railway line of Mumbai Suburban Division. Industrial area of Tarapur, set up by MIDC, is spread in and around 15 villages, having population as per census 2011, of 1,03,208. Broadly, villagers are engaged in traditional fishing which is carried out in varied fresh water resources including lakes, rivers, creeks and also in the sea. The villagers are part of indigenous fishing communities of State of Maharashtra. The grievance is that water resources, providing livelihood to the villagers and local residents, are made subject of grave degradation at the hands of respondents, on account of massive violation of environmental norms and laws, causing damage to environment in general and water bodies including rivers and sea, in particular.

4. MIDC is a statutory body constituted by State of Maharashtra and entrusted with the task of providing infrastructure for industries to operate in designated industrial zones. Such infrastructure includes providing necessary discharge pipelines to carry effluents to the designated points in the saline zones. MIDC is also required to provide water connections and maintain water supply to industries, enabling them to carry out their operations. Industrial area in Tarapur was established by MIDC in 1972. A large number of industries were setup in the said area. It is commonly known as largest chemical industrial estate in State of Maharashtra. Mainly chemical, engineering and textile industries are located, out of which 74 are highly polluting industries. 822 industries come in 'Red Category'.

5. Under Water Act, 1974, discharge of trade effluent directly in the river, etc. is not permissible unless it is treated by the concerned industrial unit by establishing Effluent Treatment Plant (hereinafter referred to as 'ETP'). In the past, there were several small scale industries which did not find it financially feasible, to establish separate ETP and thus a concept of Common Effluent Treatment Plant (hereinafter referred to as 'CETP') came to be evolved sometimes in 1980. CETP was to address problem of water pollution, by providing common facility, by treating, composite effluent, discharged by small scale industries, in a Cost Effective manner, adhering with specified norms. CETP was further expanded to cover even large and medium scale industries which had their own ETP but discharge treated water, in CETP, as a hydraulic load. Such arrangement had distinct advantage of single point control and also compatibility of effluents by 'Homogenization' and 'Neutralization'. This arrangement also facilitates better enforcement of water pollution regulations in its totality *viz-a-viz* impact on environment (receiving water

bodies) by having a single or fixed number of effluent's outlets. Over the years, CETPs have become essential part of environmental infrastructure in industrial areas.

6. TEPS is a body comprised of industries located in TIA MIDC, running, operating and managing a CETP to look after matters related to environmental protection and pollution control in TIA MIDC. CETP was commissioned by TEPS in TIA MIDC in 2006 with the capacity of 20 Millions of Liters, Per Day, (hereinafter referred to as 'MLD'). In 2009, capacity of CETP was enhanced to 25 MLD. 59 km effluent carrying pipelines run through TIA MIDC to dispose treated/partially treated effluent into Arabian Sea at Navapur which is about 8 km away from TIA MIDC. On the one hand, large number of industries were established in TIA MIDC contributing to industrial and commercial development of the country in general and State of Maharashtra in particular, but unfortunately, on the other hand, TIA MIDC also earned a bad name of causing severest pollution in the industrial area. TIA MIDC was identified as 'critically polluted area' in 1996 by CPCB. A performance status of CETPs in India was conducted by CPCB and report was published in October 2005 (Annexure A-2, page 37 of OA), where, in para 3.14, it was mentioned that "*Tarapur CETP (Maharashtra) has four-stage treatment but still these plants were not meeting standards. This reflects gross neglect in operation. If biological treatment units are properly operated and full attention is paid to proper settling and stages of treatment, as explained in Section 3.8 above, performance of these plants could be greatly improved.*"

7. There have been frequent leakages from CETP, run and operated by respondent 3, resulting in high pollution levels in water bodies in vicinity of TIA MIDC and this has been reported time and again in various

reports. One such report published in May 2005 by MPCB, titled as '*Report on Environmental Status of Thane Region',* has been placed on record as Annexure A-3 to OA, (page 45 of OA). As per the said report, TIA MIDC, Tarapur had a total 2034 industries, out of which 15 were large, 63 medium and 1956 small. Further classification, as per pollution level of aforesaid industries, given in the aforesaid report, is as under:

"**Industry Statistics of Thane Region**

Sub-region	Jurisdiction	Scale Category	Large	Medium	Small	Total
Tarapur-I	MIDC Tarapur and all related issues	Red	15	56	375	446
		Orange	-	5	145	150
		Green	-	2	1436	1438
		Total	15	63	1956	2034

8. Para 4.2 of the said report, said "*there is deterioration of water quality in the vicinity of Tarapur Industrial area but the water quality is below alarming level. Central Ground Water Board has also conducted study for Tarapur industrial area in 2003 and has stressed the need of taking urgent corrective measures to mitigate the impacts of HW dumps and effluent reaching the nalla. The ground water quality observed at some location in MIDC area is presented in Table 5.".*

9. In para 4.3 of the said report with respect to TIA MIDC, it has been said, "*some quantity of the industrial effluent from the Tarapur MIDC area is reaching the Murbe Kaharekuran creek, as the present effluent collection and disposal systems are not adequate to cater the effluent load. Further the leachets from the HW dumps in MIDC area are also reaching the creek through some extent. This has resulted in deterioration of water quality in the creek over the years.*"

10. In 2010, CPCB in association with Indian Institute of Technology, Delhi (hereinafter referred to as '**IIT Delhi**') carried out an environmental assessment of industrial clusters across the country, with the aim of

identifying polluted industrial cluster and prioritizing planning need for intervention to improve quality of environment in these industrial clusters. Assessment was based on Comprehensive Environmental Pollution Index (hereinafter referred to as '**CEPI**'). The CEPI is a rational number that characterizes environmental quality at a given location, following algorithm of source, pathway and receptor. A sub-index score of more than 60 shows a critical level of pollution in the respective environmental component whereas a score between 50-60 shows a severe level of pollution with reference to respective environmental component. Industrial clusters with an aggregated CEPI score of 70 and above, were to be considered critically polluted, those with CEPI score between 60 and 70 were to be considered as severely polluted, to be kept under surveillance and pollution control measures were to be undertaken. In respect of TIA MIDC, the said study found CEPI score as 72.01, i.e., '**Critically Polluted Area**' which is at Sl. No. 36 on page 25 of the report (Annexure A-4 at page 76).

11. In view of above report, an Office Memorandum was issued by MoEF&CC on 13.01.2010, imposing certain temporary restriction on consideration of development projects in TIA MIDC and similar clusters/areas. Restriction says that development projects from industrial clusters with CEPI score above 70, received for grant of Environmental Clearance (hereinafter referred to as '**EC**'), in terms of provisions of Environment Impact Assessment Notification, 2006 (hereinafter referred to as '**EIA 2006**'), (including projects for stage-I clearance, i.e., scoping) which were in pipeline for EC or which would be received later, shall be returned to Project Proponents (hereinafter referred to as '**PP**'). The restriction initially was for a period of 8 months, i.e., up to august 2010, during which time, CPCB along with respective State Pollution control

Boards/Union Territory Pollution Committees, were to finalize a timeline action plan for improvement of environmental quality in the identified clusters/areas. Subsequently vide O.M. dated 26.10.2010, MoEF&CC lifted moratorium on consideration of projects for EC, based on inputs, received from CPCB. However, instead of improvement, pollution level in TIA MIDC deteriorated further, as is evident from annual report 2011-12 published by CPCB (annexure A-8 to OA). CEPI score at TIA MIDC was found 85.24 (at sl. No. 38, page 119 of OA). A Public Interest Litigation was initiated by filing Writ Petition, i.e., ***PIL No. 17 of 2011, Nicholas Almeida and Ors. vs. State of Maharashtra and Ors.*** in Bombay high Court, wherein, Court directed MPCB and MIDC to submit performance reports of various CETPs which shall be examined by listing the matter on third Thursday of every month, by the court. In the said Writ Petition, affidavit was filed on behalf of MPCB, (Annexure A-12) to OA. Affidavit was filed in January 2013 (sworn on 19.01.2013) and therein it was stated that CETP operated and managed by respondent 3 is only 25 MLD, while generation of industrial effluent is more than 33 MLD. Further, generation of effluent increased due to increase in production of some industries but capacity of CETP installed and commissioned by respondent 3, i.e., TEPS, was not increased. The affidavit shows that TEPS was formed on 25.08.2004 and commissioned its primary treatment plant of 20 MLD on 10.01.2006. Secondary and Tertiary treatment facilities for 20 MLD were commissioned in March 2007. The total area covered by CETP was 46,000 sq. meters. It enhanced capacity to 25 MLD, commissioned on 13.11.2009. Affidavit also stated that there was immediate and urgent need of expansion of capacity of CETP, at least to 37 MLD. In reply under Right to Information Act, 2005, to a query made by applicants, MPCB, vide letter dated 15.01.2016, has informed

that 35 to 40 MLD industrial effluent is generally discharged, 500 meters inside sea at Navapur (which included domestic effluent, approximately 5 MLD, from industrial colony from TIA MIDC) while capacity of CETP is only 25 MLD. It was also stated that National Institute of Oceanography (hereinafter referred to as '**NIO**'), has instructed for disposal of treated industrial effluents from Collective Effluent Treatment Centre, into deep sea, at a distance of 7.1 kms. In another query made by applicants, with regard to details of discharge of industrial effluent by industries in TIA MIDC, MPCB has submitted reply dated 09.03.2016 giving analytical results of outlet CEPT sample, surveyed by CPCB, and in respect of Chemical Oxygen Demand (hereinafter referred to as '**COD**'), Biochemical Oxygen Demand (hereinafter referred to as '**BOD**') and suspended solids, results are given, as under:

> *"a. The **Chemical Oxygen Demand (COD)** is the standard method for indirect measurement of the amount of pollution (that cannot be Oxidized biologically) in a sample of water. While the **prescribed standard is 250 mg/ 1,** as can be seen from the survey report of MPCB, the **average COD for the year 2013-2014 is 539.2, for the year 2014-2015 it is 656.4 and 2015-2016 it is 601.143.***
>
> *b. The **biochemical oxygen demand (BOD)** is a standard method for indirect measurement of the amount of organic pollution (that can be Oxidized biologically) in a sample of water. While the **prescribed standard is 100**, the **average BOD** of the TEPS-CETP (the Respondent No. 3 herein) **for the year 2013-2014 is 209.2, for the year 2015-2016 is 239.6 and for the year 2015-2016 is 235.625.***
>
> *c. **Suspended solids** refers to small solid particles which remain in suspension in water and is used as an indicator of water quality. While the **prescribed standard for suspended solids is 100,** the **average suspended solids for the year 2013-2014 is 153.3, for the year 2014-2015 is 179.1 and for 2015-2016 is 136**."*

12. Applicants have placed some photographs as Annexure A-15 to show that at various locations in the vicinity of TIA MIDC, the member industrial units, boldly and with impunity, discharge untreated effluents

into water bodies which has led to devastation of mangrove and wetland eco-system in and around the area but officials of State Authorities and Statutory Regulators are keeping silence and have failed to discharge their statutory obligations, for maintenance and protection of environment. Respondent 1, i.e., MPCB, has statutory responsibility for protection, preservation and control of environmental pollution under the provisions of Water Act, 1974, Air Act, 1981 and EP Act, 1986 and statutory orders issued thereunder but failed to take appropriate regulatory steps for protection of environment.

13. Before establishment of TIA MIDC, water bodies in and around the area of Tarapur, had been habitants of marine life. Discharge of untreated industrial effluent has destroyed marine life in the said water bodies. Rampant and unchecked discharge of untreated effluent in water bodies has destroyed ecology of entire area. Water pollution has affected fishes severely and led to death of aquatic habitants. Improper or partial treatment of industrial effluent and discharge thereof in water bodies has caused serious harm to aquatic ecology. It is a potential life threatening for aquatic flora and fauna. As an illustration, a chart (Annexure A-17) has been filed to show reduction in fishing activities in one of the nearby Village, i.e., Satapati showing that in 1982-83, there were 163 fishing boats which have gone down to 80 in 2013-14 and quantity of fishes, which was plus 5 tons in 1982-83, has come down to 4 in 2013-14. A comparative chart of families engaged in fishing in 16 villages, near TIA MIDC, has been filed as Annexure A-18, which is as under:

Number of families engaged in fishing

	Villages	***1975***	***2000***	***2005***	***2016***
1.	*Kamboda*	*366*	*290*	*152*	*80*
2.	*Ghivali*	*1688*	*832*	*757*	*570*
3.	*Uchchheli*	*1492*	*1030*	*926*	*352*
4.	*Dandi*	*796*	*612*	*512*	*476*

5.	*Navapur*	*575*	*477*	*321*	*191*
6.	*Alevadi*	*480*	*315*	*237*	*100*
7.	*Murabe*	*2260*	*1918*	*1527*	*1040*
8.	*Kharejuran*	*420*	*278*	*115*	*52*
9.	*Satpati*	*10432*	*8365*	*6343*	*4497*
10.	*Shirganv*	*180*	*136*	*137*	*66*
11.	*Wadrai*	*719*	*713*	*595*	*647*
12.	*Tembi*	*313*	*320*	*239*	*174*
13.	*Dadara*	*388*	*326*	*144*	*136*
14.	*Mahim*	*716*	*357*	*319*	*170*
15.	*Kelave*	*694*	*624*	*483*	*463*
16.	*Tarapur*	*236*	*172*	*155*	*171*
	Total	***21755***	***16765***	***12962***	***9185***

14. Besides, it is also stated that the degradation of environment has also caused adverse effect on public health. As per reply given by Medical Superintendent, Rural Hospital, Boisar, on 10.02.2016, incident of skin diseases had increased high in as much as only in Rural Hospital, Boisar, between January 2015 and January 2016, 4000 cases of skin diseases were registered. Ground water resources have also contaminated. Untreated industrial effluents are high in heavy metals and carcinogenic substances like Mercury, Lead, Chromium, Cadmium etc. When released in nallahs and storm water drainages, eventually it flows in sea, get stagnated at several places, leading its percolation into ground, thereby polluting the aquifer. Since this is going on for several decades, the trade effluents, now, is having its adverse effect on water security of society at large. The official respondents and Statutory Regulators are not only bound to prohibit, prevent and take strict measures to protect water bodies from such contamination, but also under statutory obligation to realize appropriate environmental compensation on the principle of 'Polluter Pays' from concerned industrial units as also the operators of CETP, who are responsible for causing pollution and damage to environment by discharging industrial effluent, untreated or partially treated, into water bodies, as detailed above. Several representations have

been made by affected people including the applicants, time and again. One such representation/letter dated 04.12.2015, sent by applicants to Sub-regional officer, MPCB, has been placed on record as Annexure A-20. Another representation dated 26.02.2016 is addressed to Principal Secretary, Environment Department (respondent 4) which is placed on record as annexure A-21. It is stated that a substantial question relating to environment pertaining to statutes mentioned in Schedule I of NGT Act, 2010 has arisen in this matter.

15. Applicants have made number of prayers, to be precise, 19 in number, (some are repetition), in para 38 of OA, under the heading, 'Prayer', but in brief, applicants have prayed, as under:

(i) Respondent no. 1 be directed to take steps for closing down all polluting industries, discharging untreated effluents into Arabian sea at Navapur and creeks and nallas in the vicinity;

(ii) Take stringent action against convened officials of respondent nos. 1, 2 and 6 as also respondent 3 who has failed to maintain CETP effectively and causing pollution;

(iii) Respondent 2 should not issue any new permission or expansion to industries until CETP norms are complied with in TIA MIDC;

(iv) Treated/partially treated water must be reused by industries within TIA MIDC;

(v) Official respondents must take remediate measures to restore ecology including marine life and recover environmental compensation on the principle of 'Polluter Pays' from violators;

(vi) Statutory Regulators must take steps to clear sludge, accumulated along the edge of polluted creeks and coast;

(vii) Monitoring Committee of experts, academic institutions, Statutory Regulators in the area in question be constituted for regular monitoring of polluting industries in TIA MIDC.

Reply dated 30.06.2016 by MPCB (respondent 1)

16. In reply dated 30.06.2016 filed in Tribunal on 01.07.2016, MPCB has stated that TIA MIDC was established by MIDC in 1972 over an area of 1028 hectares. MIDC provided infrastructure facilities including 60 km asphalted road network, fire stations, effluent collection sumps, effluent collection and disposal pipelines. At the time of filing reply, i.e., June, 2016, number of industries operational in TIA MIDC was 1083 whereof 472 were in Red category, 61 in Orange category and 550 in Green category. In 1993, Tarapur Industries Manufactures Association (hereinafter referred to as '**TIMA**') established 2 MLD Industrial Effluent Plant (hereinafter referred to as '**IEP**'), for collection and treatment of industrial effluent, for the benefit of member industries, located in TIA MIDC. Collection of effluent was through tankers, as there was no pipeline for connecting effluent of all Small Scale Industrial units, (hereinafter referred to as '**SSI units**'), to TIMA's CETP. Only such SSI units joined TIMA's CETP which did not have adequate/secondary treatment facility. Later, when TEPS established its CETP in 2006, all industrial units joined the said CETP of TEPS. Since no unit thereafter carried its trade effluent to TIMA's CETP, hence TIMA took a decision to close down its CETP w.e.f. 31.03.2012 and same was communicated to MPCB, vide letter dated 12.01.2013.

17. In respect of CETP established and commissioned by TEPS, MPCB has stated in its reply that society/association was formed on 25.08.2004. It commissioned Primary Effluent Treatment Plant of 20

MLD on 10.01.2006. Secondary and Tertiary treatment facilities for 20 MLD were commissioned and made functional in March 2007. Total operating area of TEPS's CETP is 46,000 sq. meters. Capacity of CETP commissioned by TEPS was enhanced to 25 MLD from 20 MLD on 13.11.2009. MPCB had granted consent to CETP of TEPS, from time to time, with certain terms and conditions. At the time of filing reply, the consent already granted was valid up to 31.12.2016. Copy of consent letter dated 13.04.2016 is on record as Annexure-I to the reply. It was granted for the period from 01.01.2016 to 31.12.2016, for discharge of effluent, description whereof, given in para 4, is as under:

> *"**4. Conditions under Water (P&CP), 1974 Act for discharge of effluents:***

S. No.	*Description*	*Permitted quantity of discharge*	*Standards to be achieved*	*Disposal*
1.	*Trade effluent Treatment*	*25.00 MLD*	*As per Schedule–I*	*Marine Coastal area, at a point to be specified by National Institute of Oceanography.*
2.	*Domestic effluent*	*5.00 CMD*	*As per Schedule-I*	*Marine Coastal area, at a point to be specified by National Institute of Oceanography.*

"

18. The aforesaid consent was granted under Section 26 of Water Act, 1974, Section 21 of Air Act, 1984 and also authorization under Rule 5 of Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 (hereinafter referred to as '**HWMHTM Rules, 2008**'). **Schedule I** contains various standards which were to be observed by CETP operator, i.e., respondent 3, and we shall deal in detail at later stage, when required. MPCB further explains that small scale waste water generating industries have Primary Effluent Treatment units for treatment of industrial waste water. Primary treated industrial waste

water is disposed to CETP of TEPS for further treatment and disposal. Large scale/medium scale industrial establishments have installed their full-fledged ETPs for treatment of waste water. Apart, treated waste water from large scale/medium scale industries is discharged to CETP of TEPS for further treatment. Treated waste water from CETP of TEPS is discharged through MIDC pipeline in Navapur Sea, i.e., at a distance of 500 meters from the seashore.

19. CETP of TEPS comprised of collection tank, oil and grease removal system, equalization tank (4 nos.), flash mixer, primary clarifloculator (2 nos.), Aeration tank (4 nos.), Secondary clarifier (2 nos.), polishing tank, sand and carbon filter, decanter and sludge drying beds. As per consent granted by MPCB to industries located in TIA MIDC, total generation of industrial effluent from such industries was about 32 MLD, out of which, about 7 MLD was recycled and reused. However, pumping data of MIDC shows that quantum of waste water discharged to Navapur creek, varied from 35 to 40 MLD. MPCB said that excess quantity of waste water pumped to Navapur creek, may be due to domestic waste water generated from nearby vicinity and excel industrial waste water generated from the industries in TIA MIDC.

20. MPCB has also taken action from time to time, and the same includes:

i. Regular Criminal Case bearing No. 338/2010 filed in the Court of Chief Judicial Magistrate, Thane, for non-compliance including violation of Consent standards. Matter is pending.

ii. Directions under Section 33A of Water Act, 1974 were issued vide letter dated 09.09.2015 for exceeding JVS results and Rs. 10 lakhs Bank Guarantee (hereinafter referred to as '**BG**') was forfeited. The

directions contained in the order, (Annexure II to reply), read as under:

> *"**NOW THEREFORE**, in the exercise of the power conferred upon me by Board under section 33(A) of the Water (P&CP) Act, 1974, following directions are hereby issued for immediate compliance.*
>
> *a) You shall operate existing effluent treatment plant efficiently round 'o' clock so as to achieve consented standards. You shall restrict receipt of effluent quantity to CETP for treatment up to 25 MLD only.*
> *b) You shall provide online electronic flow meter at CETP inlet, outlet line with data logger within period of 15 days from receipt of the directions.*
> *c) The Bank Guarantee of Rs. 10,00,000/- (in words Ten Lakhs) submitted by you towards O&M of CETP is hereby forfeited.*
> *d) You shall submit irrevocable top up Bank Guarantee of Rs. 20,00,000/- (in words Twenty Lakhs) in favor of Regional Officer, Thane within a period of 15 days from receipt of these directions."*

iii. Show cause notice dated 03.06.2016 was issued for violation of Consent norms and discharging polluted effluent. Respondent 3 was required to show cause why CETP operation be directed to be discontinued and member industries be directed to close down their manufacturing activities.

iv. Letter dated 22.04.2016 was issued giving direction under Section 33A of Water Act, 1974 and Section 31A of Air Act, 1981 for installation of supervisory control and data acquisition automation control system. The directions contained in the said letter, (Annexure III to reply) are as under:

> *"**THEREFORE,** in the exercise of the powers conferred upon the Board u/s 33A of Water (P&CP) Act, 1974 and u/s 31A of Air (P&CP) Act, 1981, Maharashtra Pollution Control Board hereby issue following directions for immediate compliance:*
>
> *A. Your existing shore discharge shall be converted to marine outfalls, till then you shall achieve stream standards i.e. BOD-30mg/l.*
> *B. The stream standards BOD-30 mg/l shall be achieved within period of 6 months.*

C. *The **revised disposal standards** for other parameters mentioned in notification published by MoEF&CC dated 01.01.2016 **shall be strictly followed**."*

v. An opportunity of personal hearing was given to the respondent 3 by MPCB on 08.06.2016 when respondent 3, i.e., TEPS, assured that it will achieve Consent norms on or before 20.06.2016.

21. MPCB issued directions to MIDC through Chief Engineer, Tarapur vide letter dated 17.04.2014 (annexure IV to reply), as under:

*"**NOW THEREFORE**, in exercise of the powers conferred upon me by the Board, following directions are issued:*

*I. **For Effluent Management**:*

*a) You shall **stop overflow from the chambers in the MIDC Tarapur, immediately** by taking effective steps like curtailing of water supply up to the limits granted under consent issued to the industries by the Board. If necessary to realigned the effluent carrying pipelines, particularly in "D" & "E" Zones of MIDC, Tarapur shall be undertaken and the time bound program for the same shall be submitted within 7 days from the receipt of these directions.*

b) You shall assist to TEPS-CETP to ensure that not more than 25 MLD effluents is generated and taken to the CETP. For this, you shall approach to the water supplying agencies those can provide water meters with the facility of supplying specified quantity of water per day within 15 days.

c) You shall provide flow meter/measuring device at Sump No. before 15.06.2014.

*II. **For Unauthorised Water Supply***

*d) You shall **seal all the bore-wells in MIDC, Tarapur** for which special survey shall be carried out by MIDC authority and action taken in this regard shall be submitted within a period of one month.*

*e) You shall **lodge the FIR against the owner of unauthorized water tankers** and driver of the tanker along with filing of the compliant with RTO for cancellation of registration of such water tankers.*

f) You shall appoint separate personnel at the entry gate/s for preventing unauthorized entry of tankers within 15 days.

*III. **For industrial Estate Operations:***

g) You shall instal CCTV cameras (day& night) in the MIDC area to keep watch on illegal entry and activities in the MIDC (eg. Water tanker movement & illegal dumps of hazardous wastes/ Municipal Solid Waste etc.) before 30.09.2014.

*h) You shall **immediately prepare a concrete proposal for providing appropriate storm water drain system** and a road network in a time bound manner, which shall be under intimation to Regional Officer, M.P.C. Board, Thane & Sub-regional office, M.P.C. Board, Tarapur-I.*

i) You shall remove old RCC pipelines which was not removed while laying of New HDPE pipelines so as to avoid unauthorized disposal of effluent/waste chemicals, before March 2015.

*IV. **For Effluent Disposal***

j) You shall start implementation of the suggestion given by the National Institute of Oceanography for extending the existing pipeline used for the disposal of treated effluent from MIDC Tarapur at Navapur and complete it on or before 31st March, 2015."

22. MPCB also required MIDC to submit an irrevocable BG of Rs.10 lakhs drawn in favour of Regional Officer, MPCB, Thane, valid for one year period, for timely compliance of directions issued vide letter dated 17.04.2015, and MIDC was also directed to submit progress report on monthly basis. In default, MIDC was informed that action may be taken under Water Act, 1974, against it.

23. Vide letter dated 23.09.2015 (annexure V to reply), MPCB issued further directions under Section 33A of Water Act, 1974 and Section 31A of Air Act, 1981, to Executive Engineer, Division No. 1, MIDC, Wagle Estate, Thane and the said directions are:

*"**NOW THEREFORE**, in the exercise of the power conferred upon me by Board under section 33(A) of the Water (P&CP) Act, 1974, following directions are hereby issued for immediate compliance without extending further opportunity of personal hearing.*

a) You shall ensure that water supply to effluent discharging industries in MIDC Tarapur shall be curtailed by 25% immediately so as to cope up hydraulic load capacity of

CETP by providing electronic flow meter with date logger. The daily data of the same shall be submitted to Sub-Regional Office, Tarapur-I with copy to this office.

b) *You shall provide electronic flow meter at inlet and outlet of MIDC sump with online data logger on or before 30/09/2015. The daily data of the same shall be submitted to Sub-Regional Office, Tarapur-I with copy to this office.*

c) *You shall restrict industries from using unauthorised water from sources like Bore well and Water Tanker immediately."*

24. MPCB has also filed a chart showing action taken against various industries in TIA MIDC and the said chart, (Annexure VI to reply), reads as under:

"Details of Action taken against industries in MIDC Tarapur

Year	***2014***	***2015***	***2016***	***Total***
Show Cause Notice	*135*	*131*	*41*	*307*
Proposed Direction	*34*	*30*	*21*	*85*
Interim Directions	*29*	*16*	*20*	*65*
Closure Directions	*12*	*2*	*1*	*15*

"

25. From April 2013 to May 2016, MPCB has also forefeited BGs furnished by various industries in TIA MIDC and details given in Annexure VII to reply, are as under:

"Statement of BG forefeited from industries in MIDC Tarapur from April-2013 to May-2016

Sl. No.	***Financial Year***	***No. of Industries for which BG is forefeited***	***Amount of BG forefeited***
1	*April 2013-March 2014*	*7*	*5575000*
2	*April 2014-March 2015*	*24*	*10375000*
3	*April 2015-May 2016*	*17*	*8575000*
Total		***48***	***24,52,5000/-***

"

26. TEPS was required to enhance capacity of its CETP and for the said purpose a proposal was submitted by TEPS for construction of 50 MLD CEPT in TIA MIDC. EC under EIA 2006 was granted by State Level Environment Impact Assessment Authority (hereinafter referred to as 'SEIAA'), Maharashtra, vide letter dated 24.03.2015. MIDC allotted

85,000 sq. meters land to TIMA at Plot No. OS-30(Pt). The said plot was sublet by TIMA to TEPS for setting up new CETP as an extension of existing CETP. MPCB granted Consent to Establish under Section 25 of Water Act, 1974; Section 21 of Air Act, 1981 and also authorization under Rule 5 of HWMHTM Rules, 2008, vide letter dated 05.06.2014 (annexure IX to reply). The construction work had started, and likely to be completed by December, 2016. The parameters of BOD, COD and pH were analyzed and samples collected on 06.04.2015, 25.05.2015, 14.09.2015, 03.12.2015 and 21.03.2016 shown high exceeding value.

27. MoEF&CC issued direction under Section 18(1)(b) of Water Act, 1974, vide letter dated 02.09.2008 for not permitting expansion/establishment of industrial units in areas where associated CETPs are not complying with required standards and/or such CETPs do not have adequate hydraulic load capacity. The officials of MPCB visited TIA MIDC on 04.05.2016 and inspected CETP of TEPS for assessing its performance. They found that recently there was some upgradation by installation of 27 Aspirators in 3 bioreactors. Upgradation of 4th Bioreactor by installing 9 Aspirators had also completed. CETP had replaced internal pipelines of treatment units and going with regular cleaning/desludging of tanks. Pumping capacity at collection tank was increased by installing 100 HP additional pumps so as to avoid untreated waste water from collection in tank. It was also found during visit that direct discharge/overflow/bypass of untreated waste water from CETP was stopped. NIO had recommended disposal of treated waste water from CEPT to inside deep sea at about 7.1 km so as to achieve proper dispersion of pollutants. Maritime Board issued no objection certificate to MIDC for disposal of treated waste water from CETP of TEPS at about 7.1 km in deep sea. Hence, MIDC proposed to install pipeline for disposal of

treated waste water in deep sea, as recommended by NIO. MPCB granted consent to MIDC Tarapur, for laying down pipeline to carry treated effluent from CETP Tarapur to deep sea at Navapur, vide letter dated 16.04.2016. The said consent was subject to various terms and conditions, one of which was that MIDC Tarapur shall not take effective steps without obtaining CRZ clearance.

28. On the issue of CEPT, MPCB stated that CPCB published 88 polluted stretches in India in 2009, wherein CEPI of particular area was calculated, based on various parameters like presence of toxins, scale of industrial activities, pollution concentrations, impact on people, impact on ecology, potential affected population and level of exposure. TIA Palghar i.e., TIA MIDC was enlisted at Sr. No. 36. CEPI of TIA MIDC calculated on prevailing environmental baseline, and was projected as 72.01. CEPI for water, air and land was projected as 51.25, 60.75 and 56.0, respectively. Considering gravity of environmental degradation and associated population problems, CPCB declared ban on setting up of new industrial units and expansion of existing industrial units. MPCB took initiative by preparing action plan including short term and long term measures so as to minimize pollution problems and also CEPI. The action plan included fixing of responsibilities on specific stakeholders. MIDC, Infrastructure providing organization, was given major role for improving existing Infrastructure. MPCB, a Statutory Regulator had to perform its statutory obligations with a specific role of co-ordination amongst various stakeholders like MIDC, CETP, Association of Industries (TIMA) and local Government. MPCB submitted action plan to MoEF&CC and CPCB, with a request to lift ban on setting up of new industrial units. Pursuant thereto, moratorium was lifted, vide letter dated 26.10.2010. MPCB started taking rigorous follow up action with concerned stakeholders so

as to comply short term and long term measures, to minimize CEPI score of TIA MIDC.

29. MPCB was also monitoring water quality of various water bodies including sea water at Navapur and creek water at Dandi, Murbe Kherkuran, Sarawali. The analysis report of water samples of sea water and creek water show results conforming to prescribed standards and DO values were adequate for aquatic growth of organism for living organism and marine life. PH of sea water and creek water samples, collected during 2010 to 2015, was within prescribed norms, as specified for SW-II standards in EP Act, 1986.

Reply dated 01.07.2016 by CPCB (respondent 6)

30. Reply affidavit on behalf of respondent no. 6, sworn on 28.06.2016, by Shri B.R. Naidu, Scientist 'E' & In-charge, Zonal Office (West), CPCB, Vadodara, has broadly stated facts, similar to what has been stated by MPCB in its reply. It is said that TIA MIDC is largest chemical industrial estate in State of Maharashtra which include 74 highly polluting industries and 822 red category industries. In respect of TIA MIDC, it is said that CPCB identified TIA MIDC as critically polluted area in 1996. With regard to performance of CETP, it recorded the factum of improper operation of plant in its report of October, 2005. MPCB also recorded inadequacy of effluent collection and disposal of system to cater load from TIA MIDC and pollution of Murbe Kherkuran due to excess industrial effluent load and leachates from HW dump in TIA MIDC, in its report of May, 2005 published on environmental status of Thane region.

31. CPCB in its report found CEPI of TIA MIDC as 72.01, i.e., critically polluted. In PIL No. 17/2011, filed in Bombay High Court, MPCB filed an affidavit dated 13.01.2013 stating that 33 MLD effluent discharge was

found as compared to 25 MLD capacity of CETP. Besides, it also found non-compliance of standards by CETP and non-operation of CETP during MPCB visit. Broad facts stated by applicant in this regard are corroborated by CPCB in para 8 of its reply. Allegations regarding increase in skin diseases, alleged by applicants in OA, have neither been accepted nor denied, for want of knowledge. Broadly, allegations are against operator of CETP and MPCB, and they must submit their comments, is the stand taken by CPCB. However, with regard to discharge of effluent in deep sea, stand taken in para 19 of reply by CPCB is that such deep sea discharge will further degrade aquatic ecology as it will affect fishery activities, primarily carried out by traditional fisherman in deep sea.

Affidavit dated 30.06.2021 of MPCB (a brief report) filed on 01.07.2016 (considered in order dated 09.09.2016):

32. The affidavit was filed by MPCB in reply to the application with the limited purpose to bring on record steps taken by MPCB in discharge of its duties in the context of TIA MIDC. It says:

(i) There are 1083 industries in MIDC Tarapur out of which 472 are in Red category, 61 in Orange and 550 in Green category.

(ii) Small scale waste water generating industries have primary effluent treatment units for treatment of industrial waste water. The treated water (primarily treated industrial waste water) is disposed to CETP for further treatment and disposal.

(iii) Large scale and medium scale industrial establishments have installed full-fledged effluent treatment plants for treatment of waste water and treated waste water is discharged to CETP for further treatment.

(iv) CETP is discharging water in Navapur Sea which is at about 500 meters from seashore of Arabian Sea.

(v) Existing CETP at TIA MIDC has primary, secondary and tertiary treatment facilities along with sludge handling facilities for treatment and disposal of 25 MLD effluent.

(vi) As per consent granted by Statutory Regulators to industries located in TIA MIDC, aggregate generation of industrial effluent is about 32 MLD whereof 7 MLD is recycled and reused.

(vii) Pumping data of MIDC however shows that quantum of waste discharge to Navapur creek varies from 35 to 40 MLD.

(viii) Besides others, MPCB has directed MIDC to provide flow meter/flow measuring devise at the outlet of sump-2 by 15.06.2014. Again, by letter dated 23.09.2015, MIDC was directed to install flow meter with data logger at inlet and outlet of MIDC sump.

33. MPCB has monitored water quality of water bodies including sea water at Navapur and creek water at Dandi, Murbe-Kharekuran and Sarawali. Analysis reports of sea water and creek water samples for the years 2008-2015 are contained in annexure-XIII to the reply. The said reports show that BOD and fecal coliform in all the years in Navapur sea, Sarawali creek, Dandi creek and Murbe-Kharekuran creek was much beyond the prescribed limits. The average of the various parameters given in annexure-III in respect to above 4 places for the period of 2008-2015 is as under:

Water Body	*Parameter*	*DO*	*pH*	*BOD*	*Fecal Coliform*
	Unit	*Mg/l*	*--*	*Mg/lit*	*No. of Counts per 100 ml (MPN)*
	Standards	*Not less*	*6.5*	*Upto 3*	*100/100*

	for sea (SW-II)	*than 4 mg/lit*	*to 8.5*	*mg/lit*	*ml (MPN)*
Navapur Sea	*2008 to 2015*	*4.64*	*7.84*	*10.53*	*522.5*
Sarawali Creek	*2008 to 2015*	*4.81*	*7.85*	*8.83*	*501.54*
Dandi Creek	*2008 to 2015*	*4.68*	*7.8*	*10.84*	*320.81*
Kharekuran-Murbe Creek	*2008 to 2015*	*4.83*	*7.76*	*10.69*	*366.42*

Reply dated 26.07.2016 by MIDC (respondent 2)

34. In reply affidavit dated 26.07.2016 filed on 27.07.2016, respondent no. 2 has stated that it was established under MIDC Act, 1961. The aim and object of the Act is to make special provisions for securing orderly establishment in industrial areas and industrial estates of industries in State of Maharashtra, and to assist in general, in organization thereof. The primary function of MIDC is to promote and assist in rapid and orderly establishment, growth and development of industries in the State of Maharashtra, to establish and manage industrial estates at places selected by State Governments, develop industrial areas at places selected by State Government, assist those undertakings to establish, financially by loans or to coordinate or corporate with other bodies, Government, local bodies etc. An 'industrial estate' under MIDC Act, 1961 means any site selected by State Government where MIDC builds factories and other buildings and make them available for any industry or class of industries. Development under MIDC Act, 1961 means carrying out of building engineering, quarrying or other operations in, on, over, or under land, or the making of any material change in any building or land, and includes redevelopment but does not include mining operations. 'Amenity' under the Act is defined as to include road, supply of water, electricity, street lighting, drainage, sewerage conservancy and such other conveniences as the State Government, by notification, specify to be

amenity for the purpose of the Act. Broadly, functions and powers of MIDC are; firstly, to develop industrial areas and industrial estates by providing amenities of road, supply of water or electricity, street lighting, drainage, sewerage, conservancy and other conveniences, secondly, to construct works and buildings, factory sheds and thirdly, to make available buildings on hire or sale to industrialists or persons intending to start industrial undertakings and to allot factory sheds, buildings, residential tenements to suitable persons in industrial estates established or developed by MIDC and to lease, sell, exchange or otherwise transfer any property held by MIDC, on such conditions as may be deemed proper by it.

35. Under Section 64 of MIDC Act, 1961, Regulations have been framed, namely, MIDC (Disposal of Land) Regulations, 1975 and regulations 33 thereof provides that allottee of land shall abide by Water Pollution Rules. Thus, after allotment of land to the allottee, MIDC enters into an agreement to lease, with such allottee, on terms and conditions which are standard terms and thereunder allottee is required to construct industry/factory premises in accordance with sanctioned plan within stipulated time. In the said agreement, there is a standard clause regarding environmental protection which clearly says that the lessee shall duly comply with the provisions of Water Act, Air Act and rules made thereunder as also with any condition which may, from time to time be imposed by MPCB, as regards to collection, treatment and disposal or discharge of effluent or waste or otherwise, howsoever, and shall indemnify and keep indemnified the lessor against the consequence of any breach or non-compliance of any such provision or condition, as aforesaid. Thus, MIDC has taken all possible precautions in respect of environmental protection so as to avoid environmental damage to the

area, surrounding industrial areas. It has also referred to the provisions of Water Act, 1974 to demonstrate powers and functions of MPCB and has further stated that MPCB enjoys various powers for the purpose of controlling pollution and taking suitable action against erring industries causing environmental pollution. MIDC has no such statutory powers as are enjoyed by MPCB. However, to the extent possible, MIDC has imposed various conditions on industries set up in specified industrial estates in respect of environmental pollution.

36. Under Water Act, 1974, every industry has to provide adequate treatment to its effluent before disposal, irrespective of whether it is stream, land, sewerage system or sea. SSI are such units where plant and machinery are valued less than Rs. 5 crores and such industries occupy an important place in Indian economy and industrial development. Over the years, it was noticed that SSI units are major contributors to total industrial pollution load of the country. A very few SSI units had installed their own effluent treatment plants to avoid hazards of pollution but mostly due to limited size and scale of operation, find it economically unviable to install dedicated pollution control equipment for the purpose of treatment of effluent. This led to the concept of CETP, being more suitable in such areas where cluster of SSI units exist. This has been accepted by MoEF&CC and it has notified centrally sponsored scheme for enabling SSI units to set up CETPs in India.

37. MIDC has established about 240 industrial areas in the State of Maharashtra for achieving balanced industrial growth. MIDC also encourages industrial associations to establish and operate CEPTs for controlling pollution wherever individual dedicated ETPs by industries are not viable for economic or other reasons. MIDC helps industrial

associations by providing land at very nominal lease rent and contributing monetarily through various schemes floated by Central or State Governments for establishing CETPs. Till the reply filed by respondent 2, there had established 19 CETPs in the State of Maharashtra, maintained by associations of industries or individuals to whom land was allotted by MIDC at subsidized rates and subsidy was also given.

38. Explaining types of Treatment Plants, it is said that it is primary, secondary and tertiary types for individual units to comply with stringent norms and treatment standards.

39. **Primary (mechanical) treatment** is designed to remove gross, suspended and floating solids from raw sewage**.** It includes screening to trap solid objects and sedimentation by gravity to remove suspended solids. This level is sometimes referred to as "mechanical treatment", although chemicals are often used to accelerate the sedimentation process. Primary treatment can reduce BOD of incoming waste water by 20-30% and total suspended solids by 50-60%. Primary treatment is usually the first stage of wastewater treatment. Many advanced waste water treatment plants in industrialized countries started with primary treatment, and then added other treatment stages as waste water load grown, the need for treatment increased, and resources became available.

40. **Secondary treatment** removes dissolved organic matter that escapes primary treatment. This is achieved through various processes including biological process in which microbes consume the organic matter as food, and convert it to carbon dioxide, water, and energy for their own growth and reproduction. The biological process is then followed by additional settling tanks ('secondary sedimentation') to

remove more suspended solids. About 85% of suspended solids and BOD can be removed by a well running plant with secondary treatment. Secondary treatment technologies include basic activated sludge process, variants of pond and constructed wetland systems, trickling filters and other forms of treatment which use biological activity to breakdown organic matter.

41. **Tertiary treatment** is simply additional treatment beyond secondary. Tertiary treatment can remove more percent of all the impurities from sewage. The related technology can be very expensive, requiring a high level of technical know-how and well trained treatment plant operators, a steady energy supply, and chemicals and specific equipment which may not be readily available. An example of a typical tertiary treatment process is the modification of a conventional secondary treatment plant to remove additional phosphorous and nitrogen.

42. TIA MIDC is spread over approximately 1028 hectares. Approximately 1947 plots were carved out, wherein 1477 industries are already established. Out of 1477 industries, only 1226 industries are functioning. Industries are further classified into Red, Orange and Green Categories, based on percentage of chemical effluents discharged by them. As per data furnished by MPCB, approximately 472 industries are in Red category, 155 in Orange and 500 in Green category. Approximately, 627 industries have consolidated to form an association known as TIMA which holds key in maintaining healthy communication between industries at large, including the constituent member industries of association and various government authorities. Members of TIMA have constituted and registered a body under Companies Act, 1956, known as TEPS for setting up a CETP. This body, i.e., TEPS was

incorporated in August, 2004, to enable individual industries to unite together and constitute into an Association of industries for establishment of CETP. For setting up of 20 MLD capacity CETP by TEPS, MIDC allotted plot no. AM-29 admeasuring 46,000 sq. meters and possession was handed over to TEPS on 24.05.2003. The construction of 20 MLD CETP commenced on 01.02.2005. It was commissioned on 10.03.2006 in respect of primary treatment of effluents and commenced entirely in March, 2008. Due to increase in load, capacity was expanded to 25 MLD in September 2009.

43. MIDC has provided collection lines at various locations. These collection lines collect effluents which have already undergone preliminary treatment, as per standards set by MPCB, in their letter of consent, issued in favour of individual industrial units. The collection lines are adjoined with sumps which act as repositories or tanks for collection of all the effluents and in volumes. Through these sumps, effluent is further pumped into CETP for further treatment and processing. After processing, treated effluent is disposed of at the point of disposal.

44. The old disposal line is under process of replacement. MIDC was disposing treated effluent through disposal line of approximately 6.4 kms at 500 meters inside Arabian Sea at Navapur village. It is now under replacement with HDPE pipes of 1200 mm diameter which would ensure smooth disposal of sewage with no chock ups. Administrative approval was received by MIDC on 18.02.2013 and work order to Contractor was issued on 26.11.2013. 60% work of replacement has already completed.

45. TIMA had proposed installation of additional CETP of 50 MLD for which MIDC allotted plot no. OS-30 admeasuring 85,000 sq. meters vide

letter dated 27.12.2010 and possession was handed over on 28.12.2010. There was some dispute between TEPS and TIMA which came to be settled and as a result thereof, possession of plot no. OS-30 was again handed over vide possession memo dated 25.03.2014. MPCB issued consent to establish vide letter dated 05.06.2014 and construction of 50 MLD CETP had started. Vide letter dated 22.07.2016, TEPS informed MIDC that approximately 70% work has been completed. MIDC has also taken further action for disposal of treated effluent in deep sea as suggested by NIO and further action for laying down pipelines is in process. Work order was issued to the Contractor on 26.05.2015 to carry out work of extension of disposal line with an estimated cost of Rs. 1,41,48,71,000/-. MIDC has requested MPCB to take stringent action against defaulting industries in discharge of effluent or partially treated or untreated effluents in CETP, led to ultimate disposal in Arabian Sea, by issuing various letters. It was for MPCB to take appropriate action in the matter, since, it is a Statutory Regulator and empowered to take appropriate action in the matter and also impose fine on the principle of 'polluters pay'.

Reply dated 11.08.2016 by TEPS (respondent 3)

46. Reply dated 11.08.2016 filed on behalf of respondent 3, is sworn by Shri Gajanan S. Jadhav, ETP Manager, TEPS. It is said that TEPS is a non-profit making organization, incorporated under Section 25 of Company's Act, 1956, vide Certificate of Incorporation, dated 25.08.2004, issued by Registrar of Companies, Mumbai, Maharashtra. Respondent 3 is operating existing CETP with the capacity of 25 MLD. Respondent 3 has received consent dated 13.04.2016, issued by MPCB, under Water Act, 1974, Air Act, 1981 and authorization under Rule 5 of the HWMHTM Rules, 2008 for operating CETP, under 'Red' category. The aforesaid

consent was granted for the period from 01.01.2016 to 31.12.2016. In fact, it is renewal of the consent, granted earlier by MPCB for operating CETP in TIA MIDC. Maintainability of application filed by applicants has been questioned on the ground of delay. It is said that applicants have not disclosed many material facts, data, reports and developments that have taken place towards protection of water bodies. Applicants are relying on old findings and figures, relating to environmental and ecological aspects of water bodies, in the vicinity of TIA MIDC.

47. Respondent 3, in operating CETP, is implementing all directions issued by MPCB, CPCB and MIDC and also commissioning a new 50 MLD capacity CETP at TIA MIDC. The construction of new CETP is complete up to 60% and likely to be commissioned in first quarter of 2017. Basic facts regarding requirement of CETP history of TIA MIDC and situation of discharge of effluent, we find, are similar, as stated in the application and also, as replied by respondents 1, 2 and 6 which we have already noted above. Avoiding repetition, in brief, the facts stated by respondent 3 are that in the decade of 1980, industries in TIA MIDC were treating industrial effluent, generated in the process of running industries, at their own end and discharging said effluent to common drainage network, which after receiving at sumps, used to be pumped to Navapur creek (about 500 meters inside the sea shore). Later, MPCB, CPCB, MoEF&CC and MIDC realized that individual setting of industrial effluent treatment plants to satisfy environmental standards may not be technically and feasibly possible, for small scale units and, therefore, they promoted a scheme for setting up CETP with financial assistance from World Bank. TIMA with financial assistance from State and Central Government, commenced CETP with the capacity of 2 MLD, in 1993, at plot No. O/23, TIA MIDC. It was sufficient to satisfy prevailing demand of industries

functioning at TIA MIDC. With subsequent multifold growth of industries in TIA MIDC, quantity of discharge of industrial effluent substantially increased, though gradually. Since existing plant was not able to cope up with the anguished discharge of industrial effluent, resultant pollution also increased going to the extent where CPCB declared TIA MIDC as 'critically polluted area'. The matter attracted attention of Apex Court also. Supreme Court Monitoring Committee was constituted to monitor and report situation of pollution in TIA MIDC. In view of the observations made by the said Committee, CPCB directed MPCB to take necessary steps to cater to effluent's volume received from industries from TIA MIDC. Consequently, MPCB directed TIA MIDC to construct either new CETP or to close down entire industrial units in the area. A show cause notice was issued on 03.02.2005 by MPCB to TIMA. In the meantime, TIMA itself took action to meet the situation and constituted TEPS in 2004 for the purpose of establishing, operating and managing a new CETP with appropriate capacity. Land was allotted by MIDC at Plot No. AM-29, admeasuring 46,000 Sq. Meters, at nominal rate, in MIDC Slump 2. Considering treatment study, conducted in 2005, TEPS decided to construct 25 MLD CETP, in phased manner. First phase of construction of CETP was completed with construction of 25 MLD Primary treatment facility plant. It was commissioned in January 2006. Second part of existing CETP project, i.e., 20 MLD Secondary treatment plant commenced operation in September 2008. 5 MLD enhanced capacity secondary treatment plant became operational from September 2009. After 2009, there has been an extraordinary growth in establishment of industrial units and textile processing in TIA MIDC which has resulted in increased demand of water requirement. TEPS, in order to keep pace with the growing demand, decided to expand and increase effluent treatment

capacity of CETP from 25 MLD to 75 MLD. For the said purpose, MIDC allotted plot No. AM-60, area 39,000 sq. meters. The requisite permissions/clearances were obtained and construction process commenced by TEPS. Contributions of Rs. 1.5 crores were received from member industries. After following due procedure, as per recommendation and approval from NEERI, DPR was approved by MIDC, vide letter dated 15.04.2010. When the process of expansion of CETP was on-going, MIDC abruptly stopped work, in view of agitation of local villagers who had support of some political parties. Letter for stopping work was issued by MIDC on 26.03.2010. Later, respondent 2, vide letter dated 14.09.2010, informed that in view of protest of the villagers, location of expansion of CETP has to be changed. TEPS was required to submit a revised DPR for approval. Possession of alternative land, i.e., OS 30 was given on 29.12.2010. In the meantime, TEPS took steps for improvement of performance of existing CETP of 25 MLD by replacing old fixed type aeration system with mechanical aeration system called Aspirators. These changes/improvements were given effect during December 2012 till June 2014. The above replacement costed approx. 3.25 crores to TEPS. Further, for expansion, after taking possession of alternative site, i.e., OS 30 area 85,000 sq. meters on 28.12.2010, TEPS took further steps. Firstly, it sought permission for cutting of trees, from Forest Department, since sizable number of trees were standing in the allotted land. Forest Department took almost four months to grant permission which was received by TEPS in May 2011. Compensation of Rs. 7.20 lakhs for cutting of trees was paid by TEPS to MIDC in May 2011. MIDC granted permission to cut trees on 20.05.2011. After cutting of trees and land levelling/filling within three months, TEPS applied for permission to bisect storm water nallah diversion and construction of

compound wall around plot OS-30, in the month of September, 2011. Permission was delayed by MIDC, despite several representations and reminders by TEPS. Again, by letter dated 26.06.2012, MIDC informed TEPS that upper side of land in plot OS-30 allotted to TEPS would have to be taken over for industrial purposes by M/s JSW Steels and remaining part of the same plot would be allotted to TEPS. The entire plot OS-30 had area of 1.4 lakhs sq. meters. From the land allotted to TEPS, MIDC re-located CETP by awarding 50,000 sq. meters space, out of the plot OS-30, to M/s JSW Steel. This action of MIDC was objected by TEPS vide letter dated 17.08.2012 but MIDC declined to re-visit its decision. TEPS filed ***Writ Petition No. 2311/2012*** in Bombay High Court. During pendency of matter, parties entered into a compromise/ settlement and Writ Petition was disposed vide judgment dated 20.02.2013 (Annexure R-3/14 page 462), in terms of settlement arrived at between the parties. TEPS then started construction of CETP with 50 MLD capacity at the lower portion of land in plot OS-30.

48. In view of above situation created by MIDC, respondent 3, i.e., TEPS could not take expeditious effective steps towards expansion of CETP. It otherwise could have been completed long back. TEPS has proceeded with pace to setup 50 MLD CETP and completed requisite formalities with TIMA and MIDC. It also applied for consent to establish, to MPCB, which was granted vide letter dated 05.06.2014. EC was granted by SEIAA, Maharashtra vide letter 24.03.2015 (Annexure R-3/16). TEPS applied for DPR approval to National Environment Engineering Research Institute (hereinafter referred to as '**NEERI**'), in May 2014, who suggested to have assessment of pilot plan performance from an Institution like IIT Mumbai. Consequently, TEPS approached IIT Mumbai for pilot plan assessment, in February, 2016. IIT Mumbai

informed TEPS that assessment will take three months to complete. IIT Mumbai submitted its report to NEERI in June 2016 suggesting incorporation of advanced oxidation of ozonation processes. Consequential letter dated 27.06.2016 was issued by NEERI suggesting, that for tertiary treatment scheme, it would be more suitable to use ozonation or other advanced oxidation process, instead of proposed activated carbon filter and pressure sand filter. TEPS agreed to augment ozonation and tertiary plant on 22.07.2016, whereupon NEERI approved DPR vide letter 25.07.2016 with further request to MPCB to ensure that a careful monitoring regime is put in place for input water and treatment capacities provided, to ensure compliance with prevailing standards.

49. Though TEPS was entitled to receive subsidy from Government but looking into the urgency, it proceeded on its own, not only for upgradation of the existing CETP but for installation of additional new CETP of 50 MLD. TEPS is working very diligently, not only for mechanical or system enhancement but also has trained operating staff, which is well experienced and work round the clock to operate CETP. TEPS has given maximum attention over primary treatment by way of batch operation of equalization tank. It has increased decanter operation period from 12 hours to 24 hours which has resulted in removal of almost 63000 MT of semi-dried solid waste in last fiscal year. Future solid waste removal trend will be almost up to 4500 to 5000 MT per year. From May 2016, TEPS has increased frequency of monitoring of inlet impact and operate even in night hours to avoid shock load in CETP. In view of directions issued by MPCB to various industries in TIA MIDC, discharge of effluent quantity at existing CETP inlet has considerably reduced from 45 MLD to 27-28 MLD. TEPS has also issued circulars to member industries to adhere to directives of MPCB and endeavor to reduce effluent quantity at

CETP inlet which would help the existing functional CETP to provide better treatment of effluent. Despite several hurdles and delay, as stated above, TEPS has been able to manage completion of almost 65% of civil work of 50 MLD capacity CETP. All the machines and equipments, necessary to be installed in the plant, have already been ordered and some equipments are being ordered. TEPS has already spent 60 crores in construction of new 50 MLD CETP. Since process of subsidy from government is getting late, TEPS has also decided to take loans from financial institutions for the project, total cost whereof is about 117 crores. TEPS is confident of commissioning of two modules of new plant, i.e., 12.05 MLD, by the end of first quarter of the year 2017. Rest modules will be functional by the second quarter of 2017. Besides, there has been overall improvement on all fronts, resulting in improvement and efficiency of treatment units which has reflected in outed parameters. Upgradation work has completely stopped backflow in underground drainage line, overflow of manholes in industrial area, etc. which is indicative of optimum performance of existing of CETP after upgradation project. CETP upgradation has lowered down environmental (water pollution) issues within industrial area and around disposal point. TEPS and other stakeholders are committed for protection of environment and taking all measures and efforts to achieve the best results. The role of TEPS is limited up to the boundary of its premises, i.e., from inlet CETP to outlet CETP, i.e., to treat effluent received from industries to meet disposal standards as specified by MPCB in consent order. Despite all obstructions, TEPS is taking all possible steps to achieve prescribed standards and upgradation of the existing CETP has resulted in substantial reduction in the level of industrial pollution. Bombay High Court in PIL No.17/2011 has already taken cognizance by directing

respondents and Regulators as well as government authority to take all remedial measures to curb and limit industrial pollution in TIA MIDC. The allegations of dereliction of duty, negligence, etc. against TEPS are incorrect. Round the clock, TEPS and its officials are working to achieve best results, required for maintenance of protection of environment and to achieve the prescribed standards.

Additional Affidavit dated 29.10.2016 by MPCB (respondent 1)

50. Additional affidavit dated 29.10.2016 has been filed on 31.10.2016 on behalf of MPCB (respondent 1). Above affidavit was filed in compliance of Tribunal's order dated 09.09.2016. A meeting was held between officials of MIDC, CETP Association and MPCB. As per discussion and decision taken thereat, different directions were issued to Regional Officer, MPCB, Thane, MIDC and CETP, which are as under:

*"**Directions to Regional Officer, Thane MPC Board:***

1. *Directions shall be issued to all individual effluent generating industries to Curtail their water consumption and to reduce effluent by 40 % of their present generation.*

2. *Directions given to 59 major contributing industries shall be rigorously monitored by Sub Regional Officer, Tarapur-1. Regional Officer Thane to extend all support (manpower & logistic) from his subordinate offices and laboratory.*

3. *To ensure compliance of earlier directions issued to 59 major effluent contributing industries to install pH, Electronic flow meter with Data Logger System within 3 days. Further to direct Industries to provide positive one point discharge within 15 days.*

4. *Directions are issued to the CETP and Industries generating effluent more than 100 CMD and above for installation of SCADA. Sub Regional Officer, Tarapur-I to confirm the same and issue directions to Industries generating effluent more than 25 CMD to 100 CMD with time line of three months.*

5. *SRO Tarapur-l shall monitor CETP performance for 48 hrs. by deputing team of officers for collecting records of pH and flow and 4 hourly samples for the parameters pH, BOD, COD, TDS and SS at inlet and outlet of CETP, Samples will be jointly analysed by Scientific Staff of Regional Laboratory, Thane under supervision of Scientific Officer, I/C R- Lab, Thane at CETP Laboratory. Reports of the same shall be submitted to PSO and JD (WPC) office forthwith. Results of BOD to be submitted within 7 days.*

6. *The effluent generation, treatment and disposal compliance and sludge generation as per consent conditions will be submitted for last two years of 59 major contributing industries (50 CMD and above). Report consisting of JVS analysis reports, actions, compliance of directions, Bank Guarantee status etc. for each industry will be submitted in excel format within 3 days.*

7. *Similarly, Regional officer, Thane shall submit report for industries generating effluent below 25 CMD and industries generating effluent between 25 CMD to 50 CMD.*

Directions to MIDC:

1. *To conduct survey of bore wells (Active and Abounded Bore wells) in MIDC Tarapur and submit the report within 3 days to Regional Officer Thane, MPC Board stating details as name of industry, plot number, status of bore well (s). i.e. active/ abounded, size of borewell etc.*

2. *The* ***leakages and seepages of effluent conveyance line shall be attended immediately to avoid the mixing of the effluent in storm water drain and shall complete the remaining work of HDPE conveyance system on fast track****.*

3. *MIDC shall empanel agency for periodic and incidental sludge removal accumulated in chambers, collection sump and pipelines and ensure the free flow of trade effluent. For this purpose advance mechanical system shall be adopted by MIDC. Sludge removed from conveyance system shall be stored in secured condition, till disposal to CHWTSDF and quarterly record of the quantity of the sludge disposed to common facility should be provided to MPCB.*

4. *MIDC shall investigate quantity of water supply to the industries and quantity of effluent disposed to Navapur Sea and submit the report of the same to MPCB within 15 days.*

5. *MIDC shall install the SCADA system to inlet and outlet of water supply pipeline system to check leakages and seepages in the supply system and shall maintain daily record for water supply and submit the same to the Board every 15 days.*

6. *MIDC Shall appoint two to three agencies for on call sludge removal, to attend leakages pipeline at chambers, in emergency situations.*

7. *MIDC Shall ensure the compliance of the direction issued to 59 major water consuming industries of CETP including directions to provide positive one point discharge within 15 days and report shall be submitted to MPCB.*

Directions to CETP:

1. *Shall* ***comply with disposal standards immediately.***

2. *Shall maintain online data logs of the flow and pH using calibrated flow and pH meter.at inlet and outlet of the CETP with hourly data.*

3. *Shall **ensure the inlet flow to the CETP be restricted to 25 MLD only**.*

4. *CETP shall maintain with the data having consented effluent generation quantity, effluent generation after directions of 25% curtailment issued by Board, effluent quantity after directions of 40% curtailment of individual member industry."*

51. Further, vide letter dated 07.10.2016 (annexure II to Additional Affidavit), Regional Officer, MPCB, Thane issued directions (ten in number) in exercise of power under Section 33A of Water Act, 1974. Executive Engineer, MIDC, Division-1, Thane, vide reply dated 28.10.2016, in reference to the directions issued vide letter dated 07.10.2016 by MPCB, submitted its compliance to all the ten directions contained in letter dated 07.10.2016, and point wise compliance stated by MIDC is as under:

Sr. No.	*Directions issued*	*Compliances of directions issued*
i.	*You shall carry out survey of MIDC Tarapur to find out Bare wells (active or abounded) and shall Submit its report Comprising name and address of industry. Plot No. N, status of bore wells (Active or Abounded) size of borewell, etc. to the Sub-Regional MPCB, Tarapur-I within Officer, period of three days.*	*As per the directions, the survey of bore wells has been conducted by the MIDC. **At present 41 number of bores are detected and closed**. The detailed report is enclosed herewith. (c5)*
ii.	*You shall breakage/leakage/ seepage inspect of effluent carrying pipeline network and it shall be immediately attended so as to arrest leakage/leakage/ overflow of MIDC chambers. The work of replacement of old by conveyance System shall completed track. It shall also*	*MIDC has deployed agency for AMC. The leakages in pipeline are being immediately arrested. The incidental chokes up of drainage pipelines, chambers are attended immediately. Any leakages observed in collection system are attended by MIDC through AMC. **Due to release of***

	ensure that the industrial waste is pipeline HDPE be on fast water not being drained/ mixed in storm water drain.	***excess quantity of effluent by Industries, overflow of effluent from chambers at low laying areas are observed for some time.*** *The problem is due to short fall of capacity of Existing CETP. At present there are no leakages observed in effluent collection lines.* *MIDC has granted approval for replacement of balance RCC effluent lines by HDPE line for Rs.23.44 crores. The tenders are invited and work will be started very soon.*
iii.	*You shall carryout periodic of cleaning of effluent carrying pipeline, sumps, so as to remove accumulated sludge and shall ensure free flow of trade effluent in the pipeline. You shall adopt advanced automated systems to avoid accumulation of sludge in sumps and effluent carrying pipeline.*	*MIDC has deployed agency for AMC for maintenance of drainage lines, Removing of choke ups, and cleaning of pipelines and chambers throughout the year.* *If the individual industry has treated the effluent as per MPCB norms it is not expected to let out the sludge in the collection system of MIDC. You are requested to take stringent action against defaulting industry.* *As per your directions the proposal for removing the accumulated sludge under preparation.*
iv.	*The sludge removed from sewerage line and MIDC sumps shall be stored at designated place in secured condition till disposal to CHWTSDF. Also, you shall submit quarterly record of sludge generated and disposed to CHWTSDF TO Sub-Regional Officer, MPCB, Tarapur-I along with copy of this office.*	*The tender for removing and transportation of Sludge was invited. Accordingly, the* ***quantity of sludge of 5936.37 MT, accumulated in the MIDC Sumps at various locations are removed*** *and transported to CHWTSDF site at Taloja in the year 2015-16.* *The proposal for the next year is under preparation.*
v.	*You shall appoint 2 to 3 dedicated agencies on call basis, so as to attend emergency situations like*	*The routine preventive maintenance breakdown as well as maintenance of effluent collection and disposal*

	breakage/leakage/seepage effluent to carryin8 of pipeline, sludge removal from pipelines and submit ATR thereof.	*pipelines is done by MIDC's Tarapur sub-division 24 x 7 basis. Any leakages/breakages observed are attended on topmost priority*
vi.	*You shall make necessary record of water supply to the industries and quantity of effluent disposed to Navapur sea. The data of water supply and waste water disposed to Navapur Sea for last one year shall be submitted to Sub-Regional Officer, MPCB, Tarapur-I along with copy to this office.*	*The report furnished by DE (maint) is enclosed herewith. (C-9)*
vii.	*You shall install SCADA system at inlet and outlet of water supply pipeline network of flow so as to access leakages/seepages in water carrying pipeline. The daily data of the same shall be maintained and submitted on every 15 days to Sub-Regional Officer, MPCB, Tarapur-I along with copy to this office.*	*The flow meters at starting point and water meters at individual industry are already installed. Leakages are regularly monitored. The data is already handed over by MIDC's DE (maint) to SRO, MPCB.*
viii.	*You shall ensure compliance passed by the. Hon'ble NGT, Pune dt.09/09/2016 in respect of curtailment of waste water generation of order water supply by 40% from whatever present generation.*	*AS per NGT's orders industry should curtail the effluent generation by 40 %. You should take stringent action against the defaulting industry on priority. As per your directions, MIDC has already started the curtailment of water supply of Industries by 40% at source i.e. at jackwell. As per DE (maint)'s report the water Supply valves to the major industries is also controlled by 40 %. (C11)*
ix.	*You shall ensure effluent discharge from industries established in MIDC Tarapur through single discharge point for effluent, which shall be connected to MIDC sewerage line. This exercise shall be done within a period of 15 days from the receipt of these*	*The effluent is collected in collection sumps provided in the Industrial Area, through the collection network and pumped to CETP for treatment. After treatment in the CETP the same is collected in the Treated effluent sump provided in the CETP premises and from sump*

	directions.	*it is disposed of into Navapur sea. There is no other outlet to let out the treated effluent. If there is any defaulter industry, please take stringent action from your end.*
x.	*You shall provide electronic flow meter with data logger at inlet and outlet of within 15 days from the receipt of these directions. The daily data of the same shall be submitted to Sub-Regional Officer, and Tarapur-I along with copy to this office.*	*The work of installation of Electronic flow meter for the Treated effluent disposal main is in progress.*

52. Further, MPCB issued letter dated 07.10.2016 under Section 33A of Water Act, 1974 directing 73 major industries to reduce generation of effluent by 40%. A similar direction was issued by MPCB vide letter dated 07.10.2016 to TEPS to communicate member industries about curtailment of waste water generation by 40% from whatever present generation and to operate CETP continuously and efficiently round the clock to meet consented standards and in no circumstances, substandard quality effluent shall be discharged into Navapur sea.

53. MPCB had granted consent to industries in TIA MIDC subject to condition that industry shall provide comprehensive waste water treatment facility for treatment of industrial waste water and treated waste water shall be connected to MIDC sewer only. The treated waste water through MIDC sewer is connected to CETP of TEPS for further treatment.

Affidavit dated 05.12.2016 by MPCB (respondent 1)

54. Affidavit of MPCB dated 05.12.2016 was filed on the same date. This affidavit was filed pursuant to Tribunal's order dated 31.10.2016. The affidavit brings on record consequences of action taken by TEPS in

compliance of MPCB's letter dated 07.10.2016. Vide email dated 02.12.2016, send by MIDC, statement showing pumping of effluent from MIDC sump during the period of 01.10.2016 to 31.10.2016 and 01.11.2016 to 30.11.2016 was communicated showing reduction of average effluent generation from about 33 MLD effluent to 12.81 MLD effluent at the end of October, 2016 which thereafter increased till 08.11.2016 and stabilized at 22.8 MLD w.e.f. 09.11.2016. It is thus said that flow of effluent has reduced to the designed capacity of 25 MLD.

55. Further direction was issued by Chairman, MPCB and pursuant thereto, a scientific and technical officials team visited concerned area on 04.10.2016 for monitoring hourly performance of CETP for 48 hours. The above monitoring was conducted from 15.10.2016 (6:00 am) to 17.10.2016 (6:00 am). BOD, COD, pH, Suspended Solids and Total Dissolved Solids and Flow at inlet and outlet of CETP was measured on four hourly basis and the range of parameters observed during survey is as under:

Sr. No.	*Parameters*	*Sampling location*	*Range*	
			Minimum	*Maximum*
1.	*pH*	*Inlet*	*3.97*	*6.68*
		Outlet	***7.02***	***7.56***
2.	*B.O.D. (mg/l)*	*Inlet*	*1200*	*2500*
		Outlet	***700***	***1400***
3.	*C.O.D. (mg/l)*	*Inlet*	*3240*	*6560*
		Outlet	***1728***	***2560***
4.	*Suspended Solids (mg/l)*	*Inlet*	*260*	*2484*
		Outlet	***161***	***296***
5.	*Total Dissolved Solids (mg/l)*	*Inlet*	*6023*	*11461*
		Outlet	***4267***	***8503***

56. Quantity of effluent received at inlet of CETP and discharged in Navapur Sea as observed in the above survey from 15.10.2016 to 17.10.2016 is as under:

Date	***Inlet effluent Quantity (MLD)***	***Outlet effluent quantity (MLD)***	***Excess Effluent Quantity by passed (MLD)******
15/10/2016 to 16/10/2016	*41.41*	*24.08*	*17.33*
16/10/2016 to 17/10/2016	*32.98*	*25.93*	*7.05*

57. A note is added to para 5 of the affidavit, stating as under:

> *"*** The excess effluent quantity in receipt to CETP was neutralized in equalization cum neutralization tanks (4 Nos) having 16 numbers of floating aerators and then discharged to MIDC Sump No. 2 through emergency exit closed pipeline & then finally to Navapur Sea. Presently, effluent receipt to CETP is below 25 MLD."*

58. The report shows that pH and COD at inlet and outlet are significantly exceeding inlet design standards and outlet discharge standards of CETP. MPCB issued directions to industries in TIA MIDC, having effluent generation of more than 100 CMD (37 nos.), about installation of online flow meter for pH and flow along with electronic data logger, SCADA Automation Control System for pH and flow having server connectivity with CETP. MPCB also issued directions to large and medium industries in red category and SSI with effluent generation more than 25 CMD.

59. Pursuant to the said directions, all industries with effluent generation of more than 100 CMD have installed online flow meter for pH and flow along with electronic data logger. Work of installation of SCADA Automation Control System for pH and flow is in progress and will be completed in next 15 days, and in remaining industries, work for installation of the above equipment is under process. A meeting was held between the officials of MPCB and representatives of textile industries

and it was pointed out that effluents received in sump no. 3 are highly polluting having higher COD values. Thus, it was decided to identify deflating industries discharging high COD stream. Further, vide letter dated 29.11.2016, MPCB issued directions under Section 33A of Water Act, 1974 to MIDC to ensure that leakages and seepages of all effluent conveyance lines shall be attended immediately to avoid mixing of effluent in storm water drain and shall complete remaining work of HDPE conveyance system on fast track. In order to identify defaulting industries, various teams of officials, CETP Member industries and MIDC officials made surprise checking's and JVS sample collection and surveillance of 95 industries was carried out from 23.11.2016 to 02.12.2016. The analysis reports disclosed 46 industries primarily responsible to contribute high COD load or low pH at inlet of CEPT causing total upset of CETP performance. Consequently, notice for closure was issued to 9 large scale/medium scale industries and 22 SSI. Further, show cause notices were issued to 1 large scale/medium scale industry and 3 SSI. In respect of 11 SSI, action is proposed to be taken. Further, MPCB has reviewed performance of 33 industries with Zero Liquid Discharge (hereinafter referred to as 'ZLD') and as per decision taken, MIDC Officials informed disconnection of these 33 units with ZLD from MIDC sewer.

60. MIDC was also directed to restrict illegal water supply by bore wells/tankers and in furtherance thereof MIDC has identified 41 bore wells which are permanently sealed.

Affidavit dated 05.12.2016 filed on behalf of TEPS (respondent 3)

61. Respondent 3 has stated that pursuant to order dated 09.09.2016 passed by Tribunal, TEPS has taken steps to monitor and put existing

CETP to its optimal use, including directions issued to member industries to comply with environmental protection norms. As per directives issued by MPCB and/or MIDC and as per circulars issued by TEPS, effluent quantity has reduced substantially. Water supply to member industries is curtailed by 40% by MIDC, and, it has drastically reduced effluent quantity at CETP inlet which has declined below 25 MLD from 24.10.2016. Levels are maintained till date below 25 MLD i.e., within existing capacity of CETP. A chart giving quantity details for the period of 01.11.2016 to 04.12.2016 is Annexure-A to the affidavit, and reads as under:

"TARAPUR ENVIRONMENT PROTECTION SOCIETY
EFFLUENT RECEIPT & TREATED QUANTITY – NOV – 2016

NOTE – FLOW METER READING (7 AM – 7 AM)

DATE	***FLOW METER READING IN CUM***	***TOTAL EFFLUENT RECEIPT & TREATED QTY IN DAY (CMD)***
	3245486	
01.11.2016	*3262114*	*12584*
02.11.2016	*3274698*	*24188*
03.11.2016	*3298886*	*24772*
04.11.2016	*3323658*	*19919*
05.11.2017	*3343577*	*21812*
06.11.2018	*3343577*	*22179*
07.11.2019	*3387568*	*24227*
08.11.2016	*3411795*	*21201*
09.11.2016	*3432996*	*24709*
10.11.2016	*3457705*	*22442*
11.11.2016	*3480147*	*13266*
12.11.2016	*3493413*	*22408*
13.11.2016	*3515821*	*24075*
14.11.2016	*3539896*	*23511*
15.11.2016	*3563407*	***25793***
16.11.2016	*3589200*	***26441***
17.11.2016	*3615641*	***25743***
18.11.2016	*3641384*	*18461*
19.11.2016	*3659845*	*22202*
20.11.2016	*3682047*	*24256*
21.11.2016	*3706303*	*23019*
22.11.2016	*3729322*	*23864*
23.11.2016	*3753186*	*24475*
24.11.2016	*3777661*	***25262***
25.11.2016	*3802923*	*16861*
26.11.2016	*3819784*	*19137*
27.11.2016	*3838921*	*23299*
28.11.2016	*3862220*	*24951*

29.11.2016	*3887171*	***25227***
30.11.2016	*3912398*	*23823*
	3912398	
01.12.2016	*3936221*	***25235***
02.12.2016	*3961456*	*16129*
03.12.2016	*3977585*	*18166*
04.12.2016	*3995751*	*23242*

"

62. The above chart shows that except 15.11.2016, 16.11.2016, 17.11.2016, 24.11.2016, 29.11.2016 and 01.12.2016, on other days, inlet effluent level was below 25 MLD but during the above-mentioned dates it exceeded existing capacity of CETP.

63. Further, it is said that though hydraulic load received at CETP had reduced, but organic/pollution load at CETP, due to some industries, in particular chemical zone in sump-3 or sump-4 of TIA MIDC, was higher than the designed capacity of CETP. TEPS monitored effluent quality of sumps-3 & 4 and conveyed deviation to MPCB, who took serious note and screened almost entire industries contributing to sumps - 3 & 4 area. Due to constant monitoring, inspection and survey by officials of MPCB and TEPS, acidic effluent receipt has almost stopped and organic load at CETP inlet has started declining. All efforts are being made to reduce and stabilize inlet organic load and bring the same within parameters. TEPS has started reclamation of biological mass by culture development etc., by taking fresh biomass from M/s. LUPIN & M/s. Galaxy Surfactant, who are having biological treatment plants of their own. Biomass development is expected to take not less than 15 to 20 days and process would take at least a month to show effective results. TEPS has also started monitoring of sump effluent and backtracking of source of erratic effluent quality. This monitoring has enabled TEPS to receive stipulated effluent quality at CETP inlet, which in turn will help to better system's efficiency. TEPS has spent about Rs. 2.7 crores over up gradation of its existing plant,

especially, repairs/replacement of corroded pipeline, valves and elbow connectors of tertiary system (PSF followed by ACF). The work is likely to be completed within December 2016. The real hurdle caused due to lack of skilled manpower has also been sorted out and skilled manpower has already been deployed for shift operation of CETP. Operation of CETP has been extended to run round the clock. A full-fledged and accredited laboratory at new location of 50 MLD plant is in process of establishment. By first week of 2017, a new laboratory will start operation. Old laboratories of 25 MLD CETP will continue to work for specific parameter analysis like PH, TSS, TDS, O&G and COD. All these exercises will help for precise monitoring and reduction of CETP outlet parameters within prescribed limit. Project work of TEPS was facing financial issues which have also been sorted out to a reasonable extent. TEPS has spent almost Rs. 54.23 crores over project. It has applied for subsidy to concerned Government agencies. Application for subsidy was submitted at MDIC office on 03.09.2016 under State Scheme; CETP submitted subsidy application at MIDC on 21.10.2016; TEPS submitted subsidy application to MPCB on 26.10.2016; Minister for industry conducted meeting on 28.11.2016 regarding project work and subsidy related mater; issued necessary orders for release of appliable subsidy of CETP project; MIDC (facilitatory body) organized meeting on 05.12.2016; TEPS approached its banker (M/s. Saraswat Cooperative Bank Ltd.) for loan of Rs. 40 crores; member industries of TEPS contributed about Rs. 3.95 crores and more contributions are likely to be received in December 2016 for expediting new 50 MLD CETP.

64. TEPS has also raised issue of parallel power supply with Managing Director of MSEDCL; a meeting was held at Prakash Gadh at Mumbai on 23.11.2016 and Senior authorities of MSEDCL passed necessary

instructions to their Section Head at Palghar to provide power supply to upcoming 50 MLD CETP project by Mid of March-2017 up to 70% and rest power will be made available by April 2017. TEPS is endeavoring to start new 50 MLD CETP project by April 2017, after power supply is received from MSEDCL. Till commencement of new CETP, TEPS would continue to operate existing CETP at its optimal levels and take all precautionary measures to comply with the environmental norms and standards.

65. JSWSCPL filed miscellaneous application for impleadment as respondent in present original application. TEPS has stated that JSWSCPL has made requisite payment as a capital contribution to TEPS against capacity booking at upcoming 50 MLD CETP and it will be accommodated as per capacity booking from member industries, once 50 MLD CETP project becomes operational.

Affidavit dated 16.12.2016 of MIDC (respondent 2)

66. This affidavit has been filed in reply to MA No. 352/2016 filed on behalf of respondent 8, i.e., JSWSCPL for seeking permission for running its industry by ensuring that Tribunal's orders dated 09.09.2016 would operate prospectively. Tribunal had directed MPCB that no fresh Consent to Establish or for expansion in TIA MIDC is granted till further orders. The affidavit states that letter dated 27.05.2014 was issued allotting Plot No. B-6/1/1, area 51866 square meters in TIA MIDC to respondent 8. The said allotment was subject to certain terms and conditions to be complied by the allottee. The conditions include stipulation that allotted land can be used for setting up of a factory premises and not for any obnoxious industry, offensive by reasons as specified in Annexure set out in the schedule to the Agreement to Lease and, emission of odor, liquid

effluvia, dust, smoke, gas, nuisance, vibration or fire hazards. The allotment letter also says, if proposed unit is a chemical unit having possibility of causing pollution, clearance from MPCB is essential. Allottee is supposed to develop plot within two years from the date of taking possession and use 100% FSI as per MIDC Regulations. Possession of plot was handed over to respondent 8 on 30.09.2014. Further, issue of taking membership with TEPS is also mandatory as per condition no. 3 of allotment order. However, as on date, there is no development on the said plot and Respondent 8 has also not applied for building permission so as to carry out constructions, though period within which construction ought to have been completed, has already expired. Respondent 8 made a representation dated 03.02.2016, received in the office of MIDC on 08.02.2016, whereby respondent 8 made a request that plans for building permission be allowed to complete after receiving consent to establish from MPCB. The said representation of JSWSCPL has been rejected by MIDC vide letter dated 24.05.2016.

Affidavit dated 16.12.2016 of MIDC (respondent 2)

67. This affidavit has been filed in reference to MA. No. 400/2016 filed on behalf of M/s. Valsad District Cooperative Milk Products' Union Ltd. MA was filed with a prayer that applicant - M/s. Valsad District Cooperative Milk Products' Union Ltd be allowed some relaxation in use of water to the extent of 325 m^3 per day through a separate temporary connection of 160 mm (6" line) in place of existing 80 mm (3" line). Affidavit of MIDC said that Tribunal, vide order dated 09.09.2016, directed MPCB and MIDC to ensure that waste generated by the industries at that particular time, is reduced by 40%. In order to ensure compliance of the said order, MIDC reduced water supply in TIA MIDC by 40% since 25.10.2016. Reduction in water supply has also resulted in

improvement of quality of effluent discharged in CETP, bringing it within prescribed capacity of CETP. MIDC has acted to comply with the order of Tribunal. However, MIDC did not object the request of M/s. Valsad District Cooperative Milk Products' Union Ltd and said that it may be considered by Tribunal whereupon MIDC will comply.

Affidavit dated 14.02.2017 filed by MPCB (respondent 1)

68. Affidavit dated 14.02.2017 received in Tribunal on 15.02.2017, is filed on behalf of MPCB (respondent 1). This affidavit has been filed pursuant to Tribunal's order dated 19.12.2016. It is said that 49 ZLD industries were directed to be disconnected from sewerage line connection, vide MPCB's letter dated 06.01.2017 (Annexure I to Affidavit). List of these 49 industries, contained in annexure I to letter dated 06.01.2017, is as under:

Annexure-A		
Sr. No	***Name of Industries***	***Address***
1.	*MANDHANA INDUSTRIES PVT LT*	*C-3,MIDC Tarapur*
2.	*JSW STEEL LTD.*	*B-6, MIDC Tarapur*
3.	*JSW STEEL LTD.*	*B-7/1, MIDC Tarapur*
4.	*Zakaria Fabrics Pvt Ltd*	*A-13, MIDC Tarapur*
5.	*First Winner*	*N-66, MIDC Tarapur*
6.	*BOMBAY RAYON FASHION LTD*	*G-95, MIDC Tarapur*
7.	*Manan Cotsyn Pvt Ltd*	*G-4/2, MIDC Tarapur*
8.	*Sunway fashions. Pvt: Ltd*	*G-21, MIDC Tarapur*
9.	*SIYARAM SILK MILL LTD.*	*E-125, MIDC Tarapur*
10.	*Nirvana Silk Mils P.td*	*D-6, MIDC Tarapur*
11.	*Ramdev Chemicals P. Ltd*	*E-41,& E-129, MIDC Tarapur*
12.	*Indrox Global Pvt. Ltd*	*B-11, MIDC Tarapur*
13.	*Loba Chemie Pvt.Ltd*	*D-22, MIDC Tarapur*
14.	*Viraj Profiles Ltd*	*G-1/2,1/3,2, MIDC Tarapur*
15.	*Viraj Profiles Ltd*	*G-1/4, MIDC Tarapur*
16.	*NGL Fine Chem Ltd*	*S-18/3, MIDC Tarapur*
17.	*Samrudha Pharmacare P. Ltd*	*G-16/1,2,3, MIDC Tarapur*
18.	*Sirmaxo Chemicals P. ltd*	*E-130, E130/1, MIDC Tarapur*
19.	*Unitec Inc*	*N-30, MIDC Tarapur*
20.	*M/s Specteochem Pvt. Ltd.*	*E-96,E-97, MIDC Tarapur*
21.	*M/s VAP Industries*	*E-7/4, MIDC Tarapur*
22.	*M/s. Gunjan Chemicals Inds. P. Ltd*	*K-48, MIDC Tarapur*
23.	*M/s. Surya Chemicals Inds.*	*T-41, MIDC Tarapur*

24.	M/s. Nuhush Textile Inds	N-17, MIDC Tarapur
25.	Trupti Pharma chem pvt ltd	W-11, MIDC Tarapur
26.	Darshan Fine fab P. Ltd	G-8/1, MIDC Tarapur
27.	M/s. S.R Steel Engg.	W-80/A, MIDC Tarapur
28.	M/s. Balaji Engineeering	W-38/8, MIDC Tarapur
29.	M/s. Arihant Chemical Co	W-167, MIDC Tarapur
30.	Aarti Drugs Ltd.	S-33/34, MIDC Tarapur
31.	D R CoatsInk & Rsin P. Ltd	J-51, MIDC Tarapur
32.	Indaco Jeans P. Ltd	G-21 MIDC Tarapur
33.	Shree Rajendra Engg Work.	J-139, MIDC Tarapur
34.	Satguru Steelwool (1)P. Ltd	J-139/1, MIDC Tarapur
35.	Arihant Chemical Co.	S-29. MIDC Tarapur
36.	Nutrapluse Inia Ltd,	T-30, MIDC Tarapur
37.	Shubham Inks & Chemicals P. Ltd.	T-51, MIDC Tarapur
38.	Pearle farben Chem P.Ltd	N-167, MIDC Tarapur
39.	Vivid Global Inds	D-21/1, MIDC Tarapur
40.	Genial Chemle.	L-59, MIDC Tarapur
41.	Petrogate Metal Products P ltd	W-55/D, MIDC Tarapur
42.	Scitech Centre	W-2, MIDC Tarapur
43.	S.K Inds	W-187, MIDC Tarapur
44.	Mecoy Pharma P, Ltd	IS-8, MIDC Tarapur
45.	Sifer Car Care	J-40, MIDC Tarapur
46.	STS Automobiles	J-185/186,MIDCTarapur
47.	Spectra MotorsLtd	J-240, MIDC Tarapur
48.	Jaron Cosmetique P. Ltd	T-48, MIDC Tarapur
49.	Ciron Drugs & pharmaceuticals P. Ltd	N-118/1, MIDC Tarapur

69. MIDC was also directed to ensure that discharge of effluent to MIDC sewer leading to CETP shall be sealed permanently so that there shall not be discharge of treated/untreated effluent from above 49 ZLD industries. However, no confirmation for compliance of above directions was received from MIDC by MPCB. As per report submitted by TEPS, daily discharge from CETP in December, 2016 and January, 2017 ranges between 16.129 MLD to 26.641 MLD and 13.292 MLD to 28.224 MLD, respectively. MPCB issued closure directions to 31 industries, show cause notices to 4 industries and proposed directions to 11 industries on the basis of their performance, pursuant to survey made between 23.11.2016 to 03.12.2016. Similar survey was continued from 07.01.2017 to 17.01.2017 and details of the survey is given as under:

"1. Duration of Survey : 07.01.2017 to 17.01.2017
2. No. of Effluent generating units monitored : 94 Nos.
3. No. of samples collected from Industries : 275 Nos.

4. No of samples collected from Inlet of CETP : 34 Nos.
5. No of samples collected from outlet of CETP : 34 Nos"

70. MPCB decided to allow re-functioning of industries on the following criteria:

> *"i. Units having effluent quantity more than 25 CMD, which have upgraded Effluent Treatment Plant to achieve consented discharge standards.*
>
> *ii. Units having Zero Liquid Discharge or 100% recycling of treated effluent.*
>
> *iii. SSI CETP member industries having less than 25 CMD can be allowed upto 1000 mg/l COD (Less than CETP inlet design standards i.e. 3500 mg/l). Provided each industry submits adequacy repot of Water Pollution Control/ Air Pollution Control, verified either by Respondent Board or reputed institutes like IIT/NEERI/UDCT.*
>
> *iv. Trial/ Conditional restart for the units, which have adequate Effluent Treatment Plant as verified and confirmed by the institutes, to be considered for 15 days restart. Each effluent treatment plant to be monitored twice a day, after the seventh day of the restart, to confirm performance.*
>
> *v. Non complying units given conditional restart, if found with exceedance from 25% even for a single incidence shall be closed forthwith."*

71. Based on the above criteria, on 13.02.2010, MPCB allowed conditional restart to following five industries:

> *"1) Mis. Kriplon Synethics, N-97/98, MIDC Tarapur*
> *2) M/s. Remi Edelstahal Tubulars Ltd., N-211/1, MIDC Tarapur*
> *3) M/s. Aarti Industries, L-5, MIDC, Tarapur*
> *4) M/s. Aarti Drugs, N-198, MIDC, Tarapur*
> *5) M/s. Aarti Drugs, E-120, MIDC, Tarapur."*

72. Vide letter dated 13.02.2017, TEPS submitted compliance to directions issued by MPCB vide letter dated 21.01.2017. TEPS also informed to have constituted a vigilance Committee of 12 members constituting member industries for monitoring discharge of effluent by individual industries so as to control the inlet parameter of CETP. This was communicated vide letter dated 10.01.2017, send by TEPS to TIA

MIDC. It is said MPCB has taken all steps to control pollution, i.e., the process to issue direction for closure to 17 industries, show cause notices, proposing closure to 32 industries and proposed directions to 7 defaulting industries.

Affidavit dated 10.04.2017 filed by respondent 9 (TIMA), (impleaded vide order dated 06.12.2016)

73. TIMA is an association of industries established at TIA MIDC, to represent interest and functioning of industries in TIA MIDC. The association itself was impleaded as respondent 9 by Tribunal's order dated 06.12.2016 so as to represent industries in that area. All industries were allowed to place their stand through TIMA.

74. TIMA has filed its reply dated 10.04.2017. The affidavit has been sworn by Mr. Shivranjan Kailashchandra Gupta, Hon. Secretary of TIMA, giving history of industrial estate. Respondent 9 has said that in 1975, State Government approved setting up of industrial estates in various districts of Maharashtra. State Industrial and Investment Corporation of Maharashtra Ltd. (hereinafter referred to as '**SICOM**') selected Biosar-Tarapur to develop as a growth centre and channelled its efforts to make it one of the best Industrial Complex in Maharashtra. Tarapur is a census town in District Thane in State of Maharashtra, located at about 45 km north of Virar, on the Western Railway line of Mumbai Suburban Division (Mumbai Suburban Railway). Locations near Mumbai Port/Mumbai Harbour (BPT) and JNPT as well as proximity to Trans Thane Creek (TTC) MIDC, Vapi GIDC add a great value to the said industrial estate. It is located on important rail-route, Mumbai to Delhi and Mumbai-Ahmedabad Highway, part of Golden Quadrilateral project. Biosar Tarapur Industrial Estate, established in 1972 is known as MIDC Tarapur i.e., TIA MIDC. Initially, a small number of entrepreneurs were

functioning in the said area. They formed an association to take care of common interest of industries related to MIDC, MPCB, etc., and the said association formed, is called 'TIMA', after having registration under Societies Act, 1860 vide registration no. MAH/1038/THANE on 21.02.1983. There are about 1200 industries in TIA MIDC, whereof 915 industries are members of TIMA. Current turnover of TIA MIDC is to the tune of Rs. 40,000 cr. out of which almost 50% is export. It has employment potential of about 2 lakh people. Initially TIMA set up CETP in 1993 with the capacity of 2 MLD for the benefit of member industries. At that time, collection of effluent was through tankers, since no pipeline was provided by MIDC to connect all industrial units to CETP. Only those industrial units who were not having their adequate secondary treatment facility, joined CETP set up by TIMA. In the year 2004, Respondent 9 (TIMA) formed a separate body, TEPS with an objective to construct a high capacity CETP, for treatment of effluents discharged from chemical units and other plants at a centralized point so as to observe environmental norms and to prevent pollution in air, water and ground. Effluent treatment charges are collected by TEPS and MIDC from member industries which presently are to the tune of Rs. 60 lakhs per month.

75. As per order dated 31.10.2016 passed by Tribunal, member industries of respondent 9 cooperated for reduction and discharge of effluent by 40% and it is being complied with, in letter and spirit. The role of MIDC in maintenance and running of proper CETP is crucial, and without its support it is difficult to run a CETP with required achievement of standards. It is the responsibility of MIDC to provide facility for proper establishment and functioning of CETP, through appropriate drainage system. 50 MLD CETP has delayed due to problem of allotment of land at the end of MIDC, in as much as, initially land was allotted to TIMA/TEPS

but later it was allotted to a private party and the allotment made to TEPS was withdrawn. This resulted in a litigation before Bombay High Court. The possession of allotment of land was forcibly taken by MIDC. All this has caused delay. Further, for last so many years, municipal solid waste from nearby villages has been dumped into TIA MIDC. MIDC has not made any policy to allot land for dumping of municipal solid waste. Since protection, reservation and maintenance of environment is collective responsibility of MPCB, MIDC, TIMA and TEPS, hence it was not appropriate on the part of MIDC to withdraw land, already allotted, for establishment of new higher capacity CETP. Now work has already started and almost 60% project of 50 MLD CETP is complete. TIMA has made all efforts to get Tribunal's order complied and made arrangement for requisite finances, needed by TEPS, for establishment of new CETP. The order of Tribunal imposing drastic cut in discharge of effluents is causing serious prejudice to the member industries, affecting their functioning in a larger way and is also going to affect workforce, revenue, etc. Some member industries have also questioned standards to be observed by CETP, applicable to small scale industries vis-a-vis medium and large industries.

76. It is also said that whatever amount has been received by MPCB on account of forfeiture of bank guarantee etc., due to failure of observance of environmental norms, has to be used only for restoration of degraded environment and not for the purpose of its own, by MPCB. Reliance has been placed on Supreme Court's judgment in ***Indian Council for Enviro-Legal Action vs. Union of India, (1996)5SCC281***. In ***Essar Oil vs. Halar Utkarsh Samiti (2004)2SCC392*** it was held that development and environment must go hand in hand. It is necessary to preserve

ecology and environment but simultaneously it should not hamper economic and other developments.

77. Respondent 9 also made a request that it may be allowed to make an application for relaxing standards with regard to applicable norms to SSI industries, pursuant to Tribunal's order passed in ***OA 34/2013(WZ), Tarun Patel vs. GPCB and Others***.

Affidavit dated 04.05.2017 by MPCB (respondent 1)

78. Affidavit dated 04.05.2017, received in Tribunal on 04.05.2017, is filed on behalf of MPCB to bring on record action taken and subsequent events after 13.02.2017. Action taken against various industries, is as under:

Sr No	***Details***	***1st Phase Survey (Nov, Dec-2016)***	***2nd Phase Survey (Jan 2017)***	***3rd Phase Survey (April 2017)***	***Regular Monitoring after 13.02.2017***	***Total***
1.	*Total industries Surveyed*	*153*	*86*	*12*	*Regular visit*	*251*
2.	*CD*	*31*	*20*	*11*	*9*	*71*
3.	*SCN*	*4*	*36*	*1*	*0*	*41*
4.	*PD*	*11*	*13*	*0*	*3*	*27*
5.	*ID*	*0*	*0*	*0*	*2*	*2*
6.	***Total Actions***	***46***	***69***	***12***	***14***	***141***
7.	*Restart given After 13.02.2017*	*13*	*0*	*0*	*1*	*14*
8.	*Restart given After 13.02.2017*	*16*	*7*	*0*	*2*	*25*
9.	***Total Restart Numbers***	***29***	***7***	***0***	***3***	***39***
10.	*Restart not given till 03.05.2017*	*2*	*13*	*11*	*6*	*32*

79. Vide letter dated 29.03.2017, MPCB issued directions under Section 33A of Water Act, 1974 to disconnect underground drainage pipeline, connection of 49 ZLD industries, to ensure that discharge point of industrial waste water from these industries in MIDC underground system is sealed. MIDC also informed, vide letter dated 03.04.2017, that it is proposing to take over control over operation and maintenance of 6 CETPs including CETP of TEPS. Further, it has disconnected drainage line connection of ZLD industries to MIDC drainage. MIDC along with TIMA and TEPS would start desludging of all 4 sumps in phase-wise manner. The desludging of sump no. 3, in first phase, commenced on 28.04.2017 for which 148 member industries agreed not to discharge effluent from 28.04.2017 till desludging is completed.

80. Performance of CEPT is also being monitored and some time it showed improvements but sudden discharge of effluent has caused increase for which 8 defaulting industries were identified and actions were taken. The steps taken by TEPS had shown following results:

> "a. *The volume of industrial effluent is reduced up to 25 MLD by curtailing the water supply of industries through MIDC. The MIDC has blocked the drainage of 49 nos. of ZLD units.*
>
> *b. The inlet quality at CETP is improved and average COD value is 3852.0 mgl/l.*
>
> *c. The outlet of TEPS-CETP, average COD is 973.0 mg/l. COD at outlet, on 24.04.2017 has achieved 488.0 mg/lit.*"

Rejoinder dated 30.05.2017 (in reply to affidavit dated 04.05.2017 filed by respondent 1) (page/811)

81. Continuing non-compliant attitude on the part of TEPS and operating CEPT causing pollution has been fortified by referring to letter dated 23.02.2017 sent by TEPS to respondent 1 stating that CETP online monitoring system is already installed at inlet and outlet but outlet system has certain hardware issues which will be overcome shortly.

Another letter sent by TEPS on 23.03.2017 in response to a show cause notice issued by MPCB virtually reiterate the same thing stating "*TEPS installed online monitoring system @ CETP inlet & outlet, but due to some hardware problem, it was not able to link to SCADA".* Despite continuing violations, Statutory Regulators namely MPCB has not taken any effective action exercising its statutory powers, which is not limited to just closure of industries but is much more than that. Referring to para 1(iv) of the affidavit dated 04.05.2017, it is said that the stand taken by respondent 1 that on the basis of defined policy adopted by MPCB, re-start directions were issued to several industries subsequently, but it is not made clear as to what defined policy was which was followed for permitting re-start of industries, though water pollution had continued even earlier and subsequent. The direction issued to disconnect sewage line connection of individual ZLD industries to MIDC sewer shows that there was an existing problem of industries unauthorizedly releasing effluents into the water bodies of the area but respondent 1 did not take any adequate, effective and appropriate prohibitory action by exercising different statutory powers available to it. Even MIDC had failed to carry out its functions of providing infrastructure for CEPT which includes effluent carrying pipelines and action ought to have been taken against it also but respondent 1 has failed. The analysis of inlet and outlet samples collected by MPCB at exhibit K to the affidavit dated 04.05.2017 shows that COD, BOD and suspended solids and TDS continued to remain far above the prescribed standards. Average COD value found was 973 mg/l while prescribed norm as per water rules is 250 mg/l.

Affidavit dated 30.05.2017 filed by respondent 9 (TIMA)

82. This affidavit has been filed to highlight role of MIDC in failing to provide necessary infrastructural support to CETP and also in rebuttal of

report dated 02.12.2016 submitted by Zila Parishad, Palghar. It is said that MIDC is suffering from policy paralysis with respect to environmental issues. A letter dated 24.03.2017 was issued cancelling lease of 2 MLD CETP. Thereafter, possession of plot was forcibly taken and operational 2 MLD CETP was demolished. The site of 2 MLD CETP was being used as a common hazardous waste collection centre for its onward disposal by Mumbai Waste Management Ltd., Taloja. In PIL No. 17 of 2011, before Bombay High Court, MPCB had given an affidavit that the society running 2 MLD CETP will use site for incineration of hazardous waste in future. TIA MIDC is suffering badly due to capacity constraints of CETP. The collective loss is huge, running in thousands of crores of rupees. Capacity of 2 MLD and 25 MLD CETPs could have been increased collectively to 40 MLD in a short timeframe but no such opportunity was given. MIDC gave a unilateral notice and despite reply, chose to forcibly take possession and demolish 2 MLD CETP, ignoring that State Government had given grants and subsidies for the said CETP. The site of 2 MLD CETP is an amenity plot and could not have been taken for any other purposes. Though, TEPS has made attempt and trying to complete commencement of 50 MLD CETP at the earliest but due to financial constraints and non-receipt of subsidy, it is getting delayed. Replying to the report dated 02.12.2016 filed by Zila Parishad, Palghar, it is denied that water standards in villages have got affected due to water pollution caused by TIA MIDC. Further, report of diseases spread to villagers/fishermen is also denied. Fisheries in Maharashtra is facing crisis as per report of Fisheries Department of Maharashtra due to various other reasons mainly over-fishing, destructive fishing practices, declining fish stocks, costal land use changes, sea water pollution, etc. Rise in emission of heat trapping greenhouses is causing increase in

earth's temperature and this is one of the major causes of global warming and a contributing factor to climate change. This climate change has added to the problem of fishing. For marine fisheries, temperature of water is one of the most important environmental variables. Global warming has caused rise in sea surface temperature. Average annual temperature, along Maharashtra Coast, has risen more than 10 centigrade, over the past few decades. This data is submitted by satellite thermal imageries for the past four decades. All these factors contribute to several physical and biological changes which impact coastal marine ecology and fisheries. Displacement or destruction of phytoplankton habitat and coral bleaching have a profound effect on the marine ecosystem. All these have affected fish reproduction and food consumption. They influence metabolic activity of fish and phenology (life cycle events) leading to their migration and extension of the depth where they occur. In Environment Management Plan submitted by M/s. JSW Infrastructure Ltd. in July 2015, an interim survey report on "Assessment of Impact on fish production due to development of the proposed All-Weather Captive Jetty' at Village Nandgaon, Maharashtra by Mumbai Research Centre of ICAR-Central Marine Fisheries Research Institute, was submitted. As per Environmental and physico-chemical parameters analysed by laboratories, the results show that pH range was from 7.94 to 8.35 i.e., within optimum pH range. Similarly, dissolved oxygen level was also within optimum limit i.e., from 2.4 to 4.0 ppm or mg/l. Salinity was fluctuating between 33.48-35.3 ppt; conductivity ranged between 52.4 to 54.87 ms/cm. Colour of the near shore water was black to brown with a strong stinking and chemical odour. Total dissolved solids and total suspended solids content in sea water samples ranged between 47.12 to 50.46 ppt and 0.22 to 0.56 ppt respectively. Sea water

turbidity fluctuated between 28.6 to 45.7 NTU. Nutrients play a crucial role in the primary productivity of sea water. Nutrients such as phosphate, nitrate, nitrite, silicate were analysed from water samples and results have been given in the form of a chart which is as under:

"Table No. 2: Physico-Chemical and biological parameters recorded at proposed project

Parameter	***April 2015***			***May 2015***		
	Alewadi	***Navapur***	***Nandgaon***	***Alewadi***	***Navapur***	***Nandgaon***
Physico-Chemical						
1.Atmospheric Temperature (^{0}C)	*35*	*34.5*	*34.5*	*35*	*34*	*33.8*
2.Sea Surface Temperature (^{0}C)	*34.5*	*33.2*	*34*	*34.9*	*33.48*	*33*
3. pH	*8.15*	*7.94*	*8.3*	*8.31*	*8.28*	*8.35*
4.Salinity x 10^{-3}	*35.3*	*34.8*	*33.49*	*33.6*	*33.48*	*33.64*
5.Conductivity (ms/cm)	*52.51*	*52.4*	*52.95*	*52.91*	*54.87*	*53.18*
6.Dissolved Oxygen (mg/l)	*4.02*	*3.12*	*3.6*	*2.5*	*3.0*	*2.4*
7.Dissolved Oxygen Saturation (%)	*54.5*	*44.3*	*50.3*	*36.8*	*43.3*	*35.2*
8.Total Dissolved Solids (ppt)	*48.93*	*47.12*	*48.47*	*50.46*	*49.66*	*48.67*
9.Total Suspended Solids (mg/l)	*0.22*	*0.35*	*0.56*	*0.36*	*0.23*	*0.38*
10. Turbidity (NTU)	*32.4*	*28.6*	*35.2*	*44.7*	*45.7*	*44.1*
Nutrients						
1.Phosphate (mg/l)	*1.1*	*2.8*	*2.1*	*1.1*	*2.3*	*1.3*
2.Nitrate (mg/l)	*11.2*	*5.8*	*6.2*	*5.3*	*6.2*	*4.8*
3.Nitrite (mg/l)	*1.8*	*0.5*	*0.25*	*1.65*	*0.59*	*0.25*
4.Silicate (mg/l)	*1.12*	*4.31*	*6.42*	*1.37*	*2.56*	*1.87*
5.Ammonia (mg/l)	*0.30*	*0.98*	*0.76*	*0.10*	*0.82*	*0.54*
Biological						
1. Chlorophyll-a (mg/m^3)	*16.39*	*11.83*	*9.31*	*8.57*	*10.17*	*5.05*
2. Total Viable Count (cfu/ml)	*10^6*	*10^3*	*10^3*	*10^3*	*10^3*	*10^3*
3. Total Coliform Forming (cfu/ml)	*Nil*	*10^2*	*Nil*	*Nil*	*10^2*	*10^2*
4. Escherichia coli (cfu/ml)	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*	*Nil*

"

83. Chlorophyll content was estimated and found to be ranging between 8.57 to 16.39 mg/m^3; Escherichia coli, a faecal coliform bacterium, was absent in the samples collected during rapid survey whereas total viable count and total coliform forming ranged between 103 to 106 and absent to 102, respectively. It is further said that phytoplankton diversity and abundance studies were undertaken for the collected water samples from selected locations. Laboratories analysis revealed presence of 12 phytoplankton species in the sea water samples. Species recorded were Thalassioira decipiens, Navicula distans, Skeletonema costatum, Conscinodiscus granii, Scrippsiella trochoidea, Guinardia delicatula, Trichodesmium erythraeum, Odontella sienis, Navicula clavate, Gonyaulax plygramma, Diploneis sp. and Amphora sp. Thalassiosira decipiens, Skeletonema costatum. It is, thus, claimed that report is based on conjectures and surmises and is incorrect. It is lastly stated that water quality status of sea water pollution was conducted by MPCB and study revealed that sea water near Shivaji Park, Chowpatty, Colaba, Dadar, Worly is polluted though no notable industries are situated near that area. Further water quality of Bhayander area and Palghar are of similar quality which shows that the industries are not the only one responsible for sea pollution.

Affidavit dated 30.05.2017 by respondent 3, TEPS (P/786)

84. Affidavit dated 30.05.2017 filed on the same date by TEPS, respondent 3. The affidavit is sworn by Shri Gajanan S. Jadhav, ETP Manager stating that the existing capacity of CETP is 25 MLD and a new 50 MLD CETP is under construction. It is likely to be completed by November 2017 (first phase-25 MLD). Respondent 3 has carried out upgradation work of existing CETP by incurring expenses of Rs. 3.15 crores till March 2016. TEPS has prepared a definitive action plan to

ensure appropriate quality of effluent to be received at CETP for treatment so as to receive prescribed standard. An extensive study of treatability of CETP facility as well as effluent streams received from industrial zone has been undertaken by TEPS and it has suggested MPCB and MIDC to segregate certain streams, like sump 3 and 4 effluent and treat separately. It was found that MIDC's two sumps (sump-3 and 4) receiving high COD were almost filled with sludge (70% capacity) which was required to be desludged. TEPS submitted action plan to MPCB vide letters dated 22.04.2017 (annexure 1-A page 795) and 17.05.2017 (annexure 1-B page 798). Action plan primarily cover following aspects:

a) Monitoring of effluent at source;
b) Desludging of sump- 3 and 4;
c) Segregation of sump-3 and 4 and E-Zone effluent and pre and post treat and thereafter feed to Bioreactor.
d) To install PH meter at sump-3 inlet, capable of sending SMS of deviated online PH;
e) Spray drying to segregated effluent.

85. TEPS started monitoring of effluent and conveying irregularities to MPCB from time to time which has held monitoring authorities to identify defaulter industries discharging effluent at MIDC sumps. This monitoring has minimized/reduced erratic quality of effluent received at sumps. **TEPS also observed acidic effluent discharge by some units**. The irregularities were traced at source and the **defaulting industries identified, as also conveyed to MPCB, were**:

i. M/s **Shrihance Chemicals** (acidic effluent discharge)
ii. M/s **Omega Colours** (acidic effluent discharge)
iii. M/s **Panchamrut Chemicals** (acidic effluent discharge)
iv. M/s **Sunil Grate** (acidic PH, despite closure to industry)

v. M/s **Nutra plus** (acidic PH, despite closure to industry)

vi. M/s **JV Chem Pvt. Ltd.**

86. MPCB issued closure directions to industries i.e. M/s Shriyance Chemicals, M/s Omega Colours, M/s Panchamrut Chemical and M/s JV Chem Pvt. Ltd. The monitoring activity had resulted in almost stopping of discharge of acidic effluent though cleaning of sludge was responsibility of MIDC but they were not responding. TEPS with the co-operation of industries cleaned some and communicated to MPCB and MIODC vide letter dated 09.05.2017. After de-sludging, CETP was receiving effluent having consistent characteristics from sump-3 minimizing/stopping shock loads. TEPS also bought new floating aerators to avoid sludge accumulation and avail pre aeration at sump. Similar aerations are to be installed at sump-3 also. Delay in installation of aerator is due to want of permission from MIDC. Considering number of industries functional in TIA MIDC it is difficult to monitor raw/semi treated effluent discharged by industries in CETP. TEPS decided to first monitor sumps from which CETP received raw material for treatment. Normally such effluent received at CETP at sump-3 and 4 is high in COD. TEPC has decided to identify, separate and pre-treat effluent till primary treatment and then adopt controlled feeding of CETP aeration systems. Consistent quality of effluent feeding will improve performance of CETP. Segregation work is in progress. Pipelines are ready. RCC roads cross over via culverts were prepared. MIDC officials visited on 16.05.2017 instructed TEPS to take permission of MIDC. Consequently, TEPS applied for permission and awaiting the same from MIDC. Within 4 days of receipt of permission from MIDC, TEPS will divert effluent to segregate sump/tanks. TEPS is further ready to install PH meters at sump-3 inlet capable of sending SMS on receiving effluent with lower pH. SMS facility can be provided

to/extended to MPCB and MIDC also. Since sump is located 3-4 km from CETP, the above facility will play important role in attending the problem at short notice on getting alert on low pH at sumps, monitoring staff will be able to rush to locate the source. Pending installation of automatic recording system, TEPS presently is doing 4 hours sampling from sump. Considering high COD of some effluent streams, TEPS and TIMA decided to provide spray drying facility for segregated effluent. Bids/offers were received and under scrutiny by M/s. Aqua Air, a process consultant appointed by CETP. TEPS has strengthened its 25 MLD CETP operation and monitoring staff strength by deploying additional skilled manpower. It has increased to 5 chemist and 5 supervisors who helped to monitor round the clock. Additional measures taken to improve performance of CETP by TEPS are:

a) Strengthening of dosing arrangement by introducing high pressure dosing pumps capable of linking to software support for automatic dose adjustment.

b) All agitators of flocculation zone in operation have been placed and dose mixing point has also changed to bottom of the flash mixer. This exercise helps and improves sludge settlement. Sludge removal was increased in financial year 2016-2017. TEPS sent 5530.07 MT of solid waste and till 2017-2018. It has sent 1192.67 MT solid waste to CHWTSDF (MWML).

87. TEPS submitted Treatment Charges Revision Proposal to MIDC for approval in September 2016 which was approved upto 5 months i.e. February 2017; TEPS struggled in receiving revised treatment charges payment from MIDC, billing as per revised rates has not been brought tin effect till date by MIDC, this has paralyzed almost TEPS-CETP's financial position, no other source of income by TEPS, notice issued by MPCB

requiring to show cause for closure of CETP is disturbing and unjustified since all possible steps were taken by TEPS.

Affidavit dated 21.07.2017 by respondent 2, MIDC (page 817)

88. Affidavit dated 21.07.2021, filed on 24.04.2017 by respondent 2, is in compliance of order dated 30.05.2017 and sworn by Shri Chandrakant Adinath Bhagat, Deputy Engineer, MIDC. Tribunal by order dated 30.05.2017 directed MIDC to arrange for removal of sludge which was dumped by TEPS weighing about 400 MT. The above sludge was removed by TEPS without permission of MIDC, though MIDC has taken all plausible steps for removal of the said sludge. TEPS vide letter dated 27.04.2017 required MIDC to permit storage of sludge removed from sump-3 on plot no. OS 74 with the assurance that the same will be lifted after being dried up and send to MWML. TEPS vide letter dated 09.05.2017 requested to arrange disposal of sludge before onset of monsoon. MIDC also undertook removal of sludge from sump-1 of 83.80 MT and send for disposal by MWML. Further MIDC arranged for disposal of sludge of 1116.99 MT collected from sump-3 from 02.06.2017 and onwards and completed on 17.06.2017. For disposal of sludge 98 trucks were required as is evident from annexure 4 page 825. Representatives of MPCB visited site on 05.06.2017 and found all sludge of sump-1 lifted by MIDC; 50% sludge of sump-3 was lifted. As per inspection report dated 12.06.2017, MIDC has removed 504 MT of sludge.

Additional Affidavit dated 31.07.2017 by respondent 3, TEPS (P/835)

89. Additional affidavit dated 31.07.2017 filed on 01.08.2017 by respondent 3-TEPS. It is stated that TEPS has taken major steps for effective segregation of effluent at CETP of sump-3, 4 and part of E-zone

effluent so as to avoid shock load and also to ensure controlled feeding to CETP. This task involves:

"(a)Monitoring of effluent at source, preparing analysis report and sharing of the same with Pollution Control Board (PCB). As part of its study, CETP also identified that out of 5 streams, 3 streams (Qty = 5.5 MLD) coming from sump–3, 4 & part of E-Zone effluents are having high organic load and if segregated, it will help CETP to perform far better. The fact is informed to MPCB. TEPS laid pipeline to divert sump-3 effluent. Whereas pipeline for diversion of sump-4 & E-zone effluent is ready for assembly at the site. MIDC's approvals for permitting the pumping line diversion, segregation and further interconnection with existing MIDC infrastructure is required and awaited. This Hon'ble Tribunal may pass necessary directions to MIDC for the same.

(b) Desludging of Sump 3 & 4: While MIDC lifted solid waste from the site, TEPS at its own costs and efforts has cleared floating thick layer comprising of plastic and tarry waste (around 2.5 MT) after drying at solar pit and then sending the same to MWML facility. Desludging has resulted in overcoming issue of continuous variation in received effluent quality.

(c) TEPS procured floating aerators for Sump-3 to avoid deposition & help in adding pre-aeration effect. Installation of floating aerators in sump areas is under progress and TEPS is awaiting approval from MIDC as well as awaiting necessary power supply required for operating floating aerators. Necessary directions in that regard to the MIDC may please be issued.

(d) TEPS has also procured online PH meter capable of sending SMS alert/e-mail. Instrumentation and installation of the same along with its weather proof housing work is being carried out. TEPS is expecting MIDC's assistance for providing power supply to the same as well as for the security of installed systems, since it is at MIDC's premises (sump-3). Necessary directions in that regard to the MIDC may please be issued.

(e) CETP is taking steps for installation of Spray Dryers for segregated effluent.

(f) CEPT has increased monitoring activity jointly with MPCB and as a result discharge of acidic effluent from industries has almost stopped. This extensive surprise joint monitoring will further help in improving the received effluent quality.

(g) TEPS had augmented additional manpower from member industries to overcome issue of skilled manpower faced earlier to ensure continued monitoring."

90. TEPS has incurred cost of approximately 6 crores for upgradation of existing CETP and needs requisite finances for which it has requested

MIDC for revisions in billing to industries but it is pending since February 2017 with MIDC. It has required financial assistance from Government for which application was submitted requiring for subsidy under centrally sponsored scheme and subsidy under State sponsored scheme and despite completion of all formalities, the matter is withheld with MIDC. It is not taken any action despite request also made by Member Secretary, MPCB in the meeting held on 14.06.2017. MIDC has also withheld approval for mortgage of plot no. AM-29.

Written submission dated 07.12.2017 by the applicant (P/1222)

91. Applicant has summarized issues in the said submissions as under:

> *"A. The **discharge of unauthorised amounts of effluent** into the Arabian sea at Navapur and water bodies in the vicinity of the Tarapur MIDC;*
> *B. The **release of untreated effluent/inadequately, treated effluent** by the Respondent No.3, which does not meet the standards prescribed by the Respondent No.1, **into the Arabian sea at Navapur and the creeks and nallahs** in the vicinity of the Tarapur MIDC;*
> *C. The **unauthorised dumping of untreated effluent** into the water bodies by the member industries of the Respondent No.2, leading to accumulation of chemical sludge in the water bodies;*
> *D. The **release of chemical effluent from the effluent carrying pipelines into the water bodies** due to the failure of the Respondent No. 2 to ensure the upkeep and maintenance of the effluent carrying pipelines;"*

92. The above issues, it is said, have led to destruction of aquatic life, coastal eco system such as mangroves and wetlands and ultimately, livelihood of fishing communities residing in the area for decades. It has also severely affected health of the villagers residing near around TIA MIDC. Since the date of filing of application, levels of pollutants in water bodies have remained practically unchanged despite several orders passed by this Tribunal and respondent 1 have not been able to do anything effective in the matter. Referring to Expert Committee report on the question of discharge of excess and unauthorized amount of effluent

into Arabian sea at Navapur and water bodies in the vicinity of Tarapur MIDC, applicant has pointed out:

a) Capacity of existing CETP is 25 MLD while 30-45 MLD effluent is being discharged by CETP operated by TEPS (annexure A-13 to OA, page/192).

b) Show cause notices were issued by MPCB to respondents 2 and 3 both on discharge of excess effluent but they have failed to comply and effluent generation of 35-40 MLD has continued against capacity of 25 MLD.

c) MPCB on 17.04.2017 (annexure IV to affidavit in reply filed by MPCB, page 273) directed MIDC to restrict supply of water to industries so that excess effluent may not be discharged. The situation has been continuing since earlier period as is evident from letter dated 23.09.2016 (annexure V to the reply affidavit of MPCB, page 277). MPCB has observed while issuing directions that the excess quantum of waste generation is due to borewell water and water supply by unauthorized tankers. So MIDC was directed to restrict unauthorized water supply by filing FIR against them and deputing security at the gate so as to prevent entry of such tankers. It was also observed by MPCB in its letter that sump-2 was regularly over flowing and untreated waste water from MIDC is being directly discharged to local nalla creating pollution nuisance in nearby area. Noticing failure on the part of MPCB in discharge of its statutory duties and continued discharge of effluent by respondents 2 and 3, Tribunal passed interim order on 09.09.2016.

d) Letter dated 16.02.2017 issued by MPCB (annexure F to affidavit dated 04.05.2017) shows following observations

> *"2. The **CETP is receiving high concentrated streams at odd hours and receiving effluent in haphazard way** which leads to destabilization of unit of CETP.*
> *3. The **effluent quantity receipt at the time of visit was between 26 to 27 MLD which was earlier between 43 to 45 MLD** due to curtailment in the effluent generation and water supply by member industries it has now stabilized nearby 25 MLD plus 2 MLD."*

e) In para 9 of the affidavit dated 30.05.2017 filed by respondent 3, he has admitted that:

> *"Considering the number of industries operating in the MIDC area, it is difficult to monitor the raw/semi treated effluent discharge by the industries CETP."*

f) Even the industries granted consent with ZLD condition were found guilty of discharging waste water of industries in CETP as is pointed out by MPCB in its letter dated 29.03.2017 (annexure B to affidavit dated 04.05.2017 filed by MPCB), stating as under:

> *"…MPC Board is in receipt of complaints from industrial establishments in MIDC Tarapur **about discharge of wastewater from industrial whom the board have granted consent with ZLD conditions**. The possibility of discharge of industrial waste water from the ZLD industries was considered by the Member Secretary and it has been instructed to immediately disconnect sewage line connection of individual ZLD industry to MIDC sewer so that these industries cannot discharge their wastewater to MIDC sewer."*

g) The directions were issued to MIDC to seal connection of industries granted consent with ZLD conditions to disable them from discharging their effluent/waste water in sewer line.

h) All the 3 respondents i.e., 1, 2 and 3 have failed to discharge their duties and obligations and guilty of causing pollution inviting appropriate directions under the statute. Respondent 1 is the Monitoring Authority to ensure compliance of environmental laws but it has failed. Respondent 2 is under an obligation to provide infrastructure for operations, repairs and upgradation of effluent collection system but it has failed to discharge the above obligation resulting in ultimate pollution. Respondent 3 is the proponent

responsible for operation of CETP but it has failed to ensure out flow effluent to meet prescribed standards of environmental norms and thus causing pollution in water bodies etc.

93. The documents are on record to show that standards prescribed for environmental norms are not being maintained in operation of CETP in question by respondents. From various documents, a chart has been prepared by applicant in para 4.1 of the Written Submissions (affidavits dated 05.12.2016, 14.02.2017 and 04.05.2017), showing consistent failure on the part of respondents in maintaining prescribed standards. The said chart reads as under:

"

MPCB TEPS-CETP Sampling Results (OUTLET)							
	Standard		**15.10.2016-17.10.2016**	**07.01.2017-17.01.2017**	**23.01.2017-28.01.2017**	**02.01.2017-29.04.2017**	**04.09.2017**
pH	5.5 to 9	Average	NA	7.6	8.0	7.2	7.1
		Minimum	7.02	7.1	7.6	6.4	NA
		Maximum	7.56	8.0	8.5	7.5	NA
BOD (mg/l)	30 (into inland surface waters) 100 (on land for irrigation and into marine coastal areas)	Average	NA	NA	NA	398	140
		Minimum	700	NA	NA	130	NA
		Maximum	1400	NA	NA	775	NA
COD (mg/l)	250	Average	NA	1544.8	1274.9	973	412
		Minimum	1728	404	800	264	NA
		Maximum	2560	2680	1952	2416	NA
TDS	2100	Average	NA	5802	4969	5918	NA
		Minimum	4267	1412	1447	858	NA
		Maximum	8506	12221	7016	10706	NA
Suspended Solids	100	Average	NA	NA	NA	286	84
		Minimum	161	NA	NA	68	NA
		Maximum	296	NA	NA	708	NA
NA Oil	20	Average	NA	NA	NA	4	NA

and grease		Minimum	NA	NA	NA	1	NA
		Maximum	NA	NA	NA	14.2	NA

"

94. Severity of pollution is evident from the documents filed as annexure A-15 to OA, page 221, showing unauthorized huge dumping of untreated effluent into water bodies by member industries of CETP, leading to accumulation of chemical sludge in water bodies. Pictures show layers of red chemical sludge accumulated in water bodies, untreated effluent being released into water body at Saravali, chemical sludge filled in cement bag and dumped in wetlands etc. This has led to devastation of mangrove and wetland ecosystems in and around the area. Photographs taken in April 2017 filed as annexure A-2 to Written Submissions show that there is no improvement in the situation.

95. A letter dated 03.04.2017 sent by applicant to respondent 2 annexing therewith pictures of dead fishes as a result of unauthorized dumping of sludge in the creek of Ucheli and Dandi in Palghar show huge level of pollution and inaction on the part of respondents.

96. In May 2017, TEPS underwent exercise of desludging of one of the sumps of CETP. 400 MT of chemical sludge was dumped in the open premises of MIDC. It was reported in a newspaper and only after the order passed by Tribunal, directing to take sludge to hazardous waste disposal site at Taloja, MIDC lifted the said chemical sludge and sent it to the designated place.

97. Chemical effluent from effluent carrying pipelines was released into water bodies due to lack of maintenance of the said pipelines by MIDC, causing pollution of water bodies. Respondent 2 in para 19 and 20 of its reply dated 26.07.2016 has acknowledged its role of providing disposal

line of CETP as well as replacement of old disposal lines. It has also acknowledged condition of disposal line, bad enough to warrant replacement but no proper maintenance was kept by it. The documents on record i.e., annexure A-12 to OA, (page 126), and show cause notice dated 17.04.2017, annexure IV to reply of MPCB, (page 273), show frequent leakages in the effluent carrying pipelines. It demonstrates laxity on the part of MIDC and thereby making it vicariously liable for causing pollution. CEPI for the last almost 20 years and more, is continuously going worse and worse demonstrating constant pollution caused by industries operating in the area of TIA MIDC. In 1996, respondent 6 identified area in question as critically polluted area. In 2010, CEPI was 72.01 (critically polluted) which got increased to 85.24 in 2011. Report of 2013 showed aggregate CEPI score of TIA MIDC as 73.30 (critically polluted). Committee's report dated 02.12.2016 revealed shocking state of affairs as is evident from the following:

> *"2) **As per Inquiry Report of the Maharashtra State Public Health Services State-level Laboratory Centre Pune***
> *Dissolved oxygen in the sea water of the laid environ appears to have depleted. Also there is intense increase in the ratio of T.D.S., C.O.D. Due to this the possibility of far-reaching consequences on aquatic animals cannot be ruled out. To add to this, it is observed that water without proper treatment from the Tarapur M.I.D.C. is being released into the sea.*
> ***3) As per the report of notings of the three years by the P.H. Centres, Murbe, Dandi under the Health Department Zilla Parishad Palghar, as well as the Rral Hospital Boisar***
> *It is observed that there is an increase in skin diseases and breathing problems among the residents living around the aforesaid Health Centre and Hospital."*

98. One of the conditions of Consent to Establish was, if CETP would not be able to achieve outlet parameters then all the members and society would be individually and jointly responsible and liable for legal action under Section 47 of Water Act, 1974 but no action has been taken against Violators for committing breach of the above condition.

Additional affidavit dated 30.08.2019, by MPCB (P/853)

99. Additional affidavit dated 30.08.2019, filed by MPCB on 11.09.2019 is in purported compliance of order Tribunal's dated 09.07.2018. Certain facts already noted above have been repeated. It also says that CETP has 25 MLD capacity but total generated capacity received at CETP is about 28 MLD to 30 MLD increasing hydraulic and pollution load on CETP. A meeting of the representatives of CETP, MIDC and Members of CETP was held on 30.01.2019. MIDC was instructed to remove sludge approximately 2000 tons from sump-1, 2, 3 and 4 and final discharge point of sump-2 and cost of de-sludging be recovered from member industries. MPCB officers visited site on various dates from January to July 2019 i.e. 07.01.2019, 14.01.2019, 21.01.2019, 28.01.2019, 04.02.2019, 11.02.2019, 18.02.2019, 25.02.2019, 05.03.2019, 11.03.2019, 18.03.2019, 01.04.2019, 08.04.2019, 15.04.2019, 06.05.2019, 13.05.2019, 20.05.2019, 27.05.2019, 03.06.2019, 10.06.2019, 17.06.2019, 24.06.2019, 01.07.2019, 08.07.2019, 15.07.2019, 22.07.2019, 29.07.2019, 05.08.2019 and 13.08.2019 and collected JVS samples of untreated and treated effluent. The analysis revealed that parameters except pH are exceeding consented limits. TEPS has disposed 1861.08 MT sludge upto 30.06.2019 from CETP and 450.45 MT sludge was removed from sump-3 and disposed. 12149.619 MT sludge was removed and scientifically disposed to CHWTSDF, still 2000 MT accumulated sludge is lying at the bottom of MIDC sump-2. TEPS vide letter dated 10.07.2019 informed that they have installed decanter of 30m^3/hr. capacity to remove sludge at the bottom of sump-2 and after rainy season entire sludge from sump-2 will be removed. MPCB has already started identification of effluent generating industries as also non-complying industries. It is also initiating action including forfeiture of

bank guarantee of Rs. 66,50,000/- from 22 industries. In the meanwhile, action taken by MPCB against TEPS, stated in para 4, as under:

"(i) The Respondent Board has issued directions u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 to MIDC vide letter dated 06/03/2017 and directed to take over non-conforming CETPs including TEPS-CETP.

(ii) The Respondent Board has refused consent to Tarapur CETP vide letter dated 28/2/2018. The Respondent Board thereafter has filed Criminal cases bearing No. 196/2018 against the Tarapur CETP before Hon'ble Judicial Magistrate First Class-Palghar. Being aggrieved by the Refusal Order of MPCB issued vide letter dated 28.02.2018, the TEPS-CETP vide dated 28.03.2018 has preferred an Appeal before the Principal Secretary, Environment Department Government of Maharashtra, to review the refusal order and to grant permission to operate and maintain CETP at Tarapur to the TEPS-CETP and they will undertake the up-gradation work of 25 MLD CETP. The Respondent Board in respect of resubmission of application for grant of consent by TEPS-CETP dated 07.11.2018, had once again issued Refusal Order dated 28.02.2019. Being aggrieved by the said Refusal Order dtd. 28.02.2019, the TEPS-CETP has preferred an Appeal dated 15.04.2019 before the Principal Secretary, Environment Department Government of Maharashtra, to review the Refusal Order and to grant permission to operate and maintain CETP at Tarapur to the TEPS-CETP and they will undertake the up-gradation work of 25 MLD CETP.

(iii) Directions u/s 5 of the Environment (Protection) Act, 1986 issued by the Central Pollution Control Board vide letter dated 23/07/2018 to Tarapur CETP and directed to take corrective action and operate properly to meet the stipulated norms, to identify the industries to keep a check on effluent quality of CETP, to install CEMS and provide data connectivity to MPCB and CPCB, to stop mixing and discharging of untreated waste water/effluent etc.

(iv) Prosecution Notice issued u/s 15 of the (Environment) Act, 1986 vide letter dated 21/01/2019 by the Respondent Board for non-performing existing 25 MLD CETP within stipulated period. In response to the said prosecution notice, Tarapur CETP has submitted its reply dated 08.02.2019.

(v) Proposed directions issued u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 vide letter dated 24/1/2019 by the Respondent Board and directed Tarapur CETP as to why it shall not be directed to deposit an amount of Rs.5,00,000/- per day (i.e. 2 paise per ltr./per day) towards the remediation cost to the environment as per 'Polluters Pay Principle'. The TEPS-CETP vide letter dated 10.02.2019 made submission that they submitted the action plan and the execution on action plan is already started.

(vi)** Directions issued u/s 33A of the Water (Prevention &Control of Pollution) Act, 1974 vide **letter dated 14/02/2019 and directed Tarapur CETP to deposit an amount of Rs.5,00,000/- per day (i.e. 2 paise per ltr./per day) towards the remediation cost to the environment as per 'Polluters Pay Principle'.

(vii) Show cause notices for closure were issued in the month of May, 2019 to 113 industries and directed to submit the details about high COD stream with quantity of effluent generated from their processes and its treatment.

(viii) ***Bank Guarantees of the 23 non-complying industries to the tune of Rs.67 Lakhs have been forfeited***.

(ix) *Directions u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 was issued to Tarapur Environment Protection Society CETP by the Respondent Board vide letter dated 28/6/2019 and directed to get the strainers installed on the discharge point of all the member industries along with the provision of positive discharge of effluent to collection system finally reaching to CETP.*

(x) *Directions u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 was issued to Maharashtra Industrial Development Corporation, Mumbai by the Respondent Board vide letter dated 28/6/2019 and directed to get the strainers installed on the discharge point of all the member industries along with the provision of positive discharge of effluent to collection system finally reaching to CETP.*

(xi) *The Respondent Board has filed Criminal cases bearing Nos.338/2010, 261/2017 and 196/2018 against the Tarapur CETP before the Hon'ble Chief Judicial Magistrate, Thane and Hon'ble Judicial Magistrate First Class-Palghar.*

(xii) At present civil and mechanical work of proposed 50 MLD CETP is completed. Bio-culture development in 25 MLD Phase-I out of 50 MLD is in progress*."*

Orders of Tribunal passed from time to time and reports of committees

100. OA was registered on 18.05.2016 and placed before Tribunal on 19.05.2016 when notices were issued to initially arrayed seven respondents. On 01.07.2016, only respondents 1, 2 and 6 were represented through Counsel while respondents 3 to 5 and 7 remained unrepresented. On the next date i.e., 27.07.2016, Shri Amit A. Agashe, Advocate appeared on behalf of respondent 3. Still respondents 4, 5 and 7 remain unrepresented. Tribunal noted in its order dated 22.08.2016 that respondents 4, 5 and 7 are unrepresented but otherwise pleadings complete, therefore, OA was directed to be posted for final hearing.

101. On 09.09.2016, final hearing could not commence, hence matter for interim relief was taken up. Applicant's Counsel pointed out that existing CETP has limited capacity while discharge of effluents is beyond that and that is how it is causing water pollution, since much of untreated or partially treated effluents generated by industries is being

discharged ultimately in Arabian Sea. Respondent 3 (i.e., TEPS represented through Counsel Shri Amit A. Agashe) admitted that effluent received in CETP is in excess to its treatment capacity. Sri Agashe further stated that steps for up-gradation have been taken. Report of MPCB also showed that about 35 to 40MLD effluent is pumped by MIDC into the sea. In the facts and circumstances, Tribunal drew conclusion that CETP run by Respondent 3 is not functioning with required capacity, and even if, effluent is treated, the treatment is not as per standards. This is undoubtedly having bearing on environment. The factum admitted by Respondent 3 that effluent discharged is beyond the capacity of CETP, also leads to the conclusion that CETP not meeting required standards, treated effluent is not safe and bound to impact adversely on environment and life of the people. Consequently, Tribunal issued following directions:

> *"1. The 3rd Respondent is directed to ensure forthwith treatment of effluent is its parameter and standards prescribed and effluent of treatment should be safe and in terms of standards fixed.*
> *2. MPCB is further directed to ensure that it grants no fresh consent to establish or expansion of any of the industries in that area till further orders from this Tribunal.*
> *3. The CEO, Zilla Parishad, district Palghar, is directed to constitute a Committee comprising of District Health Officer, Tehsildar and officials from department of Women and Child Welfare and Fisheries to inspect the area of Tarapur and surrounding for fact finding about adverse impact on environment and the health of local residents. After assessment of adverse impact, the CEO shall ensure proper health medical facilities made available to the residents.*
> *4. The Deputy Collector of the jurisdiction shall ensure compliance of this order by all concerned indicated herein.*
> *5. All the industries in Tarapur areas are directed to reduce generation of effluent waste from whatever present generation is by 40%.*
> *6. MPCB and MIDC must ensure that waste generated by industries is reduced by 40% as indicated in the above directions.*
> *7. There shall be no discharge of effluent in other areas except in designated locations. If any industry is found doing so, MPCB is directed to take strict action forth with as is permissible in law."*

102. Two M.A. were filed by applicants with a prayer that MPCB should be directed to close down all polluting industries, particularly within TIA

MIDC, since untreated effluent is being discharged by industrial units through CETP, run by Respondent 3, in Arabian Sea at Navapur and creeks and drain in the vicinity, causing serious pollution and affecting the environment.

103. Tribunal found from the record, and in particular, the affidavit dated 09.09.2016 of MPCB, that effluent quantity discharged at TIA MIDC was 38.20 MLD which shows that there was no reduction in the inflow of effluent in CETP of TEPS.

104. M.A. No. 351/2016 filed by JSWSCPL seeking its impleadment as respondent was allowed and that is how Respondent 8 was impleaded in OA M.A. No. 352/2016 was filed by JSWSCPL seeking modification of Tribunal's order on which notice was issued.

105. On 06.12.2016, in order to give representation to the industries at TIA MIDC, Tribunal allowed impleadment of TIMA as Respondent 9 so that industries functioning in the area of TIA MIDC may also place their stand before Tribunal.

106. M.A. 400/2016 was filed by M/s. Valsad District Cooperative Milk Products' Union Ltd. seeking intervention in OA but it was permitted to place its stand through TIMA which was impleaded as respondent 9.

107. In M.A. 352/2016, JSWSCPL sought modification/ clarification of order dated 09.09.2016 but finding that existing CETP was not capable of receiving any further load, applying "Precautionary" principle, Tribunal did not find any reason to modify its order dated 09.09.2016 and consequently rejected M.A. No. 352/2016 by order dated 08.03.2017.

108. M/s. Valsad District Cooperative Milk Products' Union Ltd. in M.A. No. 400/2016 sought a direction to MIDC to supply sufficient quantity of water of 325 m^3/day minimum against 376 m^3/day, approved. Considering the fact that discharge of effluent was directed to be reduced by 40%, the said request of M/s. Valsad District Cooperative Milk Products' Union Ltd. was not proper hence application was rejected vide order dated 13.04.2017.

109. Further, inquiry report dated 02.12.2016 submitted by Committee constituted by CEO Zilla Parishad, District Palghar was sought to be relied by applicants. Tribunal directed it to be placed along with original record.

110. On 30.05.2017, applicants brought to the notice of Tribunal that TEPS has discharged sludge being 400MT, dumped in the open premises of MIDC which is likely to cause serious environmental danger in ensuing monsoon season as the sludge may get washed off and pollute environment. Tribunal issued directions to MIDC to immediately arrange for removal of sludge to hazardous waste disposal site at Taloja.

111. On 24.07.2017, TEPS took stand that increased number of industries in TIA MIDC have brought increased load on CETP and it has to build extra capacity for handling such load. Counsel for TEPS stated that 75 MLD CETP is under construction and full-fledged CETP with increased capacity will be commissioned by 15.01.2018. Learned Counsel appearing on behalf of MPCB informed that no fresh consent had been granted to any industry to be established in TIA MIDC after 2014 and no consent either for establishment of new industry or expansion of existing industries, shall be granted, except ZLD industry, within TIA MIDC. The said statement was recorded by Tribunal in the order dated 24.07.2017.

112. On 08.12.2017, besides respondents 1, 2, 3, and 9, respondent 4 was also represented through Shri Rahul Garg, Advocate. MA 375/2017 filed by TEPS, seeking direction in respect of CETP was taken up, and other parties were permitted to file their response.

113. On 09.07.2018 when matter was taken up, applicants complained that even existing CETP is not being operated efficiently and to its optimal capacity. Consequently, Tribunal directed MIDC and MPCB to verify the above facts and if it is found that CETP is not properly functioning, to take appropriate action. MPCB was also directed to make inspection of individual units in the area and verify whether the same are complying with the specific conditions stipulated in the consent to operate and submit a separate report. Tribunal also observed that, in case, industries are found discharging effluent in excess of the prescribed limits and committing breach of the conditions, MPCB shall be at liberty to take action in accordance with law.

114. On 26.09.2019, Tribunal constituted a Committee to assess extent of damage, cost of restoration of environment, accountability of CETP and polluting industrial units. Committee comprised of CPCB, IIM, Ahmadabad, IIT, Ahmadabad, NEERI and GPCB (wrongly mentioned as GPCB but subsequently corrected as MPCB vide order dated 22.10.2019). Committee was directed to submit report within three months. Tribunal said that Committee will be entitled to take any factual or technical inputs in the manner found necessary and may also suggest steps for restoration of environment. Committee was also directed to give hearing to CETP Operator and the units identified, as polluting environment, by MPCB, for which list was to be supplied by MPCB to the Committee, indicating period and nature of default, within one month. MPCB was

directed to inform defaulting units for compliance of order and State Regulators had to exercise statutory powers of prosecution which power is coupled with duty. Directions contained in Para 7 (vi to x) of the order dated 29.06.2019 (as corrected on 22.10.2019) are as under:

> *"7. xxx ……xxx……xxx*
>
> *(vi) Having regard to the entirety of the fact situation in the present case, we direct that,* ***except for the green and white categories of industries, other category of defaulting industries connected to the CETP, shall deposit with the CPCB the following amounts towards interim compensation within one month:***
>
> ***a) Large Industries – Rs. 1 Crore each.***
> ***b) Medium Industries – Rs. 50 Lakhs each.***
> ***c) Small Industries – Rs. 25 Lakhs each.***
>
> *vii)* ***The CETP on its part shall deposit a sum of Rs. 10 Crores with the CPCB towards interim compensation within one month****.*
>
> *(viii) The amount may be utilized by the CPCB for restoration of the environment.*
>
> *(ix) The CPCB shall undertake jointly with MPCB extensive surveillance and monitoring of the CETP at regular intervals of three months and submit its report to this Tribunal.*
>
> *(x) Copy of the order may be sent to CPCB by email and all reports in pursuance of the above directions be sent to this Tribunal at judicial-ngt@gov.in".*

115. Tribunal also observed that similar matter being ***OA No. 95/2018, Aryavart Foundation vs. M/s. Vapi Green Enviro Ltd. & Others***, was drawing attention of Tribunal in Court No. 1, therefore, present OA be listed in Court No. 1 on the next date.

Report dated 02.01.2020 submitted by Joint Committee

116. Pursuant to order dated 26.09.2019 (as corrected vide order dated 22.10.2019), report dated 02.01.2020 was submitted by joint Committee comprising of the following:

(i) Prof Anish Sugathan, IIM Ahmedabad
(ii) Prof Chinmay Ghoroi, IIT Gandhinagar

(iii) Mr. Hemant Bherwani, Scientist, NEERI Nagpur
(iv) Mr. D. B. Patil, Regional Officer, MPCB-Thane, and
(v) Mr. Bharat K Sharma, Scientist E, CPCB

117. Report shows that MPCB submitted a list of 225 defaulting units including CETP (identified as polluting units in the last 05 years from the date of filing O.A. in Tribunal i.e., 28.4.2016) vide e-mail dated 28.11.2019. Committee afforded individual hearing to aforesaid defaulting units. It also found that in the list of 225, 04 units were not operating; 05 units did not respond to avail opportunity of hearing; and only 216 units availed opportunity of hearing which was provided. Oobjections, raised by aforesaid defaulting units, in general, are noticed in the report *as under:*

> *"(a) In cases* ***where violations were informed about samples collected from their storm water drain, the outlet of ETP having zero liquid discharge facility, etc., the unit denied*** *citing the following arguments:*
>
> *(i) Samples collected from their storm water drain are not being discharged but channelized to collection tank of their ETP;*
>
> *(ii)* ***Seepage/rainwater run-off from other's premises actually enters into their premises due to undulating land terrain and find place in their storm water drain****;*
>
> *(iii) Effluent collection sump is at higher elevation than that of unit's ETP treated storage tank and as a result effluent from* ***the collection sump enters into their ETP treated storage tank****, and;*
>
> *(iv) In cases of units having zero liquid discharge facility, the outlet of ETP (prior to RO/MEE) exceeding the prescribed discharge limits may not be considered as violations since there is no discharge line and the outlet of ETP is further subjected to RO/MEE s;*
>
> *(v) Communication informing the exceedance of prescribed norms in samples collected by Joint Vigilance Survey or show-cause notice/interim direction has not been received by the units in some of the cases. Thus,* ***proper proof is missing with MPCB for few cases****.*
>
> *(b) The SSI units represented that though in their Consent to Operate issued under the Water (Prevention & Control of Pollution) Act, 1974, MPCB has prescribed discharge effluent standard stringent to the design/standard of the CETP but incidences, where*

effluent from their unit have found within the inlet design/standard of the CETP should not be considered as violation for imposing environmental compensation/damage."

118. The above objections were examined and Committee took following decision:

(i) *In view of (a) above and other similar cases,* ***MPCB may furnish the list of only those polluting units*** *for the purpose of environmental compensation/ restoration cost* ***for which due records are available for the violations noticed by MPCB****.*

(ii) ***Incidences of SSI units, where they have discharged into CETP exceeding their prescribed norms but within design/prescribed inlet standards of CETP, may not be included in the list of polluting units for the purpose of environmental compensation/restoration cost recovery****. For if SSI units are required to meet its outlet effluent standard to that of outlet effluent discharge standard of CETP then there remains no role of CETP which has primarily been facilitated for smaller units. However, MPCB may examine the matter and take appropriate decision in exempting such exceedance cases in case of SSI units.*

(iii) ***The violations which are not directly related to effluent discharge into CETP or not causing damage to soil/ surface water/ground water, may not be taken in the list of polluting units.*** *However, MPCB may take appropriate actions for such defaults.*

(iv) *Limiting period of violations*
Taking reference from section 15(3) of the National Green Tribunal Act, 2010*, and limit a period since when the default is to be considered for assessing environmental compensation and cost of restoration, the* ***period of default has been taken into account from five years*** *since the day Original Application No. 64/2016 (WZ) was made before the Hon'ble Tribunal (i.e. 28/4/2016) extended till the date of order of the Hon'ble Tribunal (i.e.26/09/2019) viz. 28/4/2011 to 26/9/2019.*

(v) ***The number of days (N) of violations****:*
   (i) *In cases where closure direction has been issued, the period of default (N in days) may be taken as the date of inspection till the effective date of closure of the unit.*
   (ii) *For other cases including where conditional restart order or show-cause notice/proposed direction/ interim direction issued under the Water (Prevention & Control of Pollution) Act, 1974/ Environment (Protection) Act, 1986, have been issued, the period of default may be taken as the number of days(N) for which violation took place. It may be the* ***period between the day of violation observed/ due date of compliance of directions and***

the day as on which the compliance was verified by MPCB."

119. MPCB was directed to re-examine in the light of above decisions of Committee. Subsequently, MPCB submitted a report in which it added 20 more units to earlier 221 units. Thus, Committee further sought time vide report dated 02.01.2020.

Rejoinder Affidavit dated 03.09.2016 filed on 07.09.2016

120. Applicants have filed comprehensive/single rejoinder affidavit in response to the replies submitted by respondents 1, 2 and 3 which has been sworn on 03.09.2016 and on paper book from page 572 to 592. In reply to the response of respondent 1, applicants have stated that respondent 1 is responsible for monitoring and supervision of environmental and forest matters in the country. It has issued various directives and guidelines for protection of rivers and water resources. It is empowered under Water Act, 1974 and Air Act, 1981 to take necessary actions including but not limited to the closure of industries in case of violation of environmental laws. It is also responsible for monitoring functioning of industries within MIDC. Though, it is said by respondent 1 that it has taken various steps including issue of show cause notices and directions to respondent 2 and 3 but the same are not sufficient, looking to the situation, prevailing at the site in question where effluent discharge in Navapur creek continues to be far above the capacity of CETP resulting in COD, BOD, pH and other values going far above the prescribed parameters. No deterrent and effective action was taken to ensure pruning or elimination of water pollution. Despite sufficient steps by authority and power under law, respondent 1 has not taken appropriate steps to mitigate the problem of pollution in the area in question. One of the conditions contained in Consent to Establish issued by respondent 1

for CETP run by respondent 3 was, if CETP would not be able to achieve outlet parameters, all the members and societies would be individually and jointly responsible and liable for legal actions under Section 47 of Water Act, 1974. Section 47 read with Section 41 of Water Act 1974 makes defaulting bodies guilty of committing offence and liable for punishment which shall not be less than one year and six months but may extend to six years and with fine. In case offence continues, an additional fine which may extend to Rs. 5,000/- per day during such failure continues after conviction for the first failure, can also be imposed. Respondent 1, though may have issued directions and show cause notices under Section 33A of Water Act, 1974 but failed to consider that directions and show cause notices, when not found effective and non-compliance continued, ought to have taken appropriate action by invoking statutory power vested in it, as also to invoke the conditions of Consent to Establish.

121. Giving parawise reply to the response of respondent 1, it is stated that respondent 1, in reply in para 3B shows that discharge of effluent in Navapur creek varies from 35 MLD to 40 MLD, while capacity of CETP is only 25 MLD, meaning thereby that there was excess discharge of effluent and apparent violation of Water Act 1974 and the conditions of Consent to Establish. Mere issue of directions in show cause notices which did not yield in any effective result, cannot justify further inaction on the part of respondent 1, by not invoking a multifarious statutory powers vested in it under different provisions of environmental laws including prosecution etc. Discharging of effluent in deep sea at a distance of 7.1 km, would lead to further degradation of the aquatic ecology and would compound difficulties faced by traditional fishermen to carry out their fishing activities for the cause of industrial units for running their ventures

defines negligence of compliance of environmental laws and have virtually no concern for preservation and protection of environment. Reply in para 6 shows that COD and BOD average value in the year 2015-2016 was above prescribed norms, hence it was admitted case of violation of environmental laws by the concerned industrial units as also the operators of CETP. The averments in para 11 of reply of respondent 1 refer analysis of DO of water samples collected at various creeks which suggests that they are adequate for fish growth. However, average BOD of sea water at Navapur and Dandi creek are 10.53 mg/l and 10.84 mg/l respectively as compared to 3 mg/l standard as specified under EP Act, 1986. Further average annual fecal coliform data for Dandi creek is 320.81/100 (MPN) as against standard of 100/100 (MPN) as specified in EP Acct, 1986. Untreated organic matter contained fecal coliform, can be harmful to environment. Aerobic decomposition of this material can reduce dissolved oxygen levels if discharged into rivers or waterways and may reduce oxygen level enough to kill fish and other aquatic life.

122. Reply of respondent 2 (MIDC) has been dealt with by applicant in para 2 of rejoinder. Respondent 2, though has taken a stand that its functions are limited so far environmental protection measures are concerned but it has not considered that objects of establishment of MIDC is to secure orderly establishment of industries within designated industrial area and the provision of amenities and common facilities; this would include provision of facilities for establishment of Effluent Treatment Plant which in turn would include replacement of damaged pipelines, providing appropriate storm water drainage systems. CETP performed a vital function in waste disposal; hence MIDC was responsible for provision and upkeep of such system as a collaborator with MPCB so far as pollution control measures are concerned. It is responsibility of

MIDC to provide water connections and maintain water supply to the industries so as to enable them to carry out their operations. Discharge of effluent by CETP above its capacity of 25 MLD could have been continued by respondent 2 also by restricting the supply of water to industries so as to limit as per consents issued to such industries by the Board and in this regard, notice and direction was also issued by respondent 1 to MIDC but MIDC failed to observe the obligations and compliance of environmental laws. It is instrumental and has the authority to act for protection and preservation thereof. Even if, role of MIDC is restricted to facilitate orderly establishment and growth of industries in State of Maharashtra, the term 'orderly establishment' would entail providing requisite infrastructure for treatment and disposal of effluent generated by industries in the area developed by MIDC. For the upkeep of CETP, MIDC also had its due obligations and responsibility which it failed to observe. It cannot be said that respondent 2 has no control over industries within its industrial estate in as much as it had power to control water supply to the industries, monitoring activities of industries to ensure that hazardous waste and municipal solid waste etc. is not illegally disposed of. Further in para 19 and 20, respondent 2 has acknowledged its role in providing collection and disposal lines and replacing old disposal lines. Reply contained in para 19 and 20 also shows acknowledgment on the part of MIDC about depleting condition of disposal line warranting immediate repair and/or replacement and other corrective measures. Respondent 2 did not act within time for such replacement or repair of damaged line which abated offence on the part of respective industries and CETP to continue to cause damage to environment by discharge of effluent in creeks and sea water. Replying averments contained in para 21 and 22 of the response of respondent 2,

it is said that MIDC has not yet received CRZ or EC for the treated effluent carrying pipelines from TIA MIDC to deep sea at Navapur, notices issued to defaulting industries became ineffective and for prevention of pollution of water, MIDC ought to have stopped water supply to such industries. Respondent 2 is guilty of negligence by not ensuring that excess water is not supplied to the industries so as to prevent discharge of excess effluent in violation of provisions of Water Act, 1974 and the conditions of consent.

123. In para 3, applicant has responded to the reply of respondent 3 i.e., TEPS. It is denied that applicant has relied on old findings and reports and pointed out that the last report of MPCB, relied by applicant, is of March 2016 which is recent since O.A. itself was filed on 05.05.2016, hence report of March 2016 cannot be said to be an old report. The mere fact that respondent 3 is planning to establish 50 MLD CETP in addition to the existed one, will not be an excuse for discharge of effluent, admittedly in excess to the capacity of existing CETP when discharge is causing serious water pollution. The alleged steps taken by respondent for mitigating pollution have not been proved to be adequate and consistently Proponents have failed to prevent water pollution as long back as in 2011-2012. Aannual Report prepared by CPCB (annexure A-8 to OA) clearly mentions that "*the effluent quality of CETP, Tarapur is not meeting the discharge norms, and immediate action is required to be taken so that CETP achieves the desired discharge norms*". The said report, as evident, is of 2011-2012 and even in March 2016, situation continued to be the same and there was no noticeable improvement. The steps taken for execution of 50 MLD CETP also show apparent irregularities and inconsistencies in as much as EC was granted in March 2015, though Detailed Project Report (hereinafter referred to as 'DPR') in respect to the

said project was approved only on 27.07.2016 i.e. after more than a year and three months, when EC was already accorded. It is really not understandable, how EC was accorded when even DPR was not approved, though DPR is analogous to a pre-feasibility report. The alleged steps taken for improvement of performance of existing 25 MLD CETP have not resulted in any improvement in the situation. The affidavit dated 13.01.2013 filed by MPCB in High Court in ***PIL 17 of 2011*** (annexure A-12 to OA) shows that during the visit of MPCB officials, CETP was not found in operation; untreated effluent from inlet tank was found over flowing into sump-2 and ultimately, leading to Navapur creek causing pollution of creek water. Even in RTI reply dated 15.01.2016, given by MPCB to applicant (annexure A-13 to OA), it is said that "*treated effluent generated by all these companies are collected in the Effluent Treatment Plant of 25 MLD capacity on behalf of Maharashtra Industrial Development Corporation through an enclosed pipeline, thereafter on behalf of M.I.D. Corporation the entire industrial effluents generally* ***35 to 40 MLD*** *are discharged 500 metres into the sea of Navapur*". CETP continuously has discharged excess amount of effluent into water bodies and thus violating environmental laws. There is consistent violation of consent conditions on the part of CETP operator and member industries. The alleged efforts have resulted almost in negligible impact on the ultimate pollution being caused by proponents and it is evident from various reports like annexure A-14 to OA. The alleged remedial measures, if any, taken at a later stage, will not condone the offence already committed by violating environmental laws and, therefore, polluters are labile to face consequences in terms of payment of compensation, prosecution etc. Further claim that new 50 MLD capacity CETP will resolve all environmental issues, is nothing but an expectation and speculation and

cannot be an explanation or reply for consistent and continuing violation of environmental norms by discharging effluents in water bodies causing pollution.

Application dated 01.07.2020 by applicant (page 1130):

124. Applicant filed this application praying an early consideration of the matter stating that Committee was requested to submit report by January 2020 but it has sought further time and, in the meantime, industries in TIA MIDC are continuing to violate pollution norms flagrantly and also releasing untreated effluent into surrounding areas. This is causing serious health problems to the residents of surrounding areas and also fishing activities have been impacted. Untreated effluent has caused death of fauna of water bodies where fishing activities are conducted and the matter is of urgent consideration.

Detailed report dated 18.06.2020 sent by CPCB vide e-mail dated 19.06.2020

125. A detailed report dated 18.06.2020 was submitted by joint Committee through Regional Director, CPCB, Pune. Report summarized the tasks, performed by Committee, as under:

(i) Assessment of extent of damage;
(ii) Restoration measures;
(iii) environmental damage cost and cost of restoration;
(iv) Individual accountability of CETP and polluting industrial units to meet the aforesaid costs after giving hearing to the polluting units identified by MPCB:
(v) Steps for restoration of the environment."

126. Committee adopted following approach to perform above task:

"(a) Visit to the CETP and in and around MIDC Tarapur area.
(b) Data/information collection from CETP operator, MIDC and MPCB.
(c) Assimilation of information on water bodies in and around MIDC, Tarapur.
(d) Sampling of effluents from various components of CETP Tarapur.

(e) *Sampling & Analysis of sediments and water samples at various drains, creek and sea shore in and around MIDC Tarapur.*
(f) *Sampling & Analysis of ground water at various locations in and around MIDC, Tarapur.*
(g) *Hearing to the polluting units as per list provided by MPCB for the purpose of estimating their individual accountability.*
(h) *Analysis of various data/information and discussions through meetings/video conferences.*
(i) *Report preparation."*

127. The breakup of categories, scales and sector wise distribution of industries in TIA MIDC given in Table 2.1 and 2.2, is as under:

"Table 2.2: Sector Wise distribution of Industries in MIDC Tarapur

Scale→ Category↓	***Large Scale***	***Medium Scale***	***Small Scale***	***Total***
Red	*69*	*20*	*423*	***512***
Orange	*6*	*13*	*71*	***90***
Green	*32*	*26*	*556*	***614***
Total	***107***	***59***	***1050***	***1216***

Major types of industrial units are bulk drugs manufacturing units, specialty chemical manufacturing units, steel plants and textile plants. *Scale wise distribution of industries as Small-Scale Industries (SSI), Medium Scale Industries (MSI) and Large-Scale Industries (LSI) and sector wise distribution of industries are given in Figure 2.2 and Table 2.2 respectively.*

Fig. 2.2: Scale wise distribution of industries in MIDC Tarapur

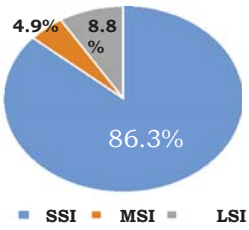

Table 2.2: Sector Wise distribution of Industries in MIDC Tarapur

Sl. No.	***Industry Sector***	***Number***
1.	*Textile Processors*	*40*
2.	*Steel Processors*	*2*
3.	*Chemical*	*298*

4.	*Dyes & Dyes Intermediates*	*25*
5.	*Pharmaceuticals*	*120*
6.	*Pesticides*	*4*
7.	*Others*	*727*
	Total	***1216***

128. Giving other relevant details, report says that TIA MIDC is surrounded by Navapur Dandi Creek in north and Kharekuran Murbe Creek in south direction. Their confluence points into Arabian Sea are separated by about 6.5 Km. Various natural and storm drains are also flowing through TIA MIDC which meets Navapur Dandi Creek in north and Kharekuran Murbe Creek in south, due to natural topography of TIA MIDC. There are 14 natural drains flowing through TIA MIDC and the list given thereof with plot numbers i.e., original location and further progress is as under:

"Table 2.3: List of drains flowing through MIDC, Tarapur

Drain Name	***Drain Origin location***	***Name of the village through which drain meet Creeks***	***Direction towards which Drain flow from the MIDC***	***Creek to which drain meet***
Drain 1	*Starting from Plot No. RB-38*	*Pasthal Village*	*North West*	*Navapur-Dandi Creek*
Drain 2	*Starting from Plot No. C-4/2/2*			
Drain 3	*Starting from Plot No. E-24/2*			
Drain 4	*Starting from Plot No. E-13*	*Salwad Village*		
Drain 5	*Starting from Plot No. T-3*	*Paam Village*		
Drain 6	*Starting from Plot No. T-52*			
Drain 7	*Starting from Plot No. N-48*	*Kumbhavli Village*	*South*	*Kharekuran Murbe Creek*
Drain 8	*Starting from Plot No. N-27*			
Drain 9	*Starting from Plot No. M-7 (Meets with Drain No. 8 near Plot No. N-26)*			
Drain	*Starting from Plot No. OS-13*	*Kolavade Village*		
Drain	*Starting from Plot No. C-2*			
Drain	*Starting from Plot No. C-7*			
Drain	*Starting from Plot No. J-72/2*			
Drain	*Starting from Plot No. J-138*			

129. In para 3.2 of the report, it is said that CETP run by Respondent 3 has 1161 industries as members. The drainage network for CETP has been detailed in para 3.3, as under:

> *"The **Tarapur MIDC areas have been divided into sixteen (16) Zones** namely A, B, C, D, E, F, G, H, J, K, L, M, N, S, T and W.*
>
> *The **effluent from industries in these zones are channelized by gravity to sumps namely Sump 1, Sump 3, Sump 4 and Gravity Main**. **From these, effluent are pumped to CETP except Gravity Main from where effluent is conveyed to the CETP by gravity**. The total drainage collection network is of 59.00 Km which are underground. Most of the drainage network has been converted with HDPE lines.*
>
> *The treated effluent from CETP is conveyed to Sump-2 from where it is pumped for 1.8 km to Break Pressure Tank-2 (BPT-2). The effluent from BPT-2 is conveyed to the On-shore drop chamber which is at 3.36 Km through two pipelines i.e. Line-1 and Line-2. and is **finally released to coastal waters of Arabian Sea at a location with shallow depth**. The submarine outfall of the CETP outlet is at shallow location which is 500 meters from the On-shore drop chamber. Work of converting the existing Pre-stressed Concrete (PSC) with HDPE lines is in progress."*

130. The management of sludge, generated from treatment process, comprised of collection of sludge in a holding tank wherefrom decanter (centrifuge) and Sludge drying Beds, it is sent to Common Hazardous Waste Treatment Storage and Disposal Facility (CHWTSDF), Taloja, District Raigad, for disposal. Annual CETP sludge received at Taloja from CETP at TIA MIDC, since April 2011 to September 2019, given in Table 3.3, is as under:

"Table 3.3: Year wise CETP Sludge received at CHWTSDF, Taloja

Sl. No.	***Financial Year***	***CETP Sludge received at CHWTSDF Taloja from CETP Tarapur***
1.	*2011-12*	*1789.32*
2.	*2012-13*	*2347.38*
3.	*2013-14*	*3795.96*
4.	*2014-15*	*2771.865*
5.	*2015-16*	*6318.375*
6.	*2016-17*	*5533.89*
7.	*2017-18*	*5643.93*

8.	*2018-19*	*3993.08*
9.	*2019-20 (Up To Sept. 2019)*	*1034*

131. Committee noted that authorization dated 29.11.2019, granted by MPCB, having validity from 31.12.2017 to 31.12.2020, allowed CETP 7 M.T./Day Chemical Sludge but it was generating more than the authorized quantity. Committee found about 750 M.T. sludge stored at CETP premises on 13.11.2019. Analyzing COD of CETP, Committee said:

> *"3.4. The data given at Annexure - III and the Figure 3.4 reveals that COD outlet has hardly complied with the standard of 250 mg/l stipulated under the Consent to Operate.* ***Among the 391 outlet samples collected during the said period of April 2011 to Nov. 2019, 379 samples have exceeded the said outlet standard and average COD concentration in CETP outlet has been observed as 813.64 mg/l.***
>
> *The CETP inlet effluent has also not complied continuously to the prescribed standard limit of 3500 mg/l.* ***Among 391 inlet samples collected during the said period of April 2011 to Nov. 2019, 100 samples have exceeded the said inlet standard and average COD concentration in CETP inlet has been observed as 5323.76 mg/l****."*

132. Similarly, analysis results of BOD of CETP inlet and outlet effluent, given in fig. 3.5, are as under:

> *"3.5. The data given at Annexure - III and the Figure 3.5* ***reveals that BOD outlet has hardly complied with the standard of 100 mg/l or 30 mg/l stipulated under Consent to Operate. Among the 391 outlet samples collected during the said period of April 2011 to Nov. 2019, BOD concentration of 390 samples have exceeded the said outlet standard of 100 mg/l or 30 mg/l and having average concentration as 315.6 mg/l.***
>
> *The CETP inlet effluent has intermittently not complied to the prescribed standard limit of 1500 mg/l. A****mong 391 samples collected during the said period of April 2011 to Nov. 2019, 61samples have exceeded the said inlet standard and average BOD concentration in CETP inlet has been observed as 2098.6 mg/l****."*

133. Regarding average inlet effluent quantity, Committee has said:

> ***"...of the 104 months since April 2011 to Nov 2019, the CETP inlet effluent quantity has exceeded for 75 months than the designed capacity of 25 MLD. During such 75 months, the said***

average inlet to the CETP has been reported as 25.27 MLD having maximum monthly average of daily inlet effluent quantity as 26.343 MLD against the said design of 25 MLD. *The excess hydraulic load may have resulted into drains as overflow."*

134. Similarly, analysis of waste water samples from inlet and outlet showed results as under:

"The analysis results reveal that the CETP did not meet discharge standards. Concentration of COD, BOD, Ammonical Nitrogen, TSS and TDS in CETP outlet exceed the outlet standard prescribed under the Consent to Operate in all the 04 samples. ***The same exceed more than 4 to 15 times, 5 to 47 times, 1 to 8 times, 1 to 20 times and 40 to 100 times respectively to the said standards. Phenols also exceeded 1.4 to 20 times the outlet standard in two of the samples and Cyanide exceed 5.4 times in one of the samples.*** *In the inlet effluent also, Ammonical Nitrogen exceeded the inlet standard prescribed under the Consent to Operate in all the inlet samples except in two samples. The same exceed to more than 1.4 to 7 times the inlet standard. COD also exceeded (1.08 to 1.5 times) in two of the samples and BOD (1.3 times) in one of the samples."*

135. Further, analysis results in respect of inlet sumps and inlet of CETP, stage wise sampling from inlet to out of CETP and heavy metals showed general failure in maintenance of standards. In Para 3.8.4.1, Committee has recorded its other observations made during site visit on 13.11.2019, as under:

"(i) All the treatment units of CETP were found operational except tertiary treatment system (comprising Pressure Sand and Activated Carbon Filter). The tertiary treatment was observed to be defunct since long time.

(ii) During the visit, ***CETP was operational without valid consent. The earlier consent expired on 31.12.2017. MPCB issued consent on 29.11.2019 for the period from 31.12.2017 to 31.12.2020****. This shows the* ***CETP was operational without consent from 31.12.2017 to 29.11.2019 i.e. almost for 23 months****.* ***MPCB granted consent even though CETP is grossly polluting consistently.*** *MPCB has taken various actions against CETP as detailed in Point 3.11.*

(iii) There were leakages from pipes & pumps, overflow of effluent from some units (equalization tanks/aeration tanks) and overall housekeeping was found to be poor. There was heavy smell of SVOCs/VOCs (solvents/chemicals) near the inlet sumps. ***Inlet of CETP (with BOD: 3150 mg/l & COD: 5680 mg/l)***

indicating that member industries discharging their untreated/partially treated effluent to CETP without confirming the inlet design norms of CETP. *CETP is not designed for such high strength effluent. There is an urgent need of separate arrangement for High COD and High TDS effluent such as Common MEE and Common Spray Dryer. Such effluent streams are required to be separately collected and transferred to common facilities with identification of such industries.*

CETP has no proper mechanism in place for routine monitoring of individual defaulter member units.

(iv) *The* ***inlet effluent is exceeding the 25 MLD design hydraulic load of CETP****. The inlet flow meter and Online Continuously Monitoring System is not functioning consistently. The* ***CETP operator also informed that inlet effluent quantity exceeds the design hydraulic load of CETP of 25 MLD that too with higher concentration at inlet****. MPCB estimates that CETP inlet effluent quantity may be about 28 MLD against the design/consented capacity of 25 MLD.*

(v) *Inlet Quality Standards are yet to be prescribed by MPCB for BOD & COD in the Consent of CETP as per MoEF&CC Notification dated 01.01.2016. The Consent stipulates that "Only for SSI units (having less than 25 CMD discharge effluent) BOD: 1500 mg/l and COD: 3500 mg/l is allowed and for rest of the industries, treated effluent as per their respective consents standards i.e. COD: 250 mg/l are allowed".*

(vi) ***Significant quantity of sludge is deposited (approx.-2400 MT) in the MIDC Sump-2 (10.56 Million Liters- capacity****) where treated effluent is collected and further transferred to the sea shore through BPTs****. There is also overflowing/leakages from pumps etc. from this sump to nearby natural drain which meets with Navapur Creek and further to the Arabian Sea.*** *It is informed that the operation of this Sump is under MIDC and responsibility lies with MIDC for proper maintenance and removal all the sludge from sump. MIDC needs to be directed to take immediate action for the same.*

(vii) *MPCB has authorized 07 Metric Ton/Day as CETP Sludge in the Authorization under Hazardous Waste (M, H & TM) Rules, 2008 for treatment and disposal of Hazardous Waste.* ***The quantum of sludge generation in the CETP may be more than such specified quantity. MPCB may review the same****. Further dry weight or wet weight should be specified*

(viii) *The stock of sludge about 750 MT stored in the premises needs to be disposed immediately to the CHWTSDF.*

(ix) *CETP needs thorough up-gradation/revamping of its units/processes in terms of capacity, retention time, automatic chemicals dosing, scraping mechanism, aeration tanks, aeration capacity, de-sludging, transfer pumps & pipelines, removal of*

corrosion affected equipment/materials, decanters and its capacity, sludge drying beds, etc."

136. In Chapter 4 of the report, Committee has examined damage to environment in two parts i.e., drain water samples and sediments samples founded. The analytical results of water samples and sediments of creeks passing across TIA MIDC have been examined and observations of Committee, are as under:

"Thus, it indicates that the two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek flowing North and South of Tarapur MIDC respectively) receiving polluted effluent from the drains of MIDC Tapaur were found having impact of discharges from such drains. Presence of odour & colour indicate requirement of further analysis which may be carried out during detailed investigation and remediation requirement as suggested under Chapter 8 "Measures for restoration of Environment in and around MIDC Tarapur" of this report."

137. The above standards have been examined as per CCME Canadian Environmental Quality Guidelines which were recommended in "Guidance document for assessment and remediation of contaminated sites in India" by MoEF&CC. **Committee has concluded that Industries are discharging untreated effluents/solvents /chemicals to the drains.**

138. Similarly in respect of **groundwater**, Committee has said:

"The above observations of high TDS and presence of BOD and COD in all the monitored ground water samples and presence of colour, odour, Chlorides, Fluorides, Sulphates, Total Ammonical Nitrogen, Metals (Lead, Copper, Iron and Manganese) in one or more samples of the sampled ground water indicate that ***the ground water in and around Tarapur MIDC has been contaminated due to the industrial activities****."*

139. As per Committee's earlier directions, MPCB re-examined defaulting units. Out of 221, it had identified earlier, 83 units were re-identified. It further identified 20 units, as defaulting units, making total

103. These 103 units were identified by MPCB by applying following factors:

> *"(i) Inclusion of only those units for which due records are available for establishing the violations;*
>
> *(ii) Exempting SSI units (having effluent discharge less than 25 KLD) who were found discharging effluent to CETP meeting CETP inlet consent norms of COD-3500 mg/l and BOD 1500 mg/l;*
>
> *(iii) Non-inclusion of violations which are not directly related to effluent discharge in to CETP or not causing damage to soil/ surface water/ground water;*
>
> *(iv) Considering the period of default of five years since the date of making Original Application No. 64/2016 (WZ) i.e. 28/4/2011 to 26/9/2019 taking reference from section 15(3) of the National Green Tribunal Act, 2010, with regard to consideration of default for assessing environmental compensation and cost of restoration;"*

140. Committee afforded opportunity of hearing to all 103 units. It has said that out of 20 units, 03 units did not avail opportunity and out of 83 units, besides oral hearing, 27 also submitted written reply. Further, out of 05 units which earlier had not responded, 01 attended hearing. The list of these 103 units is given in annexure-V to the report.

141. Committee has examined environmental damage cost and restoration cost of environment in Chapter 6 of report. It is said that **Environmental Damage Cost Assessment** (hereinafter referred to as '**EDCA**') is a tool that scrutinizes potential loss in monetary terms due to anticipated impacts on the environment due to release of pollutants beyond safety. EDCA is part of economics, mainly emphasize sustainability around the globe. Main purpose of assessment is not to hinder any type of development in the country, but to retain ecosystem in its pristine condition to avail maximum benefits to human. EDCA is generally carried out using following steps:

Identification of pollutants *The flow volume, pollutant type and concentration being discharged beyond the standard is analysed*	→	***Identification of EDCA method*** *Based on the pollutant concentration, the likely occurring damages are scrutinized upon which suitable methodology is selected*	→	***Damages cost assessment*** *Monetary loss due to release of pollutant is quantified*

142. Committee has further observed that due to lack of availability of detailed baseline data related to identified damage parameters, various studies have been referred, to arrive at the damage costs. Approach of Direct Value Transfer is referred for assessment. Direct value transfer estimates the economic value of one location, using the study carried out for another location. The value benefit transfer method is widely used as a technique to calculate economic value of benefits for the environment when an original study for valuation is not feasible. This method calculates the value of damages by transferring the information, which is available from the studies, already conducted from the study site (completed) to the policy site (another location). Committee then referred to et.al. paper formula written in paper, published in 2010, written by Hernandez- Sancho. The formula is as under:

> *"EDCA (INR) = Damage cost * loading rate * exchange rate * inflation* 365 ----------(1)"*

143. Committee said that damage cost per kg of the load has been used for the study for each pollutant (which are exceeding the standards as per regular monitoring data of MPCB) individually which is discharged in to the sea and is represented in Table 1. Further, to estimate damages done due to discharge of pollutants to the Sea, effluent discharge standards in

the consent to operate issued by MPCB, were taken into consideration. The damage cost for each pollutant calculated in terms of Euro per Kg for sea in Table 6.1 as under:

*"**Table 6.1:** Damage Cost for Each Pollutant in Euro per Kg for Sea*

Pollutant	***Damage in Euro per Kg (2010)***
Suspended Solids	*0.001*
Biological Oxygen Demand	*0.005*
Chemical Oxygen Demand	*0.010*

"

144. Committee also observed that there are wetlands in the nearby area of discharge point. Wetlands are the transition areas between the shallow water overlying water logged soils as well as interspersed submerged or emergent vegetation. It has its own characteristics ecosystem and diverse habitat. Preservation of wetlands is important to save inland diverse endangered habitat, especially in the light of climate changes. Discharge of pollutants more than the permissible limits leads to the damage of wetland ecosystems. The wetlands and Mangroves for the region were mapped using remote sensing and shown in Figures 6.2 and 6.3. Committee has said that there are wetlands and mangroves available which are affected due to effluent discharge. It is, thus, necessary to evaluate damages related to wetlands and mangroves as well. Damage cost per kg of the load on wetlands which is used for the study for each pollutant individually is represented in Table 6.3. The valuation of damage has been carried out for both the scenarios i.e. for pure sea discharge and pure wetland discharge. Since both sea and wetlands were present in the region, Committee considered combined damages, as per Table 6.3, as under:

"Table 6.3: Damage Cost for Each Pollutant in Euro per Kg for Wetlands

Pollutant	***Damage in Euro per Kg (2010)***
Suspended Solids	*0.010*
Biological Oxygen Demand	*0.117*
Chemical Oxygen Demand	*0.122*

"

145. After converting the value of Euro into Indian Rupees given due consideration to inflation etc., environmental damage cost was calculated from April 2011 to 2019, separately for excess COD discharge, excess TSS discharge, excess BOD discharge, and thereafter, in Table 6.7, total damage for each combining damages of all the pollutants for sea has been computed. Thereafter it has been further computed for wetlands by working out damage for COD discharge, excess BOD discharge and excess Suspended Solid discharge and ultimately in Table 6.1 combined damage for the wetlands has been determined.

146. In Chapter 7, Committee has examined accountability of CETP and defaulting units in meeting environmental damage cost and cost of restoration. In Chapter 8, Committee has recorded its conclusions and measures for restoration of environment.

147. We are deferring details in this regard at this stage since parties have filed their objections to the said report and we will examine and decide objections before taking a view whether Committee report as such has to be accepted or it needs some modification or changes or in some respect any different view is needed.

Report dated 27.07.2020-Quarterly Monitoring report of CETP (P/1136):

148. This report was submitted through Regional Director, CPCB, Pune by a Committee comprising:

i. Shri Bharat Kumar Sharma, Regional Director (Pune),
ii. Shri Saket Kumar, Scientist B, Regional Directorate (Vadodara),
iii. Shri Manish Holkar, Sub-Regional Officer (Tarapur) and
iv. Shri Utkarsh Shingare, Field Officer (Tarapur)

149. This is a quarterly monitoring report submitted in reference to direction of Tribunal contained in para 7 (ix) of order dated 26.09.2019 read with 22.10.2019 directing CPCB and MPCB to jointly undertake extensive surveillance and monitoring of CETP at regular intervals of three months and submit report. Joint inspection was made on 13.11.2019 and report was submitted vide e-mail dated 02.01.2021. Second joint inspection was conducted on 12.03.2020 and samples collected were analyzed at Central Laboratory, MPCB, Navi Mumbai. Location of collection of samples is given as under:

*"**Table-1: Sampling locations of CETP and Sumps***

S.N.	***Location Description(s)***
1	*Inlet to CETP (from MIDC Sump-1+ Gravity)*
2	*Inlet to CETP (from MIDC Sump-3)*
3	*Inlet to CETP (from MIDC Sump-4)*
4	*CETP Inlet (mixed influent) (collection tank after O & G trap,)*
5	*Outlet of Equalization Tanks*
6	*Outlet of Primary clarifier*
7	*Outlet of Secondary Clarifier*
8	*Outlet of CETP (from MIDC Sump-2) (premises near CETP)*
9	*Outlet of CETP (MIDC BPT) near Navapur seashore*

"

150. Analytical results of effluent whereof samples were collected at different locations on 12.03.2020 on various parameters is given in Table-2 as under:

"**Table-2: Analysis results of effluent monitoring carried-out at CETP Tarapur – inlet sumps & inlet of CETP (12.03.2020)**

Sampling Locations→ Parameters	CETP Design value	Inlet to CETP (from MIDC Sump 1+ Gravity)	Inlet to CETP (from MIDC Sump-3)	Inlet to CETP (from) MIDC Sump-4	CETP Inlet (mixed influent)	Outlet of Equalization	Inlet Standard as per the Consent
pH	5.5-7	**3.6**	**1.2**	**4.7**	**3.3**	5.7	6-9
TSS	300-400	126	518	251	401	664	Refer note below
TDS	--	12572	19660	14763	16313	11152	
BOD	1500	**1650**	**5400**	**2150**	**2400**	1750	Refer note below
COD	3500	**5280**	**25600**	**6720**	**8400**	5400	
Phenols	--	--	**7.98**	**8.99**	**7.99**	10.2	5
Total Ammonical Nitrogen (TAN)	--	**275**	**280**	**271**	**274**	271	50
Total Kjedahl's Nitrogen (TKN)	--	**456**	**1282**	**818**	**924**	512	NS
Phosphate	--	2.15	1.39	1.99	4.33	0.19	NS
Sulphate	--	6705	650	5936	6895	4690	NS
Chloride	--	2769	5598	5648	4914	3089	NS
Fluoride	--	1.3	6.8	5	2.8	1	15

"

151. Table-3 provides results of stage wise effluent sampling from inlet to outlet of CETP, as under:

"Table-3 Analysis results of stage wise effluent sampling from inlet to outlet of CETP

S. N	Sampling Locations→ Parameters	CETP Inlet	Outlet of Equalisation	Outlet of Primary clarifier	Outlet of secondary Clarifier	Outlet of CETP (MIDC Sump 2)	Outlet of CETP (MIDC BPT) near Navapur beach)	Outlet Standards MPCB
1	Ph	3.3	5.7	6.8	7.2	6.7	6.5	**6.0-9.0**
2	TSS	401	664	142	432	**345**	**331**	**100**
3	TDS	16313	11152	8183	9919	10904	10936	**NS**
4	BOD	2400	1750	1525	1200	**1450**	**1350**	**30**
5	COD	8400	5400	4200	3720	**4160**	**4680**	**250**
6	Phenols	7.99	10.2	11.07	11.01	**8.50**	**10.97**	**5**
7	Total	274	271	328	287.5	**184**	**150.5**	**50**

	Ammonical Nitrogen (TAN)							
	Total Kjedahl's Nitrogen (TKN)	924	512	565.6	484.4	**492.8**	**562.8**	**50**
	Phosphate	4.33	0.19	0.15	1.76	1.92	0.23	**NS**
	Sulphate	6895	4690	4300	4172	4162	5366	**NS**
	Chloride	4914	3089	2989.1	2149.3	3324	2179.3	**NS**
	Fluoride	2.8	1	1.1	0.9	0.9	0.9	**15**
	Cyanide	--	--	--		--	**0.39**	**0.2**

152. Comments in para 3 states that the analysis results of CETP inlet samples given at Table-2 and Table-4 vis-a-vis prescribed CETP norms as per consent order reveals that:

(i) **Concentration of BOD and COD are not meeting inlet design norms** of CETP inlet effluent of 1500 mg/l and 3500 mg/l respectively. **The same are exceeding 1.6 and 2.4 times the design norms respectively.**

(ii) **Phenol and TAN at the inlet of the CETP are exceeding the prescribed CETP inlet effluent limit** under Consent to Operate which is 5 mg/l and 50 mg/l respectively. The **limits are exceeding 1.6 and 5.5 times of the prescribed limit respectively.**

(iii) **pH of CETP inlet effluent is not meeting prescribed range** under the Consent to Operate and against prescribed range of 6-9 it is 3.3.

(iv) **Each of 3 inlet effluent sources to CETP** (for example from MIDC sump-1+Gravity; MIDC sump-3 and MIDC Sump-3) **are exceeding permitted parameters of the limits.**

(v) **Even the graphic chart shows that there was virtually no improvement in CETP inlet effluent quality**.

153. Among monitored parameters vis-a-vis prescribed CETP outlet effluent parameters stipulated under Consent to Operate; the analysis showed:

(a) **BOD, COD, TKN, TAN and Phenols are exceeding prescribed CETP** outlet effluent limit under Consent to Operate. It is exceeding 48.3, 16.6, 9.9, 3.7 and 1.7 times the outlet limit respectively.

(b) Concentration of various CETP outlet effluent parameters shows that there is sampling on 12.03.2020 and **there was hardly any improvement in CETP outlet quality of effluent**

(c) There was hardly any improvement in the earlier sampling dated 13.11.2019 and the present one dated 12.03.2020.

154. CETP is designed for 25 MLD capacity but there is continued exceedance of hydraulic load of CETP to the said design/prescribed limit and illegal discharges. Over flow from equalization tank and one aeration tank was found. There was no proper arrangement of flow meter for measuring CETP outlet. Flow meter was operating only in one line of the two lines used for conveying CETP treated effluent to Navapur Marine Outfall. CETP thus was not consistently complying with the prescribed capacity and receiving effluent exceeding thereto. Flow meters were not adequate to monitor inlet and outlet of CETP.

155. Excess effluent, at that time 3 MLD, was being discharged into adjacent Storm Water Drain (originating from Plot No. E-13 and further meeting into Navapur-Dandi creek through Salvad village). About 13 MLD of CETP outlet effluent not conforming to prescribed standard is also discharged through the said storm water drain into Navapur-Dandi creek. Over flow from sump-3 also occurs intermittently and flows into drain originating at Plot No. N-27, MIDC Tarapur and meeting to Murbe-

Kharekuram creek. Committee found poor sludge management and inconsistent information about sludge generation. Committee found 10 numbers of sludge drying beds near sump-4 whereof 4 were empty and 6 were filled with CETP sludge beyond capacity. Further sludge was found indiscriminately scattered in areas across sump-2, equalization tank and sump-4 which may be for poor management of sludge for over flow. In January, February and upto 17th March, 2020, sludge from CETP sent to CHWTSDF was 415.43 tonnes, 328.24 tonnes and 108.93 tonnes respectively. Committee has said that such wide variation indicates inconsistency in CETP sludge sent to CHWTSDF, Taloja and indicative of the fact that either CETP has not operated uniformly/regularly or there is wide variation in CETP inlet effluent quality. None of the major treatment units of CETP was found functioning properly as shown in Table-5 of the report as under:

"Table 5: Observation on working condition of treatment units of the CETP

Treatment Unit	***Observation***
Equalization Tank	• ***One of the four floating mixers*** *provided in the equalization tank for uniform mixing of wastewater* ***was not operational*** *since long.* • *The equalization tank is expected to be accumulated with sludge deposition quantity of which needs to be assessed and removed by the CETP operator.*
Primary Clarifiers (02 nos.)	*(i) Only one of two nos. of Primary clarifiers viz. Primary Clarifier-II was operational during visit. The other* ***Primary Clarifier-I is not operational for more than a year*** *due to sludge accumulation and mechanical damage.*
Aeration Tank (04 nos.)	*(ii) 04 nos. of aeration tank is provided with 09 aspirators in each tank (total 36 aspirators) for aeration and agitation. However,* ***only 04 nos. of aspirators were operational in each of the 04 aeration tanks****. Further, proper* ***air diffusion was observed only in 04 nos. of aspirators***

	out of the said 16 operational aspirators. *(iii)* ***Dissolved oxygen monitoring system was not operational***. *(iv) The aeration tanks are expected to be accumulated with sludge deposition quantity of which needs to be assessed and removed by the CETP operator.*
Secondary Clarifier (02 nos.)	*(v) One of the 02 nos. of Secondary clarifiers (I & II) i.e.* ***Secondary Clarifier no. I was not in operation since past 12 months due to sludge accumulation and mechanical damage***.
Hypo-chlorite Oxidation Tank	*(vi) The* ***oxidation system was not operational*** *since a week.*
PSF and ACF (04 nos.)	*(vii)****The filters are not operational since long and are defunct***.

156. **Online Continuous Monitoring System** (hereinafter referred to as '**OCMS**') provided at CETP inlet and outlet were found non-functional. Further flow meters provided at CETP inlet and outlet effluent measurement were not representing actual inlet and outlet source. Committee found that CETP inlet flow meter was installed after equalization tank and it did not measure actual inlet flow due to over flow of equalization tank. Further CETP outlet flow meter was provided only in one line of the two lines from sump-2 which conveyed effluent to designated marine outfall point. Committee also found certain other inconsistency/irregularities mentioned in para 6 and then it also noted action taken by CETP operators after inspection dated 13.11.2019 and recorded its conclusions in para 9 as under:

> ***9. CONCLUSIONS:***
> *The analysis results of various effluent samples of CETP collected during the joint inspection-cum-monitoring on 12/3/2020 and various observations made under preceding paras reveal that* ***no improvement has been made by the CETP operator to upgrade or improve performance of the CETP since the previous joint inspection conducted on 13/11/2019 except that of on-going de-sludging activities in Sump No. 2.***

Therefore, the ***gross violations, also reported in earlier joint inspection report conducted on 13/11/2019, continue to be occurring in CETP operation as below:***

(a) Continued Non-compliance of CETP Inlet Effluent Quality with the Design Norms/Prescribed Limits

BOD and COD in CETP inlet effluent are exceeding 1.6 and 2.4 times the inlet design norms respectively; Phenol and TAN exceeding 1.6 and 5.5 times respectively and pH is 3.3 against the range of 6-9 prescribed under the Consent to Operate.

Each of the three inlet effluent sources to the CETP (viz. from MIDC Sump 1+ Gravity; MIDC Sump-3, and MIDC Sump-4) are also exceeding the aforesaid parameters in terms of respective CETP inlet design parameters/limit prescribed under the Consent to Operate and the effluent from MIDC Sump-3 contribute maximum exceedances among the three sources. (details given under para 3(a) of this report)

(b) Continued Non-compliance of CETP Outlet Effluent Quality with the Prescribed Limits

BOD, COD, TKN, TAN and Phenols in CETP outlet effluent are exceeding 48.3, 16.6, 9.9, 3.7 and 1.7 times respectively than the outlet limit prescribed under the Consent to Operate
(details given under para 3(b) of this report)

(c) Continued exceedance of Hydraulic Load of CETP to the Design/Prescribed Limit and illegal Discharges

CETP is consistently not complying with design/consented capacity of 25 MLD and receiving excess effluent by about 3 MLD to the said capacity. The excess 3 MLD is being discharged into the adjacent storm water drain (originating from plot No. E-13 and further meeting into Navapur-Dandi creek through Salvad village).

Further, about 13 MLD of the CETP outlet effluent not conforming to the prescribed standard is also discharged through the said storm water drain into the Navapur-Dandi Creek violating to the consent condition that treated CETP effluent to be disposed at the designated Marine outfall point.

Other overflow from Sump No. 3 (used to pump the effluent to CETP) also occurs intermittently and the same flows into the drain originating at Plot No. N-27, MIDC Tarapur and meeting to Murbhe-Kharekuram creek.

The above overflows may be causing further damages to the waterbodies which have been reported along with remediation measures in the report of the Committee submitted to the Hon'ble NGT vide email dated 19/6/2020 in compliance with orders dated 26/9/2019 read with order dated 22/10/2019 in the matter of Original Application No. 64/2016 (WZ); Akhil Bhartiya Mangela Samaj & Ors. Versus Maharashtra Pollution Control Board & Ors.

(details given under para 3(c) of this report)

(d) Poor CETP Sludge Management and inconsistency in CETP Sludge Generation

Inconsistency in CETP sludge sent to common Hazardous Waste Treatment, Storage and Disposal Facility (CHWTSDF), Taloja, indicates that either CETP is not operated uniformly/regularly or

there is wide variation in CETP inlet effluent quality or sludge is not sent to the CHWTSDF regularly.
Further, there is poor management of sludge drying beds and sludge was found indiscriminately scattered in areas across Sump No. 2, Equalisation Tank and Sump No. 4 which may be because of overflows or poor management of sludge.
(details given under para 3(d) of this report)

(e) Continued Improper Operation of all Major Treatment Units of CETP & Sludge Depositions
None of the major treatment units of the CETP (viz. Equalization Tank, Primary Clarifier, Aeration Tank, Secondary Clarifier and Hypo-chlorite Oxidation Tank) are functioning properly whereas Pressure Sand Filter and Activated Carbon Filters are completely defunct. Further, there could be sludge accumulation in equalization tank and aeration tanks due to poor operation.
(details given under para 4 of this report)

(f) Continued Improper CETP Inlet & Outlet Flow Meter Measurement and Non-operational Online Continuous Monitoring System
Online continuous monitoring system (OCMS) provided at CETP inlet and outlet are not in operation and in working condition. The flow meters provided as CETP inlet and outlet effluent measurement are installed at in appropriate places and, hence, not representing actual inlet and outlet flows.
(details given under para 5 of this report)

(g) Other Observations
- *Updated information such as waste water handled, hazardous waste generated and sent to common TSDF, etc. are not being displayed in the display board (installed near entry of the CETP) as per the Hon'ble Supreme Court's order in WP(C) 657/1995 and Hon'ble NGT order in OA 804/2017.*
- *A bore well is installed within the CETP premises without having requisite permission from concerned authority.*
- *About 102 M.T. and 10 M.T. of sludge are accumulated in sump No. 3 and Sump No. 4 (used for effluent inlet to CETP) occupying 60 % & 23 % of the sump capacity respectively. The same needs to assessed and removed.*
- *The Consent to Operate and Authorisation dated 24/12/2019 have been issued by MPCB to the new CETP at Plot No. OS-30(pt), MIDC Tarapur, for 25 MLD of the proposed 50MLD. However, the new CETP has not yet been made operational.*
(details given under para 6 of this report)"

I.A. 93/2020 dated 14.09.2020 filed by respondents 3 and 9 collectively (page 1194)

157. The application has been signed by Sh. Gajanan Sahebrao Jadhav, authorized signatory of TEPS on behalf of respondent 3 and Shivranjan Gupta, honorary Secretary/authorized signatory of TIMA (respondent 9),

and has been filed to challenge reports dated March 2020 and 27.07.2020. It is said that the said reports were neither circulated to respondents 3 and 9 or to another stakeholder nor uploaded on NGT website. Only upon an e-mail request of advocate for applicant, CPCB's advocate shared soft copies of reports on its e-mail dated 01.08.2020. The reports seem to be based on historical and irrelevant data provided by Government agencies like CPCB, MPCB and MIDC and do not reflect correct picture; seems to be biased and depicts only one side of the picture; applicants and their member constituents are being made scapegoats to safeguard other contesting Government agencies like MPCB and MIDC who have shown a total lackadaisical approach in performance of their duties for past years for protection of environment at Tarapur; Committee's report lacked independence, fairness or *bona-fide*. Respondents 3 and 9 after receiving reports, circulated to all their members advising them to submit their individual grievances, if any, against the report.

Application dated 27.08.2020 filed on 07.09.2020 by Maharashtra Organo Metallic Catalysts Pvt. Ltd. (Page 1209):

158. Maharashtra Organic Metals Maharashtra Organo Metallic Catalyst Pvt. Ltd. (hereinafter referred to as 'MOMCPL'), an industry located in TIA MIDC filed objection/representation (addressed to MPCB) with the request that the above unit should be de-listed from table 88 of Committee's report as it was wrongly identified as Large-Scale Industry (hereinafter referred to as 'LSI'). A request was made by means of the above application to take on record the said representation dated 27.08.2020. It is said MOMCPL is at item 88 in the chart prepared by Committee identifying defaulting units. In column 5, scale of unit is shown as LSI though as a matter of fact it is SSI i.e., Small Scale

Industry. Reliance is placed on consent order dated 27.03.2017 wherein the above unit is shown as Red/SSI. The discharge effluent of the unit was shown as 6 CMD and unit upto discharge of 25 KLD (CMD) is within the category of SSI. As per water cess return of April 2018, water consumption from MIDC mains was about 125 KL for the full month which comes to about 4KLD and effluent discharge is much less than that, therefore unit is clearly SSI. COD was found within limit and so far as pH is concerned, report of the officials concerned pursuant to the sample collected on 24.11.2016 is not reliable. In this regard MOMCPL, in para 4 of representation/objection said:

> *"4. That further, Row No. 14 discloses reason for closure/noncompliance stated as discharge of substandard effluent having COD = 1728 & pH = 4.4. As per above criteria, the COD is well within the limit of 3500 as made applicable to SSI, which is our unit category.*
> *Further, the VISIT REPORT of MPCB own Field Officer and SRO-Tarapur-I at the time of said JVS sample collection on 24/11/2016 at 1:15 AM, it was noted that the pH at collection was 6 to 7, and that hence this reading of 4.4 in analysis dated 28/11/2016 being grossly different could not be relied upon over and above that of the SRO-I signed site report.*
> *This was already flagged as disputed by us with the MPCB in 2016-17 during closure issued.*
> *Further, pH was also not a parameter identified to be non-compliant of in the letter of the MPCB (notice No. SROTR/TB-2158 dated 29/11/2016) and the closure was issued on consideration of non-compliance of COD only.*
> *The site visit report and the letter by the SRO dated 29/11/2016 and our letter dated 22/12/2016 are all annexed herewith.*
> *However, notwithstanding the said closure, for the purposes of current assessment of damages, we fall within MPCB own criteria for NOT identifying our unit as a polluting unit as stated in above lines."*

159. It is thus prayed that since MOLCPL's approved quantity of effluent discharge is less than 25 KLD and everything is within norms it should have been excluded/removed from the list of defaulting industries identified by Committee for the purpose of liability of environmental compensation.

160. Respondents 3 and 9 consulted experts/consultants to consider technical, environmental and legal issues and without prejudice to their rights to contest correctness of findings of the reports, have raised certain objections, detailed in para 8, as under:

*"(a) The Report dated March 2020 is based on **perfunctory investigation** and relies on old/historic and incorrect data pulled in from database of MPCB. The **relevant and current data has not been collected and hence, not taken note of;***

*(b) The Committee has turned a blind eye to an unfair discretion used by MPCB in preparing alleged list of polluting units, on the basis of old data and for lack of availability of data of SSI is and many other units. The **alleged final list of polluting industries** as provide by MPCB, is manifestly arbitrary, irrational and **prepared in a discriminatory manner** (Reference - Chapter V Internal Page 59 to 62 of the Report dated March 2020);*

*(c) The Committee has **neither done any new sampling nor has it carried out any field investigation as of today for verifying or ascertaining sources of effluents or sources from where the CETP is receiving alleged excess effluent load.** The methodology applied by the Committee has thus vitiated the very purpose of the constitution of the Committee as a fact-finding body;*

*(d) The Committee, relying on sole discretion of MPCB has **excluded and exempted about 88% of the industries (including SSI and ZLD units) plus 55 non-member industries and also units in respect of which no data is available with the MPCB from any responsibility and has the placed entire burden onto less than 12% of the industrial units** at Tarapur MIDC and the CETP managed by TEPS for the alleged environmental damage and restoration costs, which is neither legal nor acceptable for cause of environment protection (Reference Chapter V of the Report dated March 2020 read with Fig. 2.2 on Internal Page 7 read with 8.1.2 Para 7 on Internal Page 90 of the Report);*

*(e) The Report is prepared in breach of fundamental principles of natural justice. There was **no real opportunity of hearing provided by the Committee to the representatives of the industrial units, which were arbitrarily identified as polluting units**. The oral/ written representation made by these units has been totally ignored by the Committee and does not find any place of consideration in the entire Report;*

*(f) The Report **fails to consider new technologies** implemented by the industries including setting up of their own ETPs/STPs, and investments made in taking various measures such as forestation drives, installing additional technologies for effluent treatment in their ETPs/STPs, all for the cause of environment protection;*

(g) *The* ***Report further ignores JVS (Joint Vigilance Sample) Reports, and compliances made by the industries from time to time****, which were duly verified by MPCB;*

(h) *Imposing alleged* ***environmental damage and restoration costs without providing evidence of any actual environmental damage at the subject MIDC location,*** *is in itself illegal and strongly objected by the industries and their association at Tarapur;*

(i) *The* ***methodology applied for calculating alleged damage and restoration cost is neither recognized nor legal nor correct****. The period considered for fixing alleged individual liability is grossly erroneous. The Committee has also ignored past penalties paid by the industries and bank guarantees forfeited by the regulators for recovering compensation for alleged environmental violations/non-compliances and has quantified the alleged damages and costs for the same period, causing double jeopardy and violating established principle of law that no person can be penalized twice for the same offence;*

(j) *Despite identifying list of total 14 natural and storm drains flowing through MIDC at Tarapur receiving sewage and human waste from five different villages surrounding the MIDC area,* ***no efforts are made by the Committee to actually measure the impact/ contribution percentile of this sewage mixed in MIDC sewage disposal lines and its weightage impact on the sea waters or any other water bodies/ground water et****c. (See Table 2.3 and Figure 2.3 on Internal page 9 and 10 of the Report);*

(k) *The* ***Report does not bring forth evidence of any actual environmental damage to the water bodies*** *and instead focuses on academic assessment of the same only for purpose of quantification of damages and restoration costs and placing accountability of the same on select industries which is done using theories/formulae having no recognition in the eyes of law nor does the Report cites any precedents in which such assessment has ever been recognized by this Hon'ble Tribunal or any other Courts or Tribunals in India;*

(l) *The* ***Report is totally unfair and biased against the industry****. The Committee is suspiciously* ***silent on role of MPCB*** *(contesting Respondent No.1)* ***and MIDC*** *(contesting Respondent No.2), of their past and continued failure and breach of duties, as also vehemently pleaded by Akhil Bharatiya Mangela Samaj (original Applicant) in O.A. No. 64 of 2016 and also as pleaded by TEPS (Original Respondent No.3) in M.A. No. 375 of 2017 which pleadings and submissions are pending for consideration of this Hon'ble Tribunal;*

(m) *The Committee for the reasons best known to it,* ***has totally ignored completion of the state-of-art 50 MLD (million litres per day) capacity new CETP plant constructed and installed by the Applicants and member industries by investing in excess of Rs.150 Cr****. The Committee is further silent on the fact that said new 50 MLD CETP Plant, once commissioned in addition to existing 25 MLD plant will be able to treat up to 75 MLD of load,*

which is by far more than double the capacity of actual requirement of Tarapur Industrial cluster;

(n) The Committee has erred in not considering the fact that the said new 50 MLD plant is ready to be commissioned immediately on completion of the work of laying a discharge/disposal line by MIDC (Respondent No.2) which is pending for more than 4 years due to lackluster approach and inactions of MIDC;

(o) The Committee has not mentioned the new 50 MLD plant in the chapter dealing with remedial measures, knowing that investment already put in by the industries will have to be factored in and alleged remedial costs and super fund that the Report recommends shall be wiped-off and/or drastically come down;

(p) The Committee has ***not provided any logical reasoning****, or actual calculations or quantification* ***as to how it arrived at and made a provision for 'Super Fund' of INR 75 Crores and*** *how such fund shall be utilized;*

(q) The Committee has irrationally ***held the Applicant-TEPS (Original Respondent No.3) accountable to the extent of bearing 45% of the alleged damage and restoration costs, though TEPS has taken every possible measure in its capacity to deal with the effluent load at the existing CETP plant.*** *The Committee has intentionally ignored the fact that additional effluent load, if any received by CETP beyond its treating capacity is not the failure/violation of the TEPS but is failure attributable to the regulators i.e. MPCB and MIDC who have total controlling powers to decide issuance of consent to operate, permitting expansion of industries, controlling supply of water etc. Despite this, Committee has for reasons unknown and possibly due to the influence and role of these statutory bodies, have refused to hold them responsible and accountable for alleged environmental damage at Tarapur, which in itself exposes false, irrational, arbitrary and discriminatory nature of the Reports submitted by the Committee.*

(r) The Applicants further state that the ***Reports seem to be full of contradictions.*** *First of all, there is* ***no conclusive evidence in the entire Report of any actual environmental damage****. Except for vague statements about restoration measures, Report does not lay any definitive roadmap for protection of environment at Tarapur. Also, the Report has not appreciated water pollution in terms of still or river water vis-a-vis flowing/tidal sea water and its long-time impact. Instead, these* ***Reports are solely focused on quantifying and collecting money under the pretext of penalties****, alleged restoration costs and creating alleged 'super-fund'. The contents of the Reports have no correlation with subject matter involved in the present original application and is unlikely to assist this Hon'ble Court in properly adjudicating this case."*

(Emphasis added)

161. It is ultimately prayed that the objections and comments of respondents 3 and 9 be noted and they be permitted to file reply/counter

statement/affidavit to the report of the Committee and consider M.A. 375/2017 filed by respondent 3. It is also requested that the reports of CPCB be considered only after the above respondents are permitted to submit their replies/objections.

162. Present OA was heard finally on **17.09.2020** and disposed of. Operative part of the order contained in Para nos. 7 to 13, said as under:

> *" xxx .....xxx .....xxx*
> *7. At the outset, learned Counsel for the Respondent Nos. 3 and 9 have referred to orders of the Hon'ble Supreme Court dated 18.11.2019 in Civil Appeal No. 8539/2019, Tarapur Environment Protection Society v. Akhil Bhartiya Mangel Samaj & Ors. and order dated 18.12.2019 in Civil Appeal No. 9409/2019, Tarapur Industrial Manufacturers Association v. Akhil Bhartiya Mangela Samaj Parishad & Ors., staying the interim order of this Tribunal dated 26.09.2019.*
>
> *8. As against above, the stand of learned Counsel for the Applicant, the CPCB and the State PCB is that the said orders being only qua interim compensation, there is no bar to hearing of the matter and further orders being passed. Our attention has been drawn to para 1 of the memo of appeal in Civil Appeal 8539/2019 as follows:*
>
> > *"That the present Civil Appeal is directed against impugned interim order dated 26.09.2019 passed by the Hon'ble National Green Tribunal Principal Bench New Delhi in Original Application No. 64 of 2016 (WZ)* ***whereby, the Hon'ble Tribunal has imposed a penalty of Rs. 10 crores as interim compensation to be paid by the appellant herein who manages and operates the 25 MLD CETP in Tarapur Industrial area.****"*
>
> *9. We find merit in the contention raised on behalf of the applicant, the CPCB and the MPCB that the grievance raised before the Hon'ble Supreme Court is only against interim compensation and there is no stay against proceedings before this Tribunal for enforcement of environmental norms on consideration of the reports of the Expert Committee constituted by the Tribunal.* ***We thus proceed to deal with the reports of the Committee.***
>
> *10. We find that the reports of the Expert Committee have taken into consideration all relevant data after visit to the site and have considered the view point of the CETP operator and the Association of the industries.* ***We do not find any reason to reject the report and the conclusions and recommendations*** *therein. Application of 'Precautionary Principle' which is part of 'Sustainable Development' requires anticipatory action and scientific certainty before taking such remedial action is necessary, once an Expert Committee has found that there is continuous violation of*

environmental norms causing harm to the environment and health. Credentials of the Committee members and their expertise on the subject is beyond question. We do not find any merit in the objections of the contesting CETP and industries which will stand rejected and the report of the Committee is thus, accepted.

*11. In view of the above**, we direct that the reports of the Committee be acted upon and further steps taken for preventing damage to the environment and for its restoration. The restoration measures will include improvement of quality of environment as well as remedying the health of the inhabitants, including providing healthcare to the affected individuals**. The amount assessed be recovered and if there is non-payment, the statutory regulatory bodies will be free to take coercive measures, including closure of the polluting activities. The same be utilized for restoration of the environment in terms of an action plan.*

*12. **The Committee already constituted will continue to function to oversee the remedial measures and will also include District Magistrate, Palghar**. The nodal agency for coordination will be the CPCB and the District Magistrate. The Committee may prepare a restoration plan within one month. The timeline for execution should be as expeditious as possible. It will be open to the Committee to associate any other expert/institution and decide the mode of execution of the restoration plan. MPCB may, inter-alia, monitor water quality of creeks, water bodies in vicinity and ground water quality particularly of potable sources in use with reference to parameters relevant. The Committee may meet atleast once in a month and in case physical meetings are not viable, virtual meetings may be organized.*

13. The Committee may give a status report of the steps taken after three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."

163. Respondent 9 carried the matter in Supreme Court in **Civil Appeal No 3756/2020, *Tarapur Industrial Manufacturers Association (TIMA) vs. Akhil Bhartiya Mangela Samaj & Others***. Challenging order dated 17.9.2020. Appeal was partly allowed by Supreme Court vide **judgement dated 14.12.2020**, which reads as under:

"We have heard learned Senior Advocates for the appellants and the first respondent - Akhil Bhartiya Mangela Samaj Parishad, at length.

Having considered the issues raised, we do not think it would be appropriate and proper to admit the appeals and keep them pending in view of the order we propose to pass, which is as under:

*a) **The appellants will, within 15 days, file ground-wise objections to the report submitted by the Monitoring***

Committee specifically indicating the challenges, including the challenge to the quantum of compensation.

b) *Copy of the objections would be furnished to the Monitoring Committee and Akhil Bhartiya Mangela Samaj Parishad before they are filed before the National Green Tribunal.*

c) *The Monitoring Committee may file reply to objections, if it deems proper and necessary, within such time as stipulated by the National Green Tribunal.*

d) *Akhil Bhartiya Mangela Samaj Parishad would file reply to the objections within 15 days after they are served with the copy of the objections, or within such extended time as granted the National Green Tribunal.*

e) *The* ***appellant, namely Tarapur Industrial Manufacturers Association (TIMA), or the individual units as identified in the report submitted by the Monitoring Committee, shall deposit 30% of the compensation amount within one month from today****. In case of failure to deposit, their objections would not be heard and decided.*

f) ***The appellant - Tarapur Environment Protection Society (TIMA), in Civil Appeal No. 3638 of 2020, would deposit 30% of compensation amount as directed by the impugned order within one month from today.*** *In case of failure to deposit, their objections would not be heard and decided.*

g) *The* ***compensation mentioned in clauses (e) & (f) will include compensation as awarded under the head of 'Super Fund'****.*

h) ***Subject to the aforesaid deposits being made within the time stipulated, directions contained in the impugned order towards compensation would remain in abeyance till the decision on the objections by the National Green Tribunal.***

i) Order dated 17th September, 2020 would stand modified by the order so passed by the National Green Tribunal*. The appellants and other parties, subject to their right to challenge the order on the objections to be filed, would abide by the order of the National Green Tribunal. Similarly, right to challenge order dated 17th September, 2020, remains protected and principle of res judicata would not apply.*

j) ***Directions passed in the present order regarding deposit of compensation by the appellants would also abide by the order of the National Green Tribunal, subject to the right to appeal and challenge.***

k) *The appellants would, within 3 weeks from today, file an affidavit before the National Green Tribunal specifically stating the steps taken, compliance made, shortfalls remaining and the time period required for making requisite compliance.*

l) *National Green Tribunal, if deems appropriate, would direct the Maharashtra Pollution Control Board (MPCB) to submit their status report with regard to compliance, shortfalls and also to*

meet the assertions made against them by the appellant - TIMA in Civil Appeal No. 3638 of 2020.

Recording the aforesaid, the ***appeals are party allowed and disposed of with a request to the National Green Tribunal to consider and decide the specific objections of the appellants as expeditiously as possible, without being influenced by the findings in the order dated 17th September, 2020. We clarify that we have not made any comment either way on merits****."*

M.A. No. 01/2021 dated 29.12.2020 filed by respondent 3, (TEPS)

164. This MA is filed by TEPS, pursuant to Supreme Court's order dated 14.12.2020, raising objections to Committee reports dated 18.06.2020 and 27.07.2020. The objections are made as part of MA as annexure R-3/3. Broad points raised by TEPS are:

a) Committee did not follow mandate of Tribunal and exceeded its authority;

b) 'Polluters Pays' principle is inapplicable to TEPS;

c) Wrong categorization of TEPS as LSI red category;

d) There is non-application of mind and intentional avoidance to touch root cause of excess effluent load and consequent failure to apportion liability amongst stakeholders of effluent management system in TIA MIDC;

e) MIDC has failed to complete infrastructure for additional treatment capacity for which TEPS cannot be made responsible;

f) MIDC failed to stop leakages from drains and effluent carrying pipelines;

g) Over flow/leakages from MIDC sump-2;

h) Non-consideration of external sources of domestic sewage/effluents;

i) No closure directions to TEPS CETP between 2011-2019;

j) Non-consideration of 50 MLD state of art facility created by TEPS;

k) Erroneous inclusion of damages for alleged excess loading pollutant into sea (Rs. 5.9381 crores);

l) Erroneous inclusion of damages for alleged excess loading of pollutant into the wetland (Rs. 79.10426 crores);

m) Duplication i.e. total discharge taken both as discharge into sea and into creeks;

n) BOD is a sub-set of COD but taken separately;

o) Creation for 'Super Fund' for proposed restoration of ground water (Rs. 75 crores);

p) No fiscal discounting has been considered;

q) Lack of baseline data;

r) Erroneous adoption of Hernandez-Sancho et al Paper in 2010;

s) Non-consideration of purchased power parity.

M.A 02/2021: Objections dated 29.12.2020 filed by TIMA (respondent 9) running in more than 3400 pages:

165. Pursuant to liberty granted by Supreme Court vide order dated 14.12.2020 in **C.A. No. 3756/2020**, the said objection has been filed on behalf of itself and for individual members. In para 05, it is stated that the objections are in two parts; **Part A** contained objections raised by TIMA, common to all the industries, and **Part B** comprised of individual objections raised by member industries. In para 07 of the objections, respondent 9 has prayed that Committee's report/recommendations dated 18.06.2020 and 27.07.2020 be rejected and MIDC be directed to ensure overhauling and full maintenance of 59 km drainage system connecting industrial units to existing 25 MLD CETP as also sumps belong to and maintained by MIDC so as to avoid any leakage of effluent therefrom. MIDC be further directed to undertake removal of sludge in the sumps.

166. General objections raised by TIMA, applicable to all member industries contained in part A, *inter-alia* states as under:

(a) The committee made grave errors in assessment of liability of various units and apportionment thereof. The identification of polluting units is based on past records like show cause notice, closure direction, etc.; there was no actual identification of polluting units based on on-site inspection; the committee sought record from MPCB which itself did not provide the same and in turn sought record from respective industrial units; those units who provided record are the only ones identified for assessment and apportionment of liabilities; Units who did not respond at all have been left unaffected and no liability has been fixed thereof; approach of Committee is patently selective and arbitrary.

(b) The committee at page 69 of report admits that number of days of violation was not provided for every units and that be so, only 103 units could not be made scape-goat for the faults contributed by other industries also who have not been included in the list of 103 defaulting units.

(c) Committee was required to undergo a fresh exercise of proper identification of defaulting units so as to bear the burden proportionately and equitably. Several factual errors have been committed by the committee in its report and the same would be detailed further in the objections of individual units. Further, individual units ought to have been given adequate opportunity of hearing separately.

(d) Environmental damage and cost of restoration cost has not been determined validly and by taking into consideration relevant important factors. Report says that Environment Damage Cost Assessment

(**EDCA**) is a tool that scrutinizes potential loss in monitory terms due to anticipated impact on the environment due to release of pollutants beyond safety. Calculation of compensation/cost of restitution of environment must be based on the following environment principles:

i. Actual damage to the environment must be shown based on sampling and analysis of such samples;

ii. Presumed damages cannot be formed on basis of monitory compensation for restitution of environment;

iii. Quantification of compensation cannot be presumpted but rather should be based upon a clear and workable restitution plan;

iv. Restitution plan must defer depending upon the nature of water body being sought to be restituted. For example; a pond, lake river or sea cannot be dealt with by applying same parameters under all circumstances. Further concept of self-cleaning or self-purification of water body has to be considered while framing a restitution plan.

(e) On page 74 of report there is an observation that hundreds of fishes were found dead in the shore of Navapur beach reportedly due to low level of dissolved oxygen. This observation is irrelevant since Committee itself found that the results of sea water sample do not reveal trend of alleviated concentration of measured parameters near Navapur CETP outfall beach and Nandgaon beach where the two creeks confluence into the sea.

(f) Computation of overall damages is based on multiple erroneous parameters and more so, in view of lack of data. Committee admits on page 76 of report lack of availability of detailed base line data related to identified damage parameters. Various studies have been referred, to arrive at the damage cost. It shows that the report is based on other

studies and ignores the analysis of a well measured and accepted base line data for the site in question for which no appropriate study was available.

(g) Committee also considered error in adopting a formula suggested by Hernandez-Sancho *et al* published in 2010. This is on page 76-77 of the report. The said paper does not deal with assessment of cost on account of environmental damage and instead relates to economic value of waste water treatment. It proposed a methodology based on the estimation of shadow prices for the pollutants removed in a treatment process. This value represents environmental benefit (avoided cost) associated with undischarged pollution. 2010 paper in fact is in regard to economic benefits of treatment of effluents rather than damages on account of discharge of untreated effluents. The formula in fact relates to **cost of avoidance of environmental damage** rather than cost of restitution of environment. Spanish formula relied by Committee has not been accepted in India by any statutory authority.

(h) Committee has calculated compensation on page 80 taking damage per kg on the basis of shadow price stated in 2010 paper of Hernandez-Sancho (*supra*). Calculation of shadow price is based on studies in European Countries and quantified in Euros. Report of the Committee simply used European price and convert to Indian price at the exchange rate of 2017 and then applied inflated price for 2019. It has committed a basic mistake in not considering and adopting Power Purchase Cost (average living cost in India) before converting Euro to INR. It is a matter of common knowledge that purchase power parity of European countries comparing to India is quite high. According to one study, local purchase power in Madrid is 44% higher than Mumbai. In

another data, purchasing power index of India is 9.5 whereas in Spain, it is 58.1. Ratio between India and Spain is 9.5:58.1 =1:6.15 in other words, purchasing power of Spain is more than six times than India. Obviously, what was considered in respect of Spain and applied to India, is a manifest error and Committee erred in not giving effect to the aforesaid ratio factor while computing compensation.

(i) The committee also erred in adopting damage cost for each pollutant in Euro per kg in wetlands since damage to wetland itself is presumptive without any sampling or analysis. It is based upon alleged damage to sea water or creek water which has not been proved by the Committee in the report. Adoption of parameter of damage cost for wetlands is erroneous and entire calculation based on this parameter is liable to be rejected.

(j) Committee has also erroneously included damages for alleged excess loading pollutant into sea.

(i) From the report, page 46, 50 para 4.1, it is evident that samples of sea water and sand were collected by Committee near Navapur CETP outfall, Nandgaon beach and Edvan beach which is about 85 kms from Navapur CETP outfall.

(ii) Analysis results of sea water samples (page 62-64 of report) do not reveal trend of alleviated concentration of measured parameters near Navapur CETP outfall beach and Nandgaon beach where two creeks confluence into sea.

(iii) No pollution was found as regard sea water. Still Committee has chosen to impose environmental damage cost of Rs. 5.9381 crores calculating from April 2011 to November 2019 on TSS, COD and BOD. There is no pollutants beyond prescribed standard as is evident from comparison of sample results at

table no. 4.9 (page 63 of the report) and prescribed standards of TSS, COD and BOD noted in table 6.4 to 6.6. The relevant extract of the table quoted in objections is as under:

Sl	Pollutant	Prescribed Parameter	Navapur sea beach	Nandgaon sea beach	Edvan sea beach (85 kms away)
1.	TSS	100	92	78	168
2.	BOD	30	14	14	12
3.	COD	250	236	276	228

(iv) It is said that TIMA and TEPS are not concerned with Edvan sea beach which is about 85 km away from CETP outfall in Arabian Sea. There is no industrial estate around Edvan sea beach, yet, values are quite high.

(v) There is no data of sampling and analysis of sea water between 2011 and 2019. There is no basis for imposing damages for such period based solely upon outlet effluence of CETP. On the contrary, irrespective of the outlet of CETP during the above period on the date of survey or sampling, no such pollution was found in sea water which would justify imposition of compensation.

(vi) It is also to be seen that no damages for restitution of environment can be imposed without any plan for expending the same towards restitution as provided in Section 17 of NGT Act, 2010.

(k) There is erroneous inclusion of damages for alleged excess loading pollutant into wetland by imposing compensation of Rs. 79.10426 crores.

(i) From page 46-59 of report, it is evident that water and sediment samples were collected by Committee from three locations of two

creeks (Navapur Dandi creek and kharekuram Murbe creek flowing north and south of TIA MIDC) in which drains confluence and one location of each of the two streams before meeting the said two creeks. Analysis result of creek water shows concentration of TDS, COD and BOD with increase in trend in both the creeks but the values are within prescribed standards i.e., there is no DO; Phenols are within prescribed standards; colour and odour indicates presence of solvent/chemical; sediments sample show pH presences slightly basic indicating basic effluent discharge to both the creeks; other measured parameters were found below screening values; from the odour of chemical/solvent and sediment sample of creek near dumping, it was concluded that two creeks received polluted effluent from drains of MIDC, Tarapur.

(ii) However, there is no concrete finding with regard to the creek water, warranting imposition of damages with respect of creek water. Hence, Committee has rightly not imposed any damages with regard to the creek water as there was no pollution.

(iii) Despite that, Committee has imposed environment compensation on account of presumptive impact upon wetlands and mangroves. It is only unsustainable. If no compensation was imposed with respect to creek water, Committee had no justification to impose damages/compensation in respect of wetlands.

(iv) Moreover, Committee has noted (at page 77) that discharge of effluent is being made in sea/creek area of Navapur from CETP but there are wetlands in the nearby areas of discharge point. Merely on that basis Committee has presumed damage to wetland eco-system due to discharge of effluents in the creeks. There was

no analysis, no material to show any damage to wetland eco-system and data/figures/analytical results of sea water or other bodies could not have been imported for the purpose of wetland when a study was made in respect of wetland itself.

(v) Moreover, there is no notified wetland in and around TIA MIDC; there is no river, lake or pond within a radius of 5 Km; no ecological park, sanctuary, flora and fauna or any eco-sensitive zone from the boundary of MIDC and, therefore, the imposition of compensation in respect of wetland is only presumptive, unnatural and based on no relevant and valid material. Committee is guilty of duplication by taking discharge of effluent in creek and sea both by way of the same discharge but for both the items, it has been taken separately and thus has resulted in duplication.

(l) While computing damages under heading 6.2, Committee has considered **Biological Oxygen Demand (BOD)** and **Chemical Oxygen Demand (COD)** separately and computed compensation ignoring the fact that BOD is a sub-set of COD. BOD is defined as the amount of oxygen demanded by micro-organism in the sewage for decomposition for biodegradable matter under aerobic condition. It is commonly used parameter to determine strength of municipal or organic quality of water. COD is the amount of oxygen that is required for chemical oxidation of organic and inorganic chemical present in this water by utilizing oxidizing agents. Thus, BOD measures amount of oxygen required by aerobic organisms to decompose organic matter and COD measures oxygen required to decompose organic and inorganic constituents present in this water by chemical reaction. When we add untreated effluent in water, it is

called pollution. Water contains dissolved oxygen. If organic matter is dissolvable, oxygen is used to dissolve the same. In the process of dissolution, water loses oxygen level. BOD is a small circle. In mathematical terms, **COD = BOD + X**. Apparently, BOD is, therefore, part and parcel of COD in terms of water pollution control. If one reduces COD, BOD would also stand reduced. Both move in the same direction. Calculation of damages based upon BOD and COD, therefore, tend to overlap and must be factored at the time of calculation.

(m) Committee has proposed concept of super fund by providing Rs. 75 crores. It has observed in Chapter 4 that ground water is contaminated in the region due to illegal discharge of effluents from industries/CETP. According to the Committee's own volition, these infractions are not recorded and there is lack of information on the sub-surface hydrology of the site to estimate quantum of contaminates of ground water. Committee has, for the cost to be incurred in their detailed assessment (including other water bodies) and their remediation, introduced the concept of '**Super Fund**' to be formed with Rs. 75 crores. This approach of Committee is not justified. Study of ground water was undertaken by MPCB by 2019 and report was submitted to CPCB. Hence, non-availability of data and information regarding ground water is not correct and **cannot be a justified reason to opt for a Super Fund**. MPCB report of 2019 after sampling and detailed analysis does not explicitly mention that the ground water is severely polluted and requires restitution. Though BOD and COD are on higher side, but they can be due to ingress of domestic sewage from nearby population. Thus, it was incumbent upon Committee to have further probe in the matter to

justify imposition of compensation for constituting a superfund for restitution of ground water.

(n) **Concept of Super Fund is alien** to Indian environmental statutory regime. It appears to have been adopted from Comprehensive Environmental Response, Compensation and Liability Act, 1980, also known as Super Fund enacted by United States Congress. This law created a tax on chemical and petroleum industries and provided broad Federal Authority to respond directly to release or threaten releases of hazardous substances which may endanger public health or environment. The tax so collected goes to the Trust Fund for cleaning of abandoned or uncontrolled hazardous waste sites. It is more a common burden upon certain industrial units. **Concept of Super Fund is not recognized by any statute in India**. Under Section 15 and 17 of NGT Act, 2010, compensation towards restitution can be divided under different heads as enumerated in schedule II. None of the above facts of compensation are in the form of tax or a common burden but rather compensatory in nature. Imposition of compensation towards restitution of environment necessarily require a detailed study of actual damage cost, operation to be undertaken for restitution and cost involved. Without undertaking any such exercise, creation of superfund of Rs. 75 crores, is contrary to statute, illegal and impermissible. Under NGT Act, 2010, damages cannot be imposed merely to add to Environmental Relief Fund in general. It must relate to some identified expenses towards restitution based upon restitution plan. This is also evident from Rules 35, 36 and 37 of NGT (Practices and Procedure) Rules, 2011. Before imposing any environment cost, a restitution plan is compulsory and since no such plan has been

suggested or in existence on paper, the assessment of compensation and imposition upon member industry is illegal.

(o) Certain aspects which would have justified **fiscal discounting, has not been done** by the Committee. It ought to have considered fiscal discounting using **Pigouvian subsidy method**. In ***M.C. Mehta vs. Union of India, MANU/GT/0067/2017 (pr.131)***, Court has taken note that rivers have self-cleaning ability primarily due to flow velocity which permits oxygenation and decomposition of biological waste. Similar is the fact applicable to sea and creeks. Sea itself has also system of self-cleansing. Natural self-purification of sea water takes place as a result of physical, chemical, bio-chemical and biological processes.

(p) Committee has **not measured impact/contribution percentile of sewage mixed in MIDC sewage disposal lines and its weightage impact on sea waters or any other water body/ground water**. There are 14 natural and storm drains flowing through TIA MIDC receiving sewage and human waste from five different villages surrounding MIDC area but Committee has failed to measure impact/contribution percentile of sewage discharge by such habitat area around MIDC.

(q) **Parameters** adopted by Committee for apportionment of liability **are erroneous**. Normally, process of violation reported by MPCB and steps for compliances included following stages: inspection; violation report and issuance of closure notice; denial/acceptance reply; conditional re-start; compliance report by unit; re-inspection/verification of compliance. Committee has made assessment by using the following criteria/factors:

i. Units whose records are available for violations with MPCB shall be included (Page 70-71 of report)

ii. Violations not directly relatable to effluent discharge into CETP or damage to soil/surface water or ground water shall be excluded. (Page 70-71 of report)

iii. Period of violation would be limited from 28.04.2011 to 26.09.2011 (Page 70-71)

iv. Number of days of violation are further modified or altered where closure direction has been issued. In such a case, period of default is taken as date of inspection till effective date of closure of unit. In other matters, the period of violation is between date of violation observed/due date of compliance and the day on which compliance was verified by MPCB.

v. SSI units having effluent discharge of less than 25 KLD are exempted who were found discharging effluent to CETP meeting CETP inlet, consent norms of COD 3500 mg/l and BOD 1500 mg/l.

(r) The formula adopted by Committee on Page 88 of report, for computation of compensation for individual units included pollution index of industrial units (based on industrial unit category), number of days of violation, factor for scale of operation, location factor and deterrent factor based and first and repeated violations. Application of these parameters shows non-application of mind on the part of Committee. It has committed grave errors resulting in substantial adverse impact upon the individual members' liability. The above errors have been pointed out in respect of certain facts taken into consideration by Committee in respect of individual units and sought to be demonstrated as under:

"i. Regarding the Category (Sl. no. 4 of the Table of units): ***In some of the units, the Category adopted is completely wrong*** *thereby increasing the individual liability of the concerned unit. Unit-wise details of such errors is provided under Part B of these objections.*

ii. Regarding the Scale (Sl. no. 5 of the Table of units): *Firstly, the relevant date for adopting the Scale should be the Scale of the unit on* ***the date of alleged violation****. Secondly,* ***in some of the units, the Scale adopted is completely wrong*** *thereby increasing the individual liability of the concerned unit. Unit wise details of such errors is provided under Part B of these objections.*

iii. Date of inspection and Period of Non-compliance/Violation (Sl. nos. 12 and 13 of the Table of units): *There are multiple errors under this heading-*

1. *The Joint Vigilance Sample* ***(JVS****) collected by MPCB at the effluent treatment plant at inlet and outlet are vigilance samples and are not the samples collected in conformity with process prescribed under Section 21 of the Water Act. There was no opportunity for industry to take/receive a division of sample as prescribed in Section 21, in order to verify and cross check/counter the analysis results on their own. As such MPCB data lacks any authenticity and/or admissibility as evidence for adjudication of the case.*

2. *Without prejudice to above, the analysis of such JVS samples can take maximum 3-5 days depending on whether 3-day or 5-day BOD is measured. It was obligatory for MPCB to communicate and share these results with the concerned industry, immediately if MPCB had noticed any major deviation or noncompliance. As seen from the records such reports are either sent after a very long time (ranging from 15 days to 2-3 months) or in some cases are not even shared with industry/units, who were directly issued Closure Notices without any opportunity to raise objection/show-cause for alleged violations.*

3. *Such delay and lapses of delayed analysis of samples and/or delayed issuance of closure directions, first of all is not justified and cannot be attributed to individual industries.*

4. *After Closure Notices, and after issuance of conditional restart orders, most of the industries quickly complied with the conditions and informed MPCB of compliance achieved. However,* ***MPCB has made a delayed verification of these compliances****. The Tables stated in the Committee Report states some irrelevant/ fictitious dates regarding verification of compliances, ignoring earlier verification dates.*

5. *In order to remove these delays/ anomalies in calculating the number of violation days, and without prejudice to its other contentions, the* ***following formula is considered***

appropriate by TIMA for calculating the number of alleged violation days.

Total Period - X + Y = [ ] days

where,

X *is [Period between Date of reported violation* **+** *actual days taken by MPCB for issuing Closure Notice/JVS Report* ***OR*** *7 days (whichever lower)] + number of days taken by industry after receiving closure notice till actual closure*

Y *is Number of days between date of Conditional Restart Order and Date of Intimation by industry/unit to MPCB about the compliance made and conditions fulfilled. (Note – In absence of proof of Intimation– actual date of Verification of compliance, is considered)*

6. *It is also relevant to note that* ***MPCB has issued Closure Notices to the units without Show Cause notices****. In some of the cases, the alleged violation is merely relating to submission of Bank Guarantees. In certain cases, the conditions given were recommendations to install technology/equipment, which is in addition to the consent to operate, though BOD-COD parameters of such units were within prescribed norms as per JVS sample analysis reports. In these cases, in absence of any violation, holding such industry/unit as a 'Polluter' and being made liable for compensation is not justified.Such units/industries were forced to shut their plants without there being any violation/fault on their part and without any opportunity of disputing the said forced closures.*

7. *There is a serious* ***error in date of compliance, especially in repeat violations****. The date of compliance has been shown to the date prior to the next date of inspection, even though there is no basis for it and rather, the records show to the contrary.* ***In 17 units out of total 103 units, this error has been committed****. Unitwise details of such errors is provided under Part B of these objections.*

8. *Further, in many cases, the date of compliance has been shown to be 26.09.2019 (which is the date of constitution of the Committee vide order of this Hon'ble Tribunal dated 26.09.2019). This, in humble submission, is completely baseless and arbitrary. In many instances, the compliance of conditional restart order and even verification thereof is 2-3 years prior to the compliance verification date/26.09.2019 as reported in the Committee Report. It is upon the MPCB to ensure compliance inspection and if it has not done, the individual industrial unit cannot be made liable on that count. Once having sent the compliance report, the unit ought to be treated as having deemed to have complied unless an adverse inspection report is available on records.* ***In 33 units***

out of total 103 units, this error has been committed. *Unit-wise details of such errors is provided under Part B of these objections.*

The above errors have led to substantial increase in days of violation against individual units thereby increasing their individual liability.

iv. *Reasons for Closure (Sl. No. 14 of the Table of units): Many of the reasons for closure do not contribute to the water pollution and such units cannot be penalised. In some of the units, this error has been committed. Unit-wise details of such errors is provided under Part B of these objections.*

v. *There are instances where findings recorded in the Tables are contrary to the records / lab reports / MPCB reports. In some of the units, this error has been committed. Unit-wise details of such errors is provided under Part B of these objections.*

vi. *Wrong company data: In Table No. 89, due to similarity in the name, the data of a wrong company has been picked up and the unit noted against the Table has been penalised. If this error is corrected, the unit noted in Table no. 89 would not be penalised at all. There is no violation reported against the industry named in Table No. 89.*

vii. *Absurd figures: In some cases, the figures provided are ex facie absurd. For example, (i) mention of BOD/COD levels of inlet despite outlet figures are well within prescribed norms, (ii) in one instance, BOD-COD levels of outlet are shown 10 times higher than the inlet, which is scientifically impossible. Rectification of these figures would reduce the liability of the individual unit. In some of the units, this error has been committed. Unit-wise details of such errors is provided under Part B of these objections.*

viii. *Quality of Effluent has not been considered as a critera: The quality of effluent generated by each industrial unit is a relevant factor and ought to have to been considered while apportioning the liability. It is the analysis of the quality of effluent, which would actually provide the real data as regards the contribution of a particular industrial unit to the overall pollution generated. This aspect has been completely left out in the Report.*

ix. *Quantity of effluent factor has been applied only by SSI/MSI/LSI and not by the actual water consumption: The* ***amount of effluent generated by an industrial unit is directly proportionate to the water being supplied by MIDC and the actual water consumption of such unit****. In order to reach a realistic figure of apportionment of liability, the Committee ought to have assessed the water consumption of each industrial unit and then, categorised them for the purposes of apportionment of liability rather than merely adopting the scale of operation in terms of SSI / MSI / LSI.*

x. *Identification of erring Zero Liquid Discharge (ZLD) units: Further more, there is always a possibility of even ZLDs discharging*

effluents in violation of the zero-discharge conditions in their respective consent to operate and the Committee ought to have undertaken the exercise of identifying such units as well and apportioning the liability rather than merely granting them a 'whole-some immunity'."

(Emphasis added)

(s) MIDC is largely responsible on account of its inaction, faulty action, negligence, etc. and hence is liable for apportionment of environmental compensation but has not been held so by the Committee. Committee's report appears to be biased against industries and shows favor to statutory authority like MIDC. The report is silent on the role and liability of MIDC. It has ignored past and continued failure and breach of duty on the part of MIDC. Despite the fact that this is also pleaded by applicant in OA itself and TEPS i.e., respondent 3 has also made similar complaints in MA 375/2017. MIDC is vitally responsible in the process of treatment of effluent and its role is quite vital and substantial. Contamination of ground water due to leakage of effluent is referable to laxity on part of MIDC. Water supply is the function of MIDC and it releases water to be used by individual industrial units. Untreated effluents are transported through pipelines, by individual industrial units to CETP through gravity and/or pump machines and MIDC is responsible for laying down and maintaining such pipelines. After CETP treats the effluent, the treated water is transported to MIDC Sump-2 wherefrom it is transported to Navapur sea shore through pipelines maintained by MIDC. These facts have been admitted and noted by Committee, as under:

"*i. A 59 kilometer effluent carrying pipeline runs through the industrial area to convey the industrial effluent of its members industries of Tarapur MIDC to CETP. The outlet from CETP is discharged into a shallow depth of Arabian Sea at Navapur which is about 5.6 km away from the CETP. (para.1.1 at pg.10 of the Report).*

ii. *MIDC provides water to the entire industrial area and residential area inside MIDC as well as adjoining villages (para. 2.3 at pg.17 of the Report).*

iii. *Water supply to industries in the MIDC Tarapur is about 38 MLD by MIDC (para. 2.3 at pg.17 of the Report).*

iv. *Responsibility for the collection and disposal of treated effluent rests with MIDC (para. 2.3 at pg.17 of the Report).*

v. *The total drainage collection network is of 59.00 KM, which is underground. Most of the drainage network has been converted into HDPE lines (para. 3.3 at pg.21 of the Report).*

vi. *Significant quantity of sludge is deposited (approx. 2400 MT) in the MIDC Sump-2 (10.56 MT capacity) where treated effluent is collected and further transferred to the sea shore through BPTs. There is also overflowing/leakages from pumps, etc. from this sump to nearby natural drain which meets with Navapur Creek and further to the Arabian Sea. The operation of this Sump is under MIDC and responsibility lies with MIDC for proper maintenance and removal of all the sludge from sump. MIDC needs to be directed to take immediate action for the same. (Page 42 and 96 of the Report).*

vii. *Directions have issued on account of laxity on part of MIDC to ensure absence of leakage from drainage pipes and sumps/tanks (page 97 of the Report).”*

(t) Thus, role of MIDC show that it is a stakeholder in the matter of treatment of effluent and its discharge. It is also responsible for maintaining a pollution-free environment. It has failed to perform its duty which has contributed largely for contamination of atleast ground water. It has failed to ensure plugging of drains and sumps/tanks to stop leakage which has resulted in contamination of ground water. Committee despite noticing the above failure and flaws on the part of MIDC and issue direction for functioning properly in future has chosen not to impose any compensation on MIDC.

(u) Installation of new 50 MLD CETP which was delayed and still not being able to function with full capacity is on account of laxity on the part of MIDC who is not performing its own duties properly as is evident from the following:

"i. To ensure movement of untreated effluents from the industrial unit to the new 50 MLD CETP, a new drainage system is required to be laid out by MIDC. This new drainage system would ensure movement of untreated effluent either by gravity or by pumping. Presently, due to lack of such new system by the MIDC, the new CETP is working at less than half the capacity and with much difficulty.

ii. As per the report of the National Institute of Oceanography, MIDC was required to construct a new disposal pipeline at a distance of 7.1 km into the Arabian Sea. Again, in spite of repeated requests and reminders, MIDC has miserably failed in completing this line. This again has resulted in under-utilization of the new 50 MLD CETP."

(v) For compelling MIDC to discharge its own duties, TEPS (respondent 3) also filed MA 375/2017 requesting Tribunal to issue specific direction to MIDC but no directions have been issued. Hence, neither new 50 MLD CETP is capable of optimum utilization nor refurbishment of existing 25 MLD CETP is possible and for this, MIDC is responsible and it must have been taken care by Committee. Reliance is placed on Supreme Court's judgment dated 04.11.2019 in ***M.C. Mehta v. Union of India, (2020) 7 SCC 573***, where considering issue of air pollution in Delhi due to stubble burning,

Court observed:

"*3. … … Obviously, it is writ large that the State Governments, Government of NCT of Delhi and civic bodies have miserably failed to discharge their liability as per the directive principles of State policy which have found statutory expression, they are being made statutory mockery and also the directions of this Court and High Courts in this regard are being violated with impunity."*

"6. Everybody has to be answerable including the top State machinery percolating down to the level of gram panchayat. The very purpose of giving administration power up to the panchayat level is that there has to be proper administration and there is no room for such activities. The action is clearly tortious one and is clearly punishable under statutory provisions, besides the violation of the Court's order. In the circumstances, as widespread stubble burning has taken place, we direct the States of Punjab and Haryana and adjoining State of Uttar Pradesh where there is blatant violation which has taken place, to halt it. We direct the Chief Secretaries of the States of Punjab, Haryana and Uttar Pradesh to be present in this Court on 6-11-

2019 including Chief Secretary of the Government of NCT of Delhi."

*"**8.** Let the State Governments of Punjab, Haryana and Uttar Pradesh and officials also explain that why they should not be asked to pay the **compensation** for tortious liability as they have acquiesced and due to their failure in preventing stubble burning which is in utter violation of the public trust doctrine, why they should not be held liable to **compensate**, and also the incumbents who are burning the stubble in spite of clear restrictions imposed by this Court and statutory prohibition."*

(w) A similar observation was made by Tribunal in the order dated 14.11.2019 In **Re: News item published in *OA No. 1038/2018, "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels"***, in para 9 and 11, as under:

"*9. … … Inaction by the statutory authorities is also at the cost of Rule of Law which is the mandate of the Constitution and is necessary for meaningful enforcement of legitimate constitutional rights of citizens and basic duty of a welfare State under the Constitution.*"

"*11. The Tribunal has thus no option except to reiterate that meaningful action has to be taken by the State PCBs/PCCs as already directed and action taken report furnished showing the number of identified polluters in polluted industrial areas mentioned above, the extent of closure of polluting activities, the extent of environmental compensation recovered, the cost of restoration of the damage to the environment of the said areas, otherwise there will be no meaningful environmental governance. This may be failure of rule of law and breach of trust reposed in statutory authorities rendering their existence useless and burden on the society. On default, the Tribunal will have no option except to proceed against the Chairmen and the Member Secretaries of the State PCBs/PCCs by way of coercive action under Section 25 of the National Green Tribunal Act, 2010 read with Section 51 CPC. Such action may include replacement of persons heading such PCBs/PCCs or direction for stopping their salaries till meaningful action for compliance of order of this Tribunal. The Tribunal may also consider deterrent compensation to be recovered from the State PCBs/PCCs. … …*"

(x) If the statutory authorities are not performing their part of duty and fails to ensure environmental clearance, they too are responsible for payment of compensation as they are also within the purview of 'Polluter Pays' principle and cannot be left unaffected or untouched.

(y) Raising under the head of other issues, TIMA in its objections said that 'Polluter Pays' principle relates for past conduct of operation which has already resulted in pollution and compensation is required to be imposed for restitution of environment. 'Precautionary' principle deals with action to be taken by units to avoid further pollution. Both these cannot involve imposition of compensation, they can only include regulation of future behavior to ensure avoidance of pollution. The report talks of two actions. One, to safeguard sea and creeks, certain measures have been recommended though no pollution as on the date of report was found either in the sea or creek. The above directions at the best could be within the realm of 'Precautionary' principle. Still, imposition of damages on account of sea water and wetland is without any factual or legal support and deserve to be rejected.

(z) **Compensation for restitution of environment without laying down a restitution plan is only erroneous**. Without assessing cost involved in restitution, an imposition of compensation is impermissible under law. Creation of superfund of Rs. 75 crores is alien to Indian environmental statutory scheme and hence, also deserves to be rejected.

(aa) The committee has also ignored past penalties paid by member industries and also forfeiture of bank guarantees to the tune of Rs. 2.45 crores. The said amount is lying unutilized for several years and still Committee has computed further compensation which amounts to double jeopardy avoiding established principle of law that no person can be penalized twice for the same offence. Here, reliance is placed on Tribunal's judgement in ***State Pollution Control Board, Odisha vs. M/s Swastik Ispat Pvt. Ltd., 2014 SCC OnLine NGT***

13 dated 09.01.2014; wherein Tribunal has held that amount received as **compensation for violation of environmental norms must necessarily be used only for restitution of environment and no other purpose**.

(bb) Respondent 9 therefore has pleaded for rejection of the committee report with respect to environmental compensation.

167. **Part B** of the objections comprised of **individual objections** of various industries filed as annexure-R-9/5. In all, 87 industries have filed objections. We would discuss objections filed by TIMA and individual industries on merits later, after referring to some further subsequent events.

Status report dated 11.01.2021 by CPCB (P/1418)

168. Committee earlier constituted was directed to continue with inclusion of District Magistrate, Palghar and monitor compliance of environmental norms at TIA MIDC by TEPS and individual industries. It was also directed to submit status report. Hence, the above status report was submitted pursuant to order dated 17.09.2020. In the report, action plan to control impact on environment due to partial/untreated effluent discharge and restoration/remediation of contaminated water bodies in and around TIA MIDC, prepared by Committee was given in column 2 and 3 of table in annexure-II to the said report. Further action plan on prohibition of use of contaminated ground water in affected areas and remedying inhabitants health including providing health care to affected individuals in and around TIA MIDC was given in annexure III and IV of the said report. Based on the said annexure, Committee stated in brief, works/remedial measures undertaken as per compliance status by the concerned agencies, as under:

"3.1 Control of further impact on environment due to partial/untreated effluent discharge

Based on compliance status, as reported by MPCB, as given at Annexure-II, the following works/remedial measures have been undertaken to control further impact on environment due to partial/untreated effluent discharge:

(i) ***One module of 12.5 MLD out of the 04 modules (50 MLD) of the new CETP has been commissioned w.e.f. 22/11/2020****. About 1.5-8.4 MLD is being received to the new CETP which currently has pipeline connection for conveying effluent as inlet only through Sump 1 of the existing 04 pipeline connections (i.e. Sump 1, 3, 4 and Gravity Mains) used for conveying effluent to the old 25 MLD CETP.*

(ii) ***The 25 MLD CETP has voluntarily shut down its operation for upgrading/retrofitting w.e.f. 26/11/2020 during which member units connected to this CETP also voluntarily closed their wastewater generation processes. The CETP is expected to start with 07 MLD effluent inlet from 30/12/2020****. Details of water supplied and effluent generation and disposal of treated effluent are given at Appendix A.*

(iii) Reduction of water supply in MIDC Tarapur from 38 MLD to about to 25 MLD during the aforesaid volunteer shut down period of the 25 MLD CETP.

(iv) Besides earlier on-going weekly monitoring by MPCB, daily monitoring of inlet and outlet of the 25 MLD CETP from 26/10/2020 up to 26/11/2020 (till the CETP was in operation) were carried out. Thereafter, samples have also been collected & analysed up to 07/12/2020. The analysis results are given at Appendix B.

(v) MPCB has deployed teams from 18/11/2020 for identification of units not complying with the CETP inlet effluent norms. 226 industries have been monitored so far.

(vi) District Magistrate, Palghar, has issued order on 04.12.2020 under section 144 and 133 under the Criminal Procedure Code 1973, banning water tanker movement in Tarapur MIDC w.e.f. 05/12/2020 to 02/2/2021 except Fire Tender vehicles and in extraordinary situations with written permission from MIDC.

(vii) Completed removal of deposited sludge from various CETP inlet and outlet sumps (Sump 1, 2 and 3) and module 1 (Equalization tank; Primary settling tank; Aeration Tank and Secondary clarifier) of the two modules of the 25 MLD CETP and common Collection tank and common Oxidation tank.

Further, for improvement in overall scientific operation and maintenance of the 25 MLD CETP works such as replacement of old SS-316 sluice gates within equalization tank inlet with new sluice gates; floating aerators to submerged mixers in collection equalization tank and scrapping system in primary floculators and secondary clarifiers with new SS-316 scrapping system, etc. have been completed in the 25 MLD. Other activities are proposed/under process such as installation of SCADA; development of facility to treat high COD and high TDS streams, up gradation of CETP, etc., as given at Annexure-II.

3.2 Restoration/remediation of contaminated ground water and drains and, if applicable, the two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek) and seashore also

The committee's report, which has been accepted and directed to be acted upon by the Hon'ble NGT, outlines – (i) selection of consultant to prepare Detailed Project Report (DPR) and provide consultancy services for remediation of contaminated ground water and drains as well as control impact on the water bodies from the drains/CETP outlet for the Phase-I (detailed investigation, remediation plan, etc.) and Phase-II (execution as per the remediation plan) activities; (ii) execution as per the DPR; (iii) recovery of derived damage and restoration cost from the respective 103 polluting units (who have also been directed to pay the same vide order dated 17/9/2020 of the Hon'ble NGT) to meet the said expenses on remediation expenses. The compliance status given at Sl. No. 16 to 20 of the Table at Annexure-II reveal that:

(h) *Work of finalization of IIT Mumbai as consultant is in progress by MPCB and has already discussed this issue in length with IIT and NGRI, Hyderabad.*

(i) *MPCB has issued the directions on 23/10/2020 to all 103 units for deposition of damage and restoration cost. One unit has deposited damage and restoration cost of Rs. 14.23 lakh. Initiation of necessary action against the 102 units is in progress by MPCB in the light of the Hon'ble Supreme Court order dated 14/12/2020.*

(j) *MPCB has decided to meet the remediation cost from the polluting units in case recovery of the damage and restoration cost from the units is delayed or not met partially or fully due to one or other reasons at any stage.*

3.3 Prohibition of use of contaminated ground water in affected areas

(a) Ground Water Surveys and Development Authorities (GSDA) Palghar, and Sub-divisional Water Testing Laboratory carried out sampling and analysis of 86 water samples from Government marked bore wells or dug wells, and 535 water samples from private bore wells, of that 5 government and 61 private samples were found unfit for consumption due to iron and turbidity. Heavy metals were also tested in 10 randomly selected samples and were found within the prescribed limit for drinking water.

However, the committee observed that limited parameters were carried out during such sampling and analysis and various pollutants expected to be present in the ground water due to industrial activities of Tarapur MIDC were not carried out such as Ammonia, Phenolic compounds, PCB, Pesticide and PAH besides heavy metals.

(b) It was informed that the aforesaid 13 Grampanchayat and 16 village are having regional water supply scheme by MIDC for drinking purpose and it was also observed during their survey that the aforesaid sources are not used for drinking purpose and are used for domestic purpose like washing utensils, clothing, etc.

3.4 Remedying the health of the inhabitants including providing healthcare to the affected individuals of in and around Tarapur MIDC

(a) 16 villages (having 24,815 households with population of 91,016) have been identified which may potentially have health impact on the basis of representation received from applicant of the OA No. 64/2016 (WZ) i.e., Akhil Bhartiya Mangela Samaj to DM Palghar as affected villages.

(b) Training to 129 healthcare officials have been imparted for active and passive health survey, screening and specialist camp.

(c) 55,844 among the aforesaid population of 91,016 have been covered in house-to-house health survey conducted by District Health Officers/Taluka Health Officers. The rest population goes out for work and hence could not be covered in the survey. The following suspected persons have been surveyed:

(i) Skin infection = 361
(ii) Respiratory ailments = 100
(iii) Tuberculosis = 14
(iv) Suspected cancer symptoms = 21

(d) Health screening camps for the surveyed people (planned during December 2020 but could not be done due to other activities of National Programmes) will be arranged in 3rd week of January 2021. Thereafter, Specialist camp for follow up of screened/identifies patients will be conducted in the 4th week January or 1st week of February. Distribution of medicine and patients referral to tertiary healthcare Centre will be carried out as per the requirement with effect from February 2021."

169. Committee, thereafter made recommendations in paras 4.1, 4.2 and 4.3 as under:

"4.1 Control of further impact on environment due to partial/untreated effluent discharge

*Although various works/remedial measures have been undertaken, as stated at para 3.1 above, w.r.t. the **25 MLD (old CETP) which is continuously non-compliant since the reported period from 2011** (as mentioned in the committee's report submitted to the Hon'ble NGT) but - (i) continued non-compliance of inlet and outlet effluent of CETP even after the aforesaid order dated 17/9/2020 of the Hon'ble NGT till its volunteer closure for up-gradation/retrofitting on 26/11/2020 (ii) not able to identify/list out units contributing to the higher hydraulic load and/or higher concentrated effluent to the CETP despite surveillance by separate teams of CETP and MPCB during such period, and; (iii) continued effluent discharge to CETP and discharge of effluent from CETP through sumps (though small in quantity of about 01-02 MLD) even during the said volunteer shut-down of CETP; reveal that there may be lack of system/arrangement to identify units who contribute higher concentrated effluent or higher hydraulic load to the CETP occasionally or continuously.*

It is recommended that:

(i) resumption of the 25 MLD CETP expected from 30/12/2020 may not be allowed by MPCB unless – (a) CETP operator or MIDC (who conveys effluent from units to CETP) individually or collectively takes the responsibility that they have mechanism in place to identify and report non-compliant units in the event of every occasion of higher hydraulic load/effluent quality being received at the CETP, and (b) the CETP demonstrates compliance to the prescribed outlet norms.

(ii) If the CETP's volunteer shutdown continues, there is a need to assess supplied water (25 MLD) to MIDC Tarapur. Water intake/usage of individual units connected to the 25 MLD old CETP is to be correctly quantified (during the shutdown period) and compared with the water use pattern during normal operation period. MPCB should properly review the same.

(iii) environmental compensation of Rs. 14,70,000/- (Rupees Fourteen lakhs seventy thousand only), may be imposed (calculation details given at Annexure-V) on the 25 MLD CETP operator and collected by MPCB for violating the prescribed inlet/outlet effluent norms w.e.f. 17/10/2020 (as order dated 17/9/2020 of the Hon'ble NGT). Hon'ble NGT has directed that the reports of the Committee be acted upon and the committee's report outlines. Accordingly, in case the suggested measures are not implemented effectively and CETP (either existing or new) continues to perform non-compliance to the inlet/outlet norms for a month, and that no alternate arrangement is in place for disposal of effluent, MPCB may close operation of CETP including its member units (who discharge their effluent to the CETP) till the compliance is achieved. Whereas the 25 MLD CETP continued the violations till the analysis reported period i.e. 07/12/2020 (except on 28/11/2020). MPCB didn't close the CETP and CETP continues to receive effluent and discharge the same till the reported period of 28/12/2020. MPCB need to take appropriate step as per the Hon'ble NGT order.

(iv) MPCB shall supervise generation of sludge and their proper storage and disposal including record maintenance during desludging of various sumps and treatment units/tanks of CETP in accordance with provisions of the Hazardous and Other Waste (Management and Transboundary) Rules, 2016.

(v) MIDC shall ensure that abandoned old effluent conveying pipeline system in Tarapur is not being used for illegal discharges of effluent. The same be dismantled in time bound manner for which action plan be submitted to MPCB.

4.2 Restoration/remediation of contaminated ground water and drains and, if applicable, the two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek) and seashore also

There is need to expedite selection of consultant by MPCB to prepare Detailed Project Report (DPR) and provide consultancy services for remediation of contaminated ground water and drains as well as control impact on the water bodies from the drains/CETP outlet for the Phase-I (detailed investigation, remediation plan, etc.) and Phase-II (execution as per the remediation plan) activities which has not been completed even after 03 months of order of the Hon'ble Tribunal.

The DPR preparation, detailed investigation/assessment, selection of remediation target level and appropriate remediation technologies and execution thereof will proceed only after selection of suitable consultant. MPCB shall, therefore:

(i) complete selection of consultant on priority within a month and proceed DPR preparation, detailed investigation/assessment, selection of remediation target level and appropriate remediation technologies and execution thereof, etc. as recommended in the committee's report.
(ii) proceed for recovery of the damage and restoration cost from the 103 units of the 102 units who have not yet deposited the same in accordance with order dated 17/9/2020 of the Hon'ble NGT and order dated 14/12/2020 of the Hon'ble Supreme Court.

4.3 Prohibition of use of contaminated ground water in affected areas

Although regional water supply scheme prevails in all the aforesaid 16 village and District Water and Sanitation Mission (DWSM) Palghar, has issued letters to BDO Palghar and concern Gramsevak for not to use the ground water for drinking purposes from the aforesaid 5 and 61 contaminated sources, however, for effective stoppage of use of drinking water from the contaminated ground water sources, there is need to;

(i) Issue order by Zilla Parishad to ban use of ground water for drinking purpose unless water samples are analyzed comprehensively with respect to parameter expected to be contaminated due to industrial activities of MIDC.
Advertisement in the local newspaper may also be issued in this regard as suggested by the committee in its 07th meeting held on 29/12/2020.
(ii) identify villages other than aforesaid 16 villages which may potentially have impact due to industrial activities of Tarapur MIDC by the GSDA Palghar based on aquifer recharging and ground water flow data and, if need be, similar remedial approaches, as above for the said 16 villages, be extended to the identified villages.

4.4 Remedying the health of the inhabitants including providing healthcare to the affected individuals of in and around Tarapur MIDC

(i) Advertisement about the on-going/proposed house-to-house survey, health screening camp and specialist camp, etc. in the aforesaid 16 villages may be done in local newspaper.
(ii) Health impact due to legal discharge from Tarapur MIDC may be in other villages also other than aforesaid 16 villages which were selected as affected villages on the basis of application of the applicant i.e. Akhil Bhartiya Mangela Samaj to the District Magistrate Palghar. To begin with secondary health data from primary health centre/sub-centre in and around Tarapur MIDC population may be analyzed by DHO and the ongoing/proposed house-to-house health survey, health screening camps,

specialist camp, distribution of medicine and patients referral to tertiary care healthcare centre, etc., be extended to the identified affected villages."

Pleadings brought on record after Supreme Court's order dated 14.12.2020

i. Affidavit dated 04.01.2021, by respondent 3, TEPS (P/1315)

170. Reports dated 18.06.2020 and 27.07.2020 submitted by Expert Committee were accepted by Tribunal and OA was disposed of vide order dated 19.09.2020. Civil Appeal No. 3638 of 2020 filed before Supreme court was partly allowed vide judgment dated 14.12.2020 whereby TEPS and industries held liable for payment of compensation were permitted to file ground wise objections to the report of Expert Committee and that was required to be decided by Tribunal.

171. TEPS filed objections as annexure appended to MA 01/2021, on 29.12.2020. It also filed this affidavit in compliance of direction (k) of Supreme Court's order dated 14.12.2020 to bring on record status of compliance on the part of TEPS. It is said that 25 MLD (out of 50 MLD) new CETP has been successfully commissioned. Around 11 MLD effluent received at sump-1 is now being diverted to new CETP for treatment. Though desludging is responsibility of MIDC but to expedite implementation of remediation plan, TEPS, at its own cost/expenses, has removed 5700 MT sludge from Sump-2 and disposed to CHWTSDF. TEPS has also completed desludging work of Sump-3 on 03.12.2020 by removing about 1250 MT from equalization and collection tanks out of which 563 MT sludge has been sent to CHWTSDF and remaining is for drying and thereafter will be send to the above agency. Further compliance measures/actions of TEPS stated in para 11 of the affidavit are as under:

"*(a) Revamping of Pressure Sand filter (PSF) = 02 Sets (including conversion of ACF into PSF) in each of the two modules of the CETP. One Module Completed and for second module, work of tale end piping is in progress.*

(b) Flow meters were received for installing at Sumps Flow outlets. The ***work of Flow meter installation*** *has started and* ***will be completed by 16.01.2021*** *and the same will be commissioned within 02 days of installation.*

(c) Commissioning of two modules each of 12.5 MLD out of the 04 module (50 MLD) of the new CETP. ***TEPS has diverted about 9 MLD of effluent from Sump-1 to the new CETP for the treatment****.*

(d) For improvement in overall scientific operation and maintenance of the CETP following measures are taken:

i. Replacement of old SS-316 sluice gates within equalization tank inlet with new sluice gates is completed.
ii. E.T. frontal pipe line (MS, 500 MM) was replaced with new one along with its all gate valves and NRV's having SS-316 MOC.
iii. TEPS also replaced MSEP platforms of Equalization all 04 tanks with precast RCC which will sustain as much as 20 years.
iv. Replacement of scrapping system in primary flocculators and secondary clarifiers with new SS-316 scrapping system is completed.
v. For old CETP - conversion of 1st aeration tank into anoxic treatment tank and channelization of effluent into said first aeration tank followed by into second, third and fourth aeration tanks in series having extended aeration for removal of BOD so as to improve BOD removal efficiency is under process.
vi. For old CETP - Installation of new tank where flash mixer will be installed so as to get more retention time for flocculation prior to flocculator tank is under process.
vii. For old CETP - Installation of one new tank for holding primary and secondary sludge separately in two tanks as well as installation of two additional centrifuges along with two new filter presses is under process.
viii. For old CETP - Increase in chemical preparation tank size is under process.
ix. For old CETP - Installation of auto dosing system with flow meter for in the proposed chemical dosing tank prior to flocculation tank is under process.
x. For old CETP- Installation of flow meter for activated sludge recirculation in the first anoxic treatment aeration tank is under process.
xi. Commissioning of OCEMS at inlet and outlet of both CETP with prescribed parameters is in progress and connectivity with MPCB and CPCB servers will be made immediately thereafter.

(e) For adequate analytical facility to keep watch on every stage of operation of TEPS has started new laboratory at new CETP with facilities like sampling and analysis of operational parameters viz.

BOD, DO, pH, TKN, TDS, SS, COD, O&G, Alkalinity, conductivity, heavy metals etc. CETP has also hired a trained manpower and is in process of hiring more.

(f) Laboratory at old CETP is used for general environmental parameter.

(g) Letter of intent issued by TEPS to M/s. Tesla for installation of high COD treatment facility having capacity 250 CMD. Also, additional facility will be commissioned for high TDS stream. Till they are commissioned, the concentrated streams will be disposed to TSDF by member industries.

(h) TEPS has undertaken installation and commissioning of centralized SCADA system of which SCADA platform for 55 industries installed and is under trial. Rest industries SCADA connectivity is planned on or before 31.01.2020. For that help desk is created and weekly one full day the engineers stationed at new CETP, for attending queries with respect to SCADA and industries to connect their hardware to TEPS CETP SCADA."

Response dated 18.02.2021 of applicant to the objections filed by TEPS and TIMA (P/1490)

172. Response dated 18.02.2021 is by applicant to the objections filed by TEPS and TIMA along with M.A. 08/2021 after Supreme Court's order dated 14.12.2020 in Civil Appeal No. 3638 of 2020. **Applicant has given parawise comments to the objections taken by TEPS** to the Expert Committee report, **in para 4 of his response** and read as under:

"a. With reference to paragraph A(i) it is denied that the Committee did not follow the mandate of this Hon'ble Tribunal. It is submitted that the role of the Expert Monitoring Committee was to assess the extent of damage that had been caused by the industries functioning within the Tarapur MIDC as well as the pollution caused due to the persistent failure of the CETP to adhere to the environmental norms and the conditions stipulated under the Consent to Operate issued by the MPCB. Therefore, the committee was well within its mandate to examine the pollution that has been caused to the drains, creeks and the seashore areas within as well as around the vicinity of Tarapur MIDC as long as it could the sourced to the industries functioning from Tarapur MIDC. ***As far as the objection to the Committee relying on Canadian guidelines is concerned, the Respondent No.3 has failed to note the fact that the Committee specifically states that the said standards have been*** *recommended in the "Guidance document for assessment and remediation of contaminated sites in India" prepared by the Ministry of Environment, Forest & Climate Change,* ***Government*** *of India. It is denied that the findings of the Committee reveal that the levels from water and sediment/sand samples collected at the creek and seashore is within the prescribed standards. The* ***Committee found indications of discharge of highly acidic untreated effluent in***

the drains from the industries, elevated concentration of TDS, BOD and COD in all the monitored drains, sediment samples from the drains as well as in the creek water samples (Pg. 45), elevated levels of Phenols in the sea water samples and elevated levels of iron and manganese (Pg. 54)*. The Committee noted that this was caused due to the industries discharging untreated untreated/partially treated effluent into the drains, creek and sea. It is denied that proof of actual damage to the environment is missing from the report and that there is no basis for calculating the damage coast. With regard to the contention that in the absence of there being any notified wetland and therefore no basis for collecting damage costs of 79 crores, it is submitted that* ***merely because the wetlands identified by the Expert Committee are not notified does not mean that it ought not to be afforded protection under the Wetland (Conservation and Protection) Rules, 2017. It is pertinent to note that the Supreme Court by an order dated 8th February 2017 in the matter of M.K. Balakrishnan & Ors. v. the Union of India & Ors. (Writ Petition no.231 of 2001) after noting the fact that several state governments including Maharashtra had failed to notify wetlands within their respective states in terms of the erstwhile Wetlands (Conservation and Management) Rules, 2010, directed the state governments to protect all the wetlands that had been identified under the National Wetlands Atlas, until the process of notification of wetlands was completed. By the order dated 8th February 2017 the Supreme Court directed that Rule 4 of the Wetlands (Conservation and Management) Rules, 2010 shall apply to the wetlands that have been mapped by the Central government in the National Wetlands Atlas using remote sensing technology.*** *This order effectively banned a host of activities in the wetlands identified by remote sensing in the National Wetlands Atlas. Such activities include Setting up of new industries and expansion of existing industries, solid waste dumping, discharge of untreated wastes and effluents from industries, new construction of permanent nature other than boat jetties etc. Hereto annexed and marked as EXHIBIT A is a copy of the order dated 8th February 2017 passed by the Hon'ble Supreme Court.*

b. *The Expert Committee has mapped the wetlands and mangroves in the region using remote sensing as indicated in the Report at Pg. 69 and 70. These wetlands must therefore be protected in terms of the Supreme Court order dated 8th February 2017. Furthermore the Wetland (Conservation and Management) Rules, 2017 ('Wetland Rules') define a wetland as marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters. It is submitted that the committee was right in describing the concerned areas as wetlands and assessing the damage accordingly inasmuch as they confirm to the definition of a wetland set out under the Wetland Rules.*

c. *With reference to the contents of paragraphs A(ii) and (iii) it is denied that the Expert Committee has not assessed any actual restoration costs. It is submitted that* ***there are two components to the total***

compensation amount proposed by the Committee-the first is punitive and is based on the records before the Committee with regard to the infractions and consequent environmental damage committed by the industries. The second has been provisionally quantified towards the setting up of a 'Superfund'*. The punitive component has been quantified by the Committee at Rs. 85.042 crores and has been arrived at on the basis of the Committee's assessment of the environmental damage caused by the industries. The second component (i.e. towards the Superfund) has been provisionally quantified at Rs. 75 crores. The Committee has proposed that the Superfund be utilized towards: (i) first, a detailed assessment to determine the available remediation options and the cost of restoration based on such options; (ii) then, the actual cost of execution of the restoration plan.*

d. *The reason the Committee has suggested the setting up of the 'Superfund' (and has not, as in the case of the punitive component referred to above, finally quantified this amount) is that: (i) the Committee does not, at present, have the benefit of material to determine the nature and extent of the damage that may have been caused; and (ii) the costs towards remediation would be difficult to assess at present and may increase or decrease depending on the selected remediation option. Thus the contention that the compensation amount was inappropriately fixed before the preparation of a restoration plan is misconceived.*

e. *With reference to the contents of paragraphs A(iv) it is denied that committee discriminated against large scale industries and medium scale industries. Any differentiation in the quantum of compensation ascribed to an industry was based on the scale and size of operation of the industries and the period and nature of default and therefore cannot be said to be discriminatory when there is an intelligible differentia between the 2 categories of industries. This Hon'ble Tribunal also directed the Committee hear the CETP operator and the units identified as polluting by the MPCB. In compliance with aforesaid orders of this Hon'ble Tribunal, the MPCB forwarded the list of 225 defaulting units to the Committee and it was on this basis that accountability was fixed on various industrial units apart from the CETP. With regard to the exclusion of SSI units, the Committee report noted the following justification for excluding the said units-*

> *'Incidences of SSI units, where they have discharged into CETP exceeding their prescribed norms but within design/prescribed inlet standards of CETP, may not be included in the list of polluting units for the purpose of environmental compensation/restoration cost recovery. For* ***if SSI units are required to meet its outlet effluent standard to that of outlet effluent discharge standard of CETP then there remains no role of CETP which has primarily been facilitated for smaller units****. However, MPCB may examine the matter and take appropriate decision in exempting such exceedance cases in case of SSI units.'*

f. *With reference to paragraph A(V) it is denied that the CETP polluting is not a unit. It denies logic to hold that merely because the CETP does not generate effluent it should not be considered to be a*

polluting unit in and of itself. The Respondent No.3 is well aware that ***there are standards that have been specifically prescribed under the Environment (Protection) Rules, 1986 for CETPs****. The said Respondents failure to comply with the prescribed standards has been noted in detail in the Expert Committee Report and therefore the Committee rightly held the CETP accountable in meeting the environmental damage cost.*

g. *With reference to paragraph A(vi) and (vii) it is denied that the Expert Committee exceeded its powers or that it has acted in a non-transparent manner. The Committee has granted a hearing to each industry identified as polluting including the CETP and has acted in a fair and impartial manner in its assessment and in arriving at the environmental damage cost.*

h. *With reference to paragraph B it is submitted that the contention that the Respondent No.3 is not a polluter and therefore cannot be subject to the 'polluter pays' principle is untenable. It is submitted that is far as environmental damage is concerned it is irrelevant whether the CETP generates effluent itself or merely treats effluent that is generated by other industrial units. What is relevant is that the CETP has failed to meet the prescribed standards under the Environmental (Protection) Rules, 1986 and has consistently violated the conditions stipulated under the Consent to Operate issued by the MPCB. The terms and conditions stipulated therein include the permissible quantity of effluent in accordance with the design capabilities of CETP. The Consent to Operate also stipulated standards of inlet effluent quality and outlet effluent quality. TEPS was always aware of these standards, has agreed to subject itself to the same and has never challenged the said consent. Having failed to comply with the conditions of the Consent to Operate, the stand of the Respondent No.3 that the failure to comply with the conditions of the Consent to Operate are attributable to the failure of the individual member industries and not of the CETP itself cannot be countenanced. Furthermore, the* ***Committee Report specifically noted the continued improper operation of all the major treatment units of the CETP (Pg. 10 and 11 of the Second Report of the Expert Committee dated 27.07.2020)****.*

i. *With reference to paragraph C it is submitted that the classification of industries is based on their pollution index which is a function of the emissions (air pollutants), effluents (water pollution), hazardous wastes generated and consumption of resources.* ***CETPs are highly polluting*** *and has on this basis been* ***classified as a red category industry****.*

j. *With reference to paragraph D it is submitted that the denial that the CETP continued to operate without valid Consent to Operate has no basis in fact. As noted by the Committee, the Respondent No.3 continued to operate in spite of the fact that the MPCB did not renew its Consent to Operate due to consistent violation of the stipulated conditions under the previous Consent to Operate. The earlier consent that was granted to the Respondent No.3 expired on 31.12.2017. The MPCB issues a fresh Consent to Operate only on 29.11.2019. The* ***CETP was thus operational without a valid***

consent from 31.12.2017 to 29.11.2019 i.e. almost for 23 months.

k. *With reference to paragraph E (i) to (vii) it is submitted that while the role of the MPCB and MIDC may be critical in managing the pollution and effluent that is caused by the industries, the CETP plays the most significant role in ensuring that the effluent that is generated by the industries is treated and disposed of in compliance with the prescribed standards. The failure of the CETP to meet the design norms and consented capacity has been noted by the Committee detail and no one else but the CETP can be held responsible for these failures. With regard to the excess load of effluent received by the CETP, the Committee noted that online continuous monitoring system (OCMS) provided at CETP inlet and outlet were found not in operation and in working condition. The Committee further observed that the CETP inlet flow meter is installed after equalisation tanks which do not measure actual inlet flow due to overflow from equalization tank, and secondly that the CETP outlet flow meter has been provided in only one of the two 2 lines from Sump No. 2 which convey effluent to the designated marine outfall point. Therefore by failing to adequately monitor the quantity of effluent that it received the CETP was itself responsible for not meeting the consent norms. The* ***Committee observed that none of the major treatment units of the CETP were functioning properly and certain units of the CETP were completely defunct****. The failure of the Respondent No.3 to acknowledge its own liability and responsibility while imputing the actions/failures of the other Respondents is what has caused the alarming situation in Taparpur MIDC and the reason that it continues to be a critically polluted region.*

l. *With reference to paragraph E(ix) it is submitted that the Respondent No.3 has failed to ensure that the effluent outflow meets the prescribed standards before it is discharged into the water bodies, besides failing to ensure that the CETP does not take in more effluent than its designed capacity of 25 MLD. It is therefore difficult to imagine that the very same Respondent that will be responsible for the functioning of the proposed 50 MLD CETP, will be able to ensure compliance of environmental norms. It is submitted that* ***it is not merely a matter of inadequate capacity of the existing CETP as sought to be argued by the said Respondents, but a matter of indifference and ineptitude that has lead to severe environmental degradation in the last three decades****, the same will not be solved by the commissioning of the 50 MLD CETP.*

m. *With reference to paragraph E (x) and (xi) it is submitted that the Committee duly noted the fact that the operation of the sump and the proper maintenance and removal of the sludge from the sump is the responsibility of MIDC and directed MIDC to take immediate action in this regard.*

n. *With reference to paragraphs E(xii) and (xiii) it is submitted that the mandate of the Committee was to determine the individual accountability of the CETP and the polluting units responsible for the pollution in and around Tarapur MIDC and not to determine sources of external sewage.*

o. *With reference to paragraph E (xiv) and (xv) it is submitted that merely the fact that no closure directions were issued by the MPCB cannot be interpreted to mean that no liability arises against the CETP. Nonetheless, the Expert Committee has taken note of the show-cause notices issued to the CETP in the past by the MPCB and the fact that the MPCB has filed a criminal case against the Tarapur CETP before the Judicial Magistrate First Class-Palghar for its consistent failure to meet the stipulated standards and for discharging untreated effluent. The CEPT plays a crucial role in the treating effluent and is responsible for ensuring that the standards stipulated under the Consent to Operate are complied with. As stated before, the Expert Committee report noted in detail the fact that the 25 MLD capacity CETP is discharging higher concentrated effluent which did not meeting the prescribed standards under the Consent to Operate issued by MPCB into coastal water of the Arabian sea besides discharge of partially treated/untreated effluent as overflow from it beyond its hydraulic load of 25 MLD. The* ***Committee noted the fact that such high concentrated effluent as overflow is discharged into natural drain and has impact on creeks and coastal water****. Therefore, the denial of its liability towards meeting the environmental damage cost imposed by the Expert Committee has no basis.*

p. *With reference to paragraph F and G and the contents paragraph H herein are reiterated and are not reproduced for the sake of brevity.*

q. *With respect to Para H(i) of the objections, I deny the contents therein as false, misleading, unfounded and say that it is nothing but is an attempt to misrepresent scientific records as a feeble attempt to discredit the expert report. I say that though the pH levels of the water at seashore exceed prescribed standards, cost of Environmental damage calculated by the Expert Committee is not on the basis of the pollution levels on the day of inspection but admittedly, on the basis of pollution levels determined between April, 2011 to November, 2019. As regards the data of 2011, the Expert Committee Report clearly states that it has taken the 2011 data since 28/4/2011 as part of surveillance undertaken by MPCB and therefore, TEPS' submissions that cost of environmental damage is incorrectly computed are misleading and unfounded. In fact, pollution levels in Tarapur have continued to remain alarmingly high for more than 3 decades and that a calculation of pollution from 2011 in itself is conservative as MPCB had initiated record-keeping of high pollutants only after Tarapur was declared as a Critically Polluted Area by CPCB in 2010. In fact, the Expert Committee Report also noted at Pg. 106 in no uncertain terms, that "the impact on sea water pollution is also very conservative due to lack of better information on pollutants including nitrogen." Therefore, the* ***present cost of environmental damage and restoration imposed against polluters is most conservative as the determination is made only from the year 2011 onwards, despite the release of an excess amount of untreated effluents/partially treated effluent that has continued for decades****.*

r. *With reference to Para H(ii)(1-3) of the objections, I deny the contents therein as false and misleading and say that once again, TEPS has attempted to misrepresent the findings of the Expert Committee*

Report in a manner that is devoid of scientific understanding. I say that in spite of the Expert Committee coming to the finding of extremely high levels of TDS (more than 3000 times the prescribed standards), BOD and COD (more than twice the prescribed standards) TEPS claims that there has been "no concrete finding which would warrant imposition of damages". I reiterate that the present cost of environmental damage and restoration imposed against polluters is most conservative as the determination is made only from 2011 onwards, despite continuing egregious violations of the environmental norms and the Consent to Operate.

s. *With respect to paragraph H(ii)(4) it is submitted that due to the lack of availability of detailed baseline data related to identified damage parameters, various studies have been referred to arrive at the damage costs. The direct value transfer method was used for assessment of environmental damage. Direct value transfer estimates the economic value of one location using the study carried out another location. The value benefit transfer method is widely used as a technique to calculate the economic value of benefits for the environment when an original study for valuation is not feasible.*

t. *With respect to Para H(iii) I deny that there is any error by duplication by the Expert Committee Report as creeks and seawater are two distinct natural ecosystems with different aquatic ecology. Any impact/damage to the creek and to the seawater, even if the origin of such damage is common, will have to be ascertained and determined separately for creek and for seawater, as rightly undertaken by the Expert Committee. In fact, the determination of environmental damage is made only from 2011 despite large-scale pollution continuing for several decades by the CETP and its associated industrial units.*

u. *With respect to Para H(iv) of the Objections, I deny the contents therein as absolutely baseless, unfounded, false and absurd. The contents of the said para fall afoul of the conclusive science on this subject. I say that* ***BOD (Biochemical Oxygen Demand) is not a subset of COD (Chemical Oxygen Demand). BOD is a biological oxidation process and COD is a chemical oxidation process. COD levels is used to determine capability of degrading industrial sewage alone and therefore, is an important constituent to determine and identify the chemical levels, whereas BOD is used to separately determine organic untreated sewage and effluents that may have a non-chemical source such as waste arising from manure, food processing plants, wastewater treatment plants, failing septic systems and pulps and paper mills among others****. Annexed and marked hereto as EXHIBIT B is a copy of a research article setting out the difference between BOD and COD levels.*

5. *The Expert Committee undertook a detailed analysis of the pollution being caused by the industrial units as well as the CETP over a protracted period of time due to the failure of both the Respondent No.3 and the member industries of the Respondent No.8 to comply with the stipulated consent terms and due to the brazen violation. Not only has the livelihood of the traditional fishermen been affected by the polluting of the waterbodies, but the degradation of the quality of the*

environment has had obvious adverse effects on public health. As such the Respondents No. 3 and 8 must be held accountable for causing damage to the environment and liable under the "polluter pays principle"."

(Emphasis added)

ii. Affidavit dated 18.03.2021, by respondent 3, TEPS (P/1522)

173. Referring to Supreme Court's order dated 14.12.2020 in Civil Appeal No. 3638 of 2020, TEPS has stated that seeking extension of time for deposit of amount, MA 62/2021 (page-1523& 1532) in Civil Appeal no. 3638/2020 was filed in Supreme Court which was partially allowed, granting 30 days' extension and directing TEPS to deposit 30% of the compensation amount with Authority established under Environment Relief Fund Scheme, 2008 (hereinafter referred to as 'ERF Scheme, 2008') as per Section 24 of NGT Act, 2010. The order reads as under:

"We have heard learned counsel for the parties.
In our order dated 14th December, 2020, clause (e) and (f) read as under:

e) The appellant, namely Tarapur Industrial Manufacturers Association (TIMA), or the individual units as identified in the report submitted by the Monitoring Committee, shall deposit 30% of the compensation amount within one month from today. In case of failure to deposit, their objections would not be heard and decided.

f) The appellant - Tarapur Environment Protection Society (TIMA), in Civil Appeal No. 3638 of 2020, would deposit 30% of compensation amount as directed by the impugned order within one month from today. In case of failure to deposit, their objections would not be heard and decided.

Under Clause (e) and (f), we had directed the parties to deposit 30 per cent of the compensation amount within a period of one month from the date of the said Order. Having regard to the submissions of the learned senior counsel appearing for the applicants, time for deposit of the amount is extended by 30 days.

***The deposit shall be made with the authorities indicated in Section 24 of the National Green Tribunal Act, 2010**.*

The miscellaneous applications stand disposed of."

(Emphasis added)

174. TEPS has deposited Rs. 10,90,00,000/- with United India Insurance Company Ltd. (Chennai Head Office) which is established as a Fund Manager/Authority under ERF Scheme, 2008 read with Section 24 of NGT Act, 2010. TEPS again approached Supreme Court filing M.A. 380 of 2021 seeking further extension of time to deposit the amount. By order dated 04.03.2021, Supreme Court permitted payment of Rs. two crores on 04.03.2021 itself and a week's further time for payment of balance Rs. 8,79,44,100/-. The order reads as under:

> *"Mr. C.A. Sundaram, learned senior counsel appearing for the applicant- Tarapur Environment Protection Society submits that the applicant will deposit a sum of Rs. 2,00,00,000/- (Rupees two crores) today. The statement is taken on record.*
>
> *He further prays for some time for payment of balance amount of compensation of Rs. 8,79,44,100/- (Rupees eight crores seventy-nine lakh forty-four thousand and one hundred).*
>
> *As a last chance, one week's further time is granted to the applicant to pay the balance of Rs. 8,79,44,100/-(Rupees eight crores seventy nine lakh forty four thousand and one hundred).*
>
> *Application for direction is disposed of accordingly."*

175. Thus, entire balance amount was deposited by TEPS on 12.03.2021 with Fund Manager/Authority. As such, TEPS deposited 30% compensation i.e., Rs. 21,69,44,100/-. TEPS has further said that it has successfully commissioned 25 MLD CETP out of 50 MLD CETP which is running successfully.

iii. Affidavit dated 22.03.2021, by respondent 9, TIMA (P/1545)

176. It has also referred to Supreme Court's order dated 14.12.2020 and has filed objections registered as MA 02/2021. Out of 102 industrial units, 92 have deposited their respective 30% of compensation amount. 88 units deposited money with United India Insurance Company Ltd. (Chennai Head Office) i.e., Fund Manager/Authority under ERF Scheme, 2008 read with Section 24 of NGT Act, 2010 while 4 units, by mistake,

have deposited amount with MPCB. Collectively, 92 industries have deposited a total sum of Rs. 23,48,35,420/-. List of industries who had deposited 30% of the compensation amount, is given as annexure-C, as under:

Sl. No	***Name and address of industry***	***Plot No.***	***Penalty amount paid***	***Date of Deposit***
1.	*Aarti Drugs Ltd.*	*G-60*	*13,74,000*	*11-02-2021*
2.	*Aarti Drugs Ltd.*	*N-198, 199*	*3,12,67,250*	*11-02-2021*
3.	*Aarti Drugs Ltd.*	*E-21, 22*	*46,91,000*	*11-02-2021*
4.	*Aarti Industries Ltd.*	*E-50*	*13,62,180*	*11-02-2021*
5.	*Aarti Industries Ltd.*	*K-17, 18, 19*	*13,67,880*	*11-02-2021*
6.	*Aarti Industries Ltd.*	*L-5,8,9*	*34,16,700*	*11-02-2021*
7.	*Bombay Rayon Fashion Ltd.*	*C-6,7*	*19,83,420*	*10-02-2021*
8.	*Siyaram Silk Mills, (Balkrishna Synthetics)*	*H-3/1*	*26,39,000*	*06-02-2021*
9.	*Camlin Fine Chemicals*	*D-2/3*	*1,54,97,000*	*10-02-2021*
10.	*Ciron Drugs & Pharmaceutical Pvt. Ltd.*	*N-113, 118, 119 & 119/2*	*3,42,000*	*10-02-2021*
11.	*Dicitex Home Furnishing Pvt. Ltd.*	*G-7/1 & 7/2*	*23,14,000*	*10-02-2021*
12.	*Dicitex Furnishing Pvt. Ltd.*	*G-58*	*5,07,000*	*10-02-2021*
13.	*DC Polyester Pvt Ltd.*	*E-26/2*	*13,91,000*	*10-02-2021*
14.	*D C Textile*	*E-26/1*	*51,300*	*12-02-2021*
15.	*JSW Steel Ltd*	*B-6*	*42,40,000*	*10-02-2021*
16.	*M/s Kriplon Synthetics Pvt Ltd*	*N-97/1/2, 97, 98*	*38,19,000*	*12-02-2021*
17.	*Mandhara Dyeing*	*E-25*	*4,39,000*	*16-02-2021*
18.	*E-Land Fashion*	*D-1*	*86,63,000*	*10-02-2021*
19.	*Nipur Chemical*	*D-17*	*14,43,900*	*08-02-2021*
20.	*Manan Costyn Pvt Ltd*	*G-4/2*	*1,52,12,000*	*10-02-2021*
21.	*Resonance Speciality Ltd.*	*T-140*	*52,13,000*	*10-02-2021*
22.	*Silvester Textiles P Ltd*	*E-24*	*57,56,000*	*10-02-2021*
23.	*Sarex Overseas*	*N-129, 130,131, 132*	*46,11,000*	*10-02-2021*
24.	*Valiant Glass P. Ltd.*	*J-85*	*33,00,000*	*10-02-2021*
25.	*Aarti Drugs Ltd.*	*E-9/3-4*	*1,44,400*	*10-02-2021*
26.	*Jakharia Textile*	*A-13*	*75,46,000*	*10-02-2021*
27.	*Pal Fashions Pvt Ltd*	*E-49 &*	*29,87,000*	*10-02-2021*

		E-49/2		
28.	SD Fine Chemicals	E-27/28	98,79,000	11-02-2021
29.	Auro Laboratries Ltd	K-56	53,84,100	11-02-2021
30.	Iraa Clothing (P) Ltd (Shagun Clothing P Ltd)	B- 7/3	32,10,690	04-03-2021
31.	Abhilasha Texchem Pvt Ltd./Valient Organics Ltd.	M-7	1,48,000	10-02-2021
32.	Alexo Chemicals	N-174	15,84,000	10-02-2021
33.	Accusynth Speciality Chemical	E-29/1-2	9,92,000	08-02-2021
34.	Aarey Drugs & Pharmaceuticals ltd	E-34	47,490	25-02-2021
35.	Aradhana Energy Pvt Ltd	K-34	625000	10-02-2021
36.	Bajaj Health Care Ltd	N-216, N-217	1586000	12-02-2021
37.	BostanPharma	E-84	1102000	10-02-2021
38.	Panchamrut Chemical Pvt Ltd (Dragon Drugs Pvt Ltd	N-76	1284000	10-02-2021
39.	Diakaffil Chemicals	E-4	570000	10-02-2021
40.	DRV Organics,	N-184, N-185	2557170	10-02-2021
41.	Dufon Laboratories P ltd,	E-61/3	5318000	10-02-2021
42.	D.H. Organic	N-89	1273000	10-02-2021
43.	Gangwal Chemical	N-5	213000	10-02-2021
44.	Haren Textile Pvt Ltd	J-194	1512000	08-02-2021
45.	Indo Amines Ltd (Previously known as Sri SaiIndsutries)	K-33	1746000	12-02-2021
46.	Indaco Jeans Pvt Ltd	G-21	588930	10-02-2021
47.	Mehta API Pvt Ltd	Gut NO-546, 571, 519, 520	338160	10-02-2021
48.	Moltus Research Laboratories,	N-59	27000	10-02-2021
49.	K P Chemicals,	L-63	1780140	10-02-2021
50.	JPN Pharma,	T-108-109	967000	08-02-2021
51.	Khanna & Khanna	K-10	205170	11-02-2021
52.	Keshav Organics P ltd	T-97,98, 100	155790	10-02-2021
53.	Nayakem Organics Pvt Ltd	T-128	290670	08-02-2021
54.	Nirbhay Rasayan Pvt Ltd	N-95,96, 96/1	2341000	11-02-2021
55.	Nutraplus India Ltd	N-92	3108000	12-02-2021
56.	Sequent Scientific Ltd (PI Drugs Pharmaceuticals)	W-136, 137,138, 151	1298000	11-02-2021
57.	Pulcra Chemicals India Ltd	D-7/1/1	1765000	09-02-2021
58.	Pentagon Drugs Ltd Plot	N-224,	767520	10-02-2021

	No.	*225*		
59.	*Paramount Syncot Textile*	*N-13/2*	*787000*	*15-02-2021*
60.	*IPCA Laboratories (Ramdev Chemicals)*	*E-41*	*8587000*	*11-02-2021*
61.	*Tryst Chemicals*	*L-47*	*819000*	*09-02-2021*
62.	*Omtech Chemicals*	*T-12*	*503000*	*10-02-2021*
63.	*Shreenath Chemicals*	*T-54, T-80*	*152000*	*09-02-2021*
64.	*Salvi Chemicals Industries*	*E-90 E-91 E-92, E-93 E-94 E-95*	*4693000*	*05-02-2021*
65.	*Sapna Detergent*	*N-152/ N-153*	*1780000*	*08-02-2021*
66.	*Sagitta P Ltd*	*N-4*	*1774000*	*11-02-2021*
67.	*Surmount chemicals (I) P Ltd*	*N-41*	*194000*	*09-02-2021*
68.	*Shri VinayakChemex India Pvt.Ltd*	*T-11*	*1782000*	*08-02-2021*
69.	*Sunil Great Processers*	*N-47/3*	*2325000*	*12-02-2021*
70.	*Vardhman Dyestuff Pvt Ltd*	*N-33, T-34*	*192000*	*09-02-2021*
71.	*Usha Fashion*	*E-42*	*3776000*	*12-02-2021*
72.	*U. K. Aromatics & Chemicals*	*K-6/3*	*407000*	*06-02-2021*
73.	*Vividh Global Inds Ltd*	*D-21/1*	*1830000*	*08-02-2021*
74.	*Square Chemical*	*N-60*	*760000*	*08-02-2021*
75.	*Shree Chakra Organics Pvt Ltd*	*K-62*	*319000*	*09-02-2021*
76.	*Arti Drugs*	*E-106, 119, 120*	*211000*	*11-02-2021*
77.	*Omega Colurs Pvt Ltd.*	*D-21/2/3*	*336000*	*10-02-2021*
78.	*REMI Edelstahi Tubulars Ltd.(Old Name-RAJENDRA MECHANICAL INDL LTD.)*	*N -211 / 1*	*125000*	*12-02-2021*
79.	*Gini Silk Mills Ltd.*	*E-15*	*3579000*	*09-02-2021*
80.	*Rediant Intermediates*	*N-224*	*2526750*	*12-02-2021*
81.	*Premier Intermediate*	*T-55, T-56*	*285000*	*10-02-2021*
82.	*Maharashtra Organo Metalics Pvt. Ltd.*	*N-220 & 221*	*279270*	*10-02-2021*
83.	*Ganesh Benzoplast*	*D-21/2/2*	*5631000*	*11-02-2021*
84.	*Zorba Dyechem*	*W-14,*	*96900*	*10-02-2021*
85.	*Aarviam Dye Chem*	*L-9/2*	*133000*	*10-02-2021*
86.	*Dhanlaxmi Steel*	*J-56*	*1664250*	*22-02-2021*
87.	*Sarswati Steel (Shiv steel)*	*W-88/A*	*174780*	*22-02-2021*
88.	*SR Steel*	*W-80/A*	*397050*	*10-02-2021*

89.	*J V Chem Industries*	*N-111,112*	*484000*	*10-02-2021*
90.	*Shriyans Chemical*	*W-43*	*1621000*	*10-02-2021*
91.	*Union Park Chemicals Pvt. Ltd.*	*E-11*	*43710*	
92.	*Lavino Kapoor Cottons Pvt. Ltd.*	*H-1*	*2325000*	*25-02-2021*

177. List of 10 industries which had not paid amount and flouted Supreme Court's order is also part of annexure-C at page 1563 as under:

Sl. No.	*Name of the industry*	*Plot No.*	*Penalty amount paid*	*Date of Deposit*
1.	*Zeus International Ltd.*	*A-10 & 11*	*-*	
2.	*Ashwin Synthetics P Ltd.*	*C-8/2*	*-*	
3.	*Ajmera Organics*	*N-211/2/1*	*-*	
4.	*Visen Industries Ltd.*	*K-30, T-31, T-32*	*-*	
5.	*Ujwal Pharam P Ltd.*	*N-52*	*-*	
6.	*Mayfair Bio tech (Ankit Petro)*	*L-12*	*-*	
7.	*Anuh Pharma Chem*	*E-17/3 & 4*	*-*	
8.	*Prabhat Engineering*	*L-50*	*-*	
9.	*Deep Industries*	*W-146*	*-*	
10.	*The Pharmaceutical Product of India Ltd.*	*N-24, N-25*	*-*	

I.A. 31/2021 filed by Ankit Petroproducts Pvt. Ltd.

178. **Objections dated 08.04.2021 along with IA 31/2021** has been filed by **M/s Ankit Petroproducts Pvt. Ltd**., disputing computation of environmental compensation of Rs. 136.027 lakhs by Expert Committee. One of the major grounds is that M/s Ankit Petroproducts Pvt. Ltd. is SSI scale unit but computation of compensation has been made treating it as LSI which is patently illegal. Another ground is that it is Zero Liquid Discharge unit i.e., ZLD and cannot be taken to have caused any

pollution. Number of days taken for computation of compensation is also challenged. It is said that Committee has taken 716 days though at the best it could have been only 13 days therefore, computation of compensation for alleged non-violation for 716 days is incorrect. It is however, submitted that even 13 days is being objected since unit is ZLD. Constitution of Committee comprising of member of MPCB is also challenged on the ground that State PCB is the Regulatory Authority and it being at fault, could not to have been made party or member to the Committee. Further objective is that there are more than 1100 units in the area and only 100 and odd have been selected for imposition of compensation which shows that an arbitrary exercise has been undertaken by Committee. The quantum of effluent discharge taken into consideration is also challenged on the ground that the total load carried out by MIDC pipelines includes domestic waste but no study on this aspect has been conducted. Allegations are also made against TEPS stating that by letter dated 23.02.2021 and 01.04.2021, it has allowed certain units to restart discharge of effluent of 25 MLD CETP upto COD of 2000 ppm, using monitoring devices set up. Ignoring the fact that LSI companies have their own ETPs and ought to discharge effluent only with COD of 250 ppm maximum but if they are allowed with higher concentration, it would be very difficult for SSI units to perform with the permissible limits of 3500 ppm. Reliance in this regard, is placed on Tribunal's judgment dated 01.04.2014 in ***OA No. 34/2013 (WZ), Tarun Patel vs. Chairman, Gujarat Pollution Control Board and others***.

Affidavit dated 01.04.2021 filed on behalf of TEPS (respondent 3)

179. This affidavit has been submitted in response to status report dated 11.01.2021 filed by Committee. The principal objections are, that in the absence of any preparation and finalization of remediation action

plan, status report is inadmissible; issue of excess load on CETP has not been addressed by Committee, therefore, there is no analysis or effort by Committee to identify root of the problem; exemption granted by Committee to all ZLDs and SSI units from liability and providing them an umbrella protection by penalizing TEPS is against the principle of polluters pays; TEPS is taking all steps to install additional CETP; Committee has ignored negligence and lack of discharge of duty on the part of MIDC and shifted entire burden upon TEPS; and no weightage has been given to the fact that TEPS has spent a huge amount for installing additional capacity CETP.

180. **M.A. 12/2021 dated 03.05.2021** has been filed by Regional Director, Shri Bharat Kumar Sharma, CPCB. It has referred to the report dated 11.01.2021 submitted by Committee after inclusion of District Magistrate, Palghar and said that report includes action plan for remedial measures and restoration of contaminated water bodies in and around TIA MIDC. The report, we have already referred above in detail.

Comments/joint reply dated 15.04.2021/13.05.2021 of Committee to the objections raised by TEPS and TIMA to the Committee's report dated 19.06.2020 (page 1664)

181. Supreme Court vide order dated 14.12.2020 while permitting TEPS and TIMA to file objections to the Committee's report dated 19.06.2020 also permitted Monitoring Committee to file its reply to the said objections, if it deemed proper and necessary. Pursuant thereto, TEPS and TIMA filed their objections dated 29.12.2020 and to the said objections, joint Committee has filed its reply/response vide letter dated 13.05.2021. Committee has justified its report and findings recorded therein. We shall discuss reply of Committee while considering objections of TEPS, TIMA and individual industries.

Response/Revised report dated 12.08.2021 submitted by Committee

182. After receiving objections of the association of industries as also individual industries, Tribunal required Committee who had submitted report dated 18.06.2020, to re-examine the matter and submit response. On 7.6.2021, a statement was made that MPCB is examining revision of estimate and in reference thereto Tribunal vide order dated 07.06.2021, required Committee to submit response as a result of revision of compensation. Committee considered various objections raised by TEPS, TIMA, and industries saddled with liability of compensation. Committee gave opportunity to all individual 102 units as also TEPS identified for determination of compensation, considered objections taken by them in writing and they were also given opportunity of oral hearing. Thereafter, Committee submitted its response/revised report vide letter dated 12.08.2021 (hereinafter referred to as '**Revised Report dated 12.08.2021**'). Report is appended with annexure 1 which is revised details of 103 units in respect whereof compensation was determined vide earlier report dated 18.06.2020. In many cases compensation has been revised in respect of most units giving reasons therefor. The objections raised by individual industries have also been mentioned and reasons for their acceptance or rejection is also given in the said report. We also find from the said report that amount of compensation has stood revised for one particular reason in as much as distribution Recovery Cost Factor (hereinafter referred to as 'DRCF') has stood revised to a higher level in view of the subsequent facts brought to the notice of Committee and this has been stated in the revised report dated 12.08.2021. We are giving hereunder a complete chart of 103 units with details including days of violation (earlier and revised), compensation determined (earlier and revised) and DRCF (earlier and revised) as under:

SN	Name and address of industry	Product, Category, Scale	Discharge quantity (m^3/day)	Days of violation (Initial Earlier/ Revised)	Amount of compensation (Initial Earlier/ Revised) in lakhs	Distribution Recovery Cost Factor (DRCF) (Earlier/ Revised)
1	Aarti Drugs Ltd., G-60	Bulk drug, Red, LSI	119	241/ 168	45.786/ 40.517	0.0028609/ 0.0025316
2	Aarti Drugs Ltd., N-198, 199	Bulk drug, Red, LSI	63.1	1999/ 329	1042.241/ 368.749	0.0651229/ 0.0230408
3	Aarti Drugs Ltd., E-1, E-21, E-22	Bulk drug, Red, LSI	88.3	689/ 225	156.355/ 97.191	0.0097696/ 0.0060729
4	Aarti Industries Ltd., E-50	Bulk drug, Red, LSI	55.42 ZLD unit (Earlier it was considered as 119)	239/ 200	45.406/ 48.234	0.0028371/ 0.0030138
5	Aarti Industries Ltd., K-17,18,19	Bulk drug, Red, LSI	318.4	240/ 240	45.596/ 57.881	0.0028490/ 0.0036166
6	Aarti Industries Ltd., L-5,8,9	Bulk drug, Red, LSI	20.0 ZLD unit	600/ 628	113.989/ 151.455	0.0071225/ 0.0094634
7	Bombay Rayon Fashion Ltd. C-6,7	Textile, Red, LSI	6000.0	348/ 305	66.114/ 73.557	0.0041310/ 0.0045961
8	Siyaram Silk Mills, (Balkrishna Synthetics) H-3/1	Textile processing (earlier it was textile), Red, LSI	2000.0	463/ 669	87.962/ 208.612	0.0054962/ 0.0130348
9	Camlin Fine Chemicals, D-2/3	Chemical	20.0	1848/ 1361	516.561/ 428.077	0.0322766/ 0.0267478
10	M/s Ciron Drugs & Pharmaceutical Pvt. Ltd. N-113, 118, 119 & 119/2	Pharma, Orange, LSI	4.5	96/ 96	11.399/ 14.470	0.0007122/ 0.0009042
11	M/s Dicitex Home Furnishing Pvt. Ltd. G-7/1 & 7/2	Textile, Red, LSI	510.0	406/ 498	77.133/ 218.018	0.0048195/ 0.0136225
12	M/s Dicitex Home Furnishing Pvt. Ltd. G-58	Textile, Red, LSI	880.0	89/ 242	16.908/ 58.363	0.0010565/ 0.0036467
13	DC	Textile, Red,	300.0	244/	46.356/	0.0028965/

	Polyester Pvt. Ltd, E-26/2	LSI		244	58.845	0.0036769
14	DC Polyester Pvt. Ltd, E-26/1	Textile, Red, LSI	95.0	9/9	1.710/ 2.171	0.0001068/ 0.0001356
15	JSW Steel Coated Product Ltd (JSW Steel Ltd) B-6	Steel (Engineering) Red, LSI	603	744/ 477	141.347/ 115.038	0.0088318/ 0.0071880
16	M/s Kriplon Synthetics Pvt. Ltd, N-97/1/2, 97, 98	Textile, Red, LSI	497.0	526/ 272	127.288/ 77.416	0.0079534/ 0.0048372
17	Mandhara Dyeing, E-25	Textile, Red, LSI	900.0	77/ 36	14.629/ 8.682	0.0009140/ 0.0005425
18	E-Land Fashion (Mudra Life Style), D-1	Textile, Red, LSI	115.0	953/ 484	288.772/ 140.602	0.0180435/ 0.0087853
19	Nipur Chemical, D-17	Chemical Red, LSI	120.0	76/ 76	14.439/ 18.329	0.0009022/ 0.0011453
20	Manan Costyn Pvt. Ltd. G-4/2	Textile, Red, LSI	225.0 (ZLD)	1344/ 712	507.062/ 281.204	0.0316830/ 0.0175706
21	Resonance Speciality Ltd. T-140	Chemical, Red, SSI	12.0	2170/ 901	173.770/ 118.656	0.0108578/ 0.0074140
22	Silvester Textiles P. Ltd. E-24	Textile, Red, LSI	410.0	650/ 650	191.882/ 243.582	0.0119895/ 0.0152199
23	Sarex Overseas N-129,130, 131,132	Chemical, Red, LSI	400.0	809/ 807	153.695/ 194.624	0.0096034/ 0.0121608
24	Zeus International Ltd, A-10 & 11	Chemical, Red, LSI	400	2328/ 1080	619.341/ 483.063	0.0386986/ 0.0301835
25	Valiant Glass P. Ltd., J-85	Textile, Red, LSI	2000.0	453/ 370	110.000/ 99.603	0.0068732/ 0.0062236
26	Aarti Drugs Ltd., E-9/3-4	Bulk Drug, Red, SSI	30.0	38/ 102	4.813/ 8.200	0.0003007/ 0.0005124
27	Jakharia Textile, A-13	Textile, Red, LSI	378	1324/ 205	251.536/ 49.440	0.0157169/ 0.0030892
28	Pal Fashions Pvt. Ltd, E-49 & E-49/2	Textile, Red, MSI	500	786/ 281	99.551/ 45.179	0.0062203/ 0.0028230
29	SD Fine	Chemical,	16	2185/	329.302/	0.0205760/

	Chemicals, E-27/28	Red, MSI		608	164.478	0.0102772
30	Iraa Clothing (P) Ltd (Shagun Clothing P Ltd), B- 7/3	Textile, Red, MSI	180	845/ 845	107.023/ 135.859	0.0066872/ 0.0084890
31	Auro Laboratories Ltd, K-56	Bulk Drugs, Red, MSI	19	774/ 269	179.470/ 65.437	0.0112139/ 0.0040888
32	Valiant Organics Ltd. (Formerly M/s. Abhilasha Texchem Pvt. Ltd.) M-7	Textile, Red, SSI	6	78/ 55	4.940/ 4.421	0.0003086/ 0.0002763
33	Alexo Chemicals, N-174	Chemical, Red, SSI	0.7	463/ 422	52.815/ 63.749	0.0033001/ 0.0039833
34	Ashwin Synthetics P Ltd, C-8/2	Yarn Dying and textile (Chemicals)Red, SSI	30	547/ 424	41.163/ 42.526	0.0025720/ 0.0026572
35	Accusynth Speciality Chemical, E-29/1-2	Chemical, Red, SSI	2.5	522/ 290	33.057/ 23.313	0.0020655/ 0.0014567
36	Ajmera Organics, N-211/2/1	Chemical, Red, SSI	6	24/ 24	1.520/ 1.929	0.0000950/ 0.0001206
37	Aarey Drugs & Pharmaceuticals Ltd, E-34	Drug intermediate, Red, SSI	40	25	1.583/ 2.010	0.0000989/ 0.0001256
38	Aradhana Energy Pvt Ltd, K-34	Chemicals, Red, SSI	00	329/ 32	20.835/ 2.572	0.0013018/ 0.0001607
39	Bajaj Health Care Ltd, N-216, N-217	Drug Intermediate, Red, SSI	1.3	658/ 662	52.878/ 67.769	0.0033040/ 0.0042344
40	Bostan Pharma, E-84	Chemical, Red, SSI	0.2	580/ 844	36.730/ 67.849	0.0022950/ 0.0042395
41	Panchamrut Chemical Pvt. Ltd (Dragon Drugs Pvt. Ltd), N-76	Chemical, Red, SSI	20	676/ 443	42.809/ 68.814	0.0026749/ 0.0042997
42	Diakaffil Chemicals, E-4	Chemicals, Red, MSI (SSI earlier)	1	300/ 300	18.998/ 48.234	0.0011871/ 0.0030138
43	DRV Organics, N-184, N-185	Drug Intermediate, Red, SSI	1.3	933/ 685	85.239/ 68.653	0.0053260/ 0.0042897
44	Dufon Laboratories P Ltd,	Drug Intermediate Red, SSI	15	1982/ 421	177.253/ 39.391	0.0110754/ 0.0024613

	E-61/3					
45	D.H. Organic, N-89	Bulk drug, Red, SSI	1.8	670/ 29	42.429/ 2.331	0.0026511/ 0.0001457
46	Gangwal Chemical, N-5	Chemical, Red, SSI	0.5	112/ 113	7.093/ 9.084	0.0004432/ 0.0005676
47	Haren Textile Pvt Ltd, J-194	Textile processing, Red, SSI	80	796/ 193	50.409/ 15.515	0.0031497/ 0.0009694
48	Indo Amines Ltd (Previously known as Sri Sai Industries) K-33	Chemical, Red, SSI	5.6	831/ 744	58.198/ 59.810	0.0036364/ 0.0037372
49	Indaco Jeans Pvt. Ltd, G-21	Textile processing, Red, SSI	100	227/ 227	19.631/ 24.921	0.0012266/ 0.0015571
50	Mehta API Pvt. Ltd, Gut No- 546, 571, 519, 520, Vill- Lumbhavali, Tal & Dsit- Palghar	Bulk drug, Red, MSI	7	89/ 89	11.272/ 14.309	0.0007043/ 0.0008941
51	Moltus Research Laboratories, N-59	Chemical, Red, SSI	0.1	14/ 14	0.887/ 1.125	0.0000554/ 0.0000703
52	K P Chemicals, L-63	Chemical, Red, SSI	11	937/ 19	59.338/ 1.527	0.0037076/ 0.0000954
53	JPN Pharma, T-108-109	Bulk drug, Red, SSI	3	509/ 12	32.234/ 0.965	0.0020141/ 0.0000603
54	Khanna & Khanna K-10	Chemical, Red, SSI	1.1	108/108	6.839/ 8.682	0.0004273/ 0.0005425
55	Keshav Organics P Ltd, T-97,98, 100	Chemical, Red, SSI`	4.5	82/ 29	5.193/ 2.331	0.0003245/ 0.0001457
56	Nayakem Organics Pvt. Ltd, T-128	Chemical, Red, SSI	1.0	84/ 87	9.689/ 12.541	0.0006054/ 0.0007836
57	Nirbhay Rasayan Pvt. Ltd, N-95,96, 96/1	Pigment (Dyes), Red, MSI (earlier SSI)	93	1201/ 315	78.019/ 53.861	0.0048749/ 0.0033654
58	Nutraplus India Ltd, N-92	Chemical, Red, LSI (SSI earlier)	5.0	742/ 404	103.603/ 313.039	0.0064735/ 0.0195598
59	Sequent Scientific Ltd (PI Drugs Pharmaceuticals) W-136,137, 138,151	Bulk drug, Red, SSI	37.8	683/ 337	43.253/ 27.091	0.0027026/ 0.0016928
60	Pulcra Chemicals India Ltd D-7/1/1	Chemical, Red, MSI (SSI earlier)	15 ZLD	929/ 98	58.831/ 15.756	0.0036760/ 0.0009845
61	M/s.	Bulk drug,	5.5	404/	25.584/	0.0015986/

	Pentagon Drugs Ltd Plot No. N-224, 225,	Red, SSI		404	32.478	0.0020293
62	M/s. Paramount Syncot Textile, Plot No. N-13/2	Textile, Red, SSI	40.0	414/ 414	26.217/ 33.281	0.0016382/ 0.0020795
63	M/s. IPCA Laboratories (Ramdev Chemicals) Plot No. E-41	Bulk drug, Red, LSI (MSI earlier)	65.64	1374/ 110	285.226/ 26.529	0.0178220/ 0.0016576
64	M/s. Tryst Chemicals, Plot No. L-47	Bulk drug, Red, SSI	2.8	431/ 185	27.294/ 14.872	0.0017054/ 0.0009293
65	M/s. Omtech Chemicals Plot No. T-12	Chemical, Red, SSI	30.0	265/ 82	16.782/ 6.592	0.0010486/ 0.0004119
66	M/s. Shreenath Chemicals, Plot No. T-54, T-80	Chemical, Red, SSI	1.5	80/ 14	5.066/ 1.125	0.0003166/ 0.0000703
67	M/s. Salvi Chemicals Industries, Plot No. E-90, E-91, E-92, E-93, E-94, E-95	Chemical, Red, LSI (SSI earlier)	55.5	997/ 397	156.418/ 311.350	0.0097736/ 0.0194543
68	M/s. Sapna Detergent, Plot No. N-152/N-153	Chemical, Red, SSI	1.5	937/ 545	59.338/ 43.813	0.0037076/ 0.0027376
69	M/s. Sagitta P Ltd, Plot No. N-4	Chemical, Red, SSI	3.5	934/ 18	59.148/ 1.447	0.0036958/ 0.0000904
70	M/s. Surmount Chemicals (I) P Ltd, Plot No. N-41,	Chemical, Red, SSI	0.8	102/ 102	6.459/ 8.200	0.0004036/ 0.0005124
71	M/s. Shri Vinayak Chemex India Pvt. Ltd. Plot No. T-11	Chemical, Red, SSI	1.5	938/ 245	59.401/ 19.696	0.0037116/ 0.0012306
72	M/s. Sunil Great Processers, Plot No. N-47/3	Chemical, Red, SSI	6.0	868/ 868	77.513/ 98.397	0.0048433/ 0.0061482
73	M/s. Vardhman Dyestuff Pvt. Ltd, Plot No. N-33, T-34	Dyes, Red, SSI	52.0	101/ 101	6.396/ 8.441	0.0003996/ 0.0005274
74	M/s. Usha Fashion, Plot No. E-42	Textile, Red, SSI	305.0	1079/ 233	125.895/ 23.635	0.0078664/ 0.0014768
75	M/s. Visen	Chemical,	7.0	210/	13.299/	0.0008310/

	Industries Ltd Plot No. K-30, T-31, T-32	Red, SSI		212	17.043	0.0010649
76	M/s. U. K. Aromatics & Chemicals Plot No. K-6/3	Chemical, Red, SSI	6	156/ 149	13.552/ 16.802	0.0008468/ 0.0010498
77	M/s. Ujwal Pharma P Ltd., Plot No. N-52	Chemical, Red, SSI	4.0	918/ 921	83.275/ 106.115	0.0052033/ 0.0066304
78	M/s. Vividh Global Inds Ltd Plot No. D-21/1	Chemical, Red, SSI	40.0	963/ 965	60.984/ 77.576	0.0038105/ 0.0048472
79	M/s. Square Chemical Plot No. N-60	Chemical, Red, SSI	4.0	400/ 402	25.331/ 32.317	0.0015828/ 0.0020193
80	M/s. Shree Chakra Organics Pvt. Ltd Plot No. K-62	Chemical, Red, SSI	25.0	168/ 170	10.639/ 13.666	0.0006648/ 0.0008539
81	M/s. Arti Drugs, Plot No. E-105, 106, 119, 120	Bulk Drugs, Red, SSI (LSI earlier)	23 CMD	37/ 37	7.029/ 2.974	0.0004392/ 0.0001859
82	Omega Colurs Pvt. Ltd., Plot No. D-21/2/3	Crude pigment green. (Earlier mentioned as Dyes), Red, SSI	82	106/ 435	11.209/ 78.380	0.0007004/ 0.0048975
83	REMI Edelstahi Tubulars Ltd., (Old Name- RAJENDRA MECHANICAL INDL LTD.) Plot No.- N-2011 /1	Engineering, Red, LSI	20	22/ 22	4.180/ 5.306	0.0002612/ 0.0003315
84	Gini Silk Mills Ltd., Plot No.E-15	Textile, Red, LSI	510	628/ 321	119.309/ 77.416	0.0074548/ 0.0048372
85	Mayfair Bio tech (Ankit Petro) Plot No. L-12	Chemical, Red, SSI (earlier LSI)	Nil	716/ 716	136.027/ 57.559	0.0084995/ 0.0035965
86	Rediant Intermediates Plot No. N-224	Chemical, Red, SSI	1.4	926/ 418	84.225/ 66.081	0.0052627/ 0.0041290
87	Premier Intermediate Plot No. T-55, T-56	Bulk Drugs, Red, SSI (earlier LSI)	5	50/ 50	9.499/ 4.019	0.0005935/ 0.0002512
88	Maharashtra Organo Metalics Pvt.	Chemical, Red, SSI (earlier LSI)	6	49/ 18	9.309/ 1.447	0.0005817/ 0.0000904

	Ltd., Plot No. N-220 & 221					
89	(Anuh Pharma Chem Plot No. E-17/3 & 4, Anu Pharma Chem, N-183	Bulk drug, Red, LSI	10	266/ 267	50.535/ 64.392	0.0031576/ 0.0040235
90	Ganesh Benzoplast Plot No.- D-21/2/2	Bulk Drug, Red, LSI	5	988/ 988	187.702/ 238.276	0.0117283/ 0.0148883
91	Zorba Dyechem Plot No. W-14	Dyes, Red, SSI	0.3	51/ 51	3.230/ 4.100	0.0002018/ 0.0002562
92	Prabhat Engineering Plot No. L-50	Engineering (Earlier it was mentioned as pickling), Red, LSI	0.75	42/ 42	7.979/ 10.129	0.0004986/ 0.0006329
93	Aarviam Dye Chem Plot No. L-9/2	Dyes, Red, SSI	20	70/ 71	4.433/ 5.708	0.0002770/ 0.0003566
94	Dhanlaxmi Steel Plot No.J-56	Engg., Red, SSI	0.8	47/ 876	55.475/ 3.778	0.0034663/ 0.0002361
95	Sarswati Steel (Shiv steel) Plot No. W-88/A	Engg., Red, SSI	0.5	92/ 92	5.826/ 7.396	0.0003640/ 0.0004621
96	Deep Industries Plot No. W-146	Engg., Red, SSI	0.2	24/ 24	1.520/ 1.929/	0.0000950/ 0.0001206
97	SR Steel, Plot No. W-80/A	Engg., Red, SSI	0.2	209/ 83	13.235/ 6.672/	0.0008270/ 0.0004169
98	J V Chem Industries, Plot No. N-111,112	Chemical, Red, SSI	4 ZLD	255/ 255	16.148/ 20.499/	0.0010090/ 0.0012809
99	Shriyans Chemical, Plot No.W-43	Chemical, Red, SSI	1	853/ 42	54.018/ 3.376	0.0033753/ 0.0002110
100	The Pharmaceutical Product of India Ltd., Plot No. N-24, N-25	Bulk Drug, Red, LSI	63	131	24.888/ 31.593	0.0015551/ 0.0019741
101	Union Park Chemicals Pvt. Ltd., Plot No.E-11	Dyes, Red, SSI	6	23/ 23	1.457/ 1.849	0.0000910/ 0.0001155
102	Lavino Kapoor Cottons Pvt. Ltd., Plot No.H-1	Cotton, Red, LSI	1380	408/ 408	77.513/ 98.397	0.0048433/ 0.0061482
103	M/s. Tarapur Environment	Collection, storage and	25 MLD	First non-compliance=	7231.470/ 9179.894	0.4518483/ 0.5735928

	Protection Society CETP (25 MLD), Plot No. AM-29	treatment of effluent from member industries, Red, LSI		342 First repeated non-compliance= 255 Second repeated non-compliance= 35 Third repeated non-compliance= 250 Fourth repeated non-compliance= 2192		

iv. Additional Affidavit dated 01.09.2021 by R-9, TIMA P/2268

183. The above affidavit has been filed in reply to Expert Committee's comments/response dated 12.08.2021 incorporating revised environmental damages and recovery cost distributed on identified units. It is said that Expert Monitoring Committee while responding to errors in date of inspection, date of compliance, names/identification of units, closures was expected to give opportunity of hearing to all individual units identified but no such opportunity was given. Majority of units were distributed calculation made by MPCB with regard to number of days of violation and there were lapses on the part of MPCB on issue of closure notices and verification of the compliance by the units and suggestion with regard to formula given by respondent 9 but the same has not been paid any attention/consideration by the Committee. In some units, the compensation has increased exponentially without rendering any opportunity of hearing. Several discrepancies were found in MPCB report justifying revised days of working to be examined but instead of undertaking examination of the same by committee it has relied on the information supplied by MPCB whose information itself was disputed by concerned industrial units. The Committee's observations made in para 8

of the response is wholly erroneous. In some units, there were glaring errors for which respondent 9 intended to file additional documents (placed on record as annexure to this affidavit) and request is made to provide opportunity of hearing to all 103 units. The response contained in para 8 to 10 of Committee's documents was denied and it is said that the entire report is based on the inputs and recommendations submitted by MPCB which itself was not legal or tenable.

v. Additional affidavit dated 01.09.2021 by respondent 3, TEPS (P/2308)

184. This affidavit is also to dispute the response dated 12.08.2021 submitted by Committee and contains similar allegations as are raised by respondent 9 in its affidavit dated 01.09.2021. It is stated that earlier Committee had recommended imposition of compensation of Rs. 72,31,47,000/- which has now been enhanced to 91,79,89,400/- (an increase of Rs. 19,48,42,400/-) which has no basis. We are not repeating the assertions made in this affidavit but whenever required may refer during the discussion.

ISSUES

185. The issues involved in the present OA are "(i) W**hether respondents TEPS, TIMA and member industries have committed violations, discharged polluted effluents and caused pollution of water and water bodies and if so, (ii) What liability is to be imposed upon them and other remedial action to be taken**".

186. **ARGUMENTS**: Learned Counsel appearing for applicants has reiterated her submissions as raised in O.A. and written submissions. She urged that reports of Committees appointed by Tribunal have demonstrated beyond doubt that respondents industries have

continuously polluted water bodies by discharging polluted affluent hence strigent measures must be taken. It is argued that besides compensation, polluting industries be directed to be closed. Further, quantum of compensation computed and recommended by Committee is not adequate and do not follow norms laid down by Supreme Court. In fact, environmental compensation be determined on annual turnover of industries and for every year of violation, compensation be determined on the basis of turnover of concerned industries of that year. Statutory Regulators must also initiate criminal action against violators. She also said that there is consistent failure on the part of statutory authorities in managing, monitoring and treatment of industrial effluent which has caused damage to water bodies and environment, hence they are also pollutors and must be held accountable by directing to pay environmental compensation besides criminal action.

187. Per contra, learned Senior Counsels Shri Nadkarni and Poovaya argued on behalf of TIMA and TEPS and individual industries, that Committee's reports should be rejected as it has wrongly held these bodies responsible for alleged pollution and illegally imposed compensation. On behalf of individual industries, learned Senior Counsel Shri N.S. Nadkarni, adopting the arguments advanced for TIMA and TEPS, said that compensation determined is not founded on any valid criteria or formula, highly exhorbitant and based on incorrect facts, hence should be rejected. In fact, detailed objections have been filed by above respondents i.e., TIMA, TEPS and about 90 industries (some through TIMA and some separately) against reports of Committee. Learned Senior Counsels have reiterated those objections during arguments and placed before us part of reports which are also referred in

written objections, hence we propose not to repeat same but would consider every objection threadbare hereinafter.

DISCUSSION ON MERITS:

188. The first issue formulated above involves two aspects, one, whether pollution is being caused in the area in question and second, who is causing pollution, if first aspect is returned in affirmance.

189. So far as first aspect is concerned, we are satisfied that polluted industrial effluent is being discharged in arabian sea and other water bodies as well as man groves in the area for the last several years, continuously, through drains receiving discharge from CEPT and also directly from industries working in TIA MIDC. This is evident from record. As long back as in 1996, CPCB identified TIA MIDC as critically polluted area. In the report published in May 2005, by MPCB, titled as 'Report on Environmental Status in Thane Region' (Ann. A-3 to O.A.), number of industries in TIA MIDC as also pollution level has been given. There were 2034 industries (15 large, 63 medium, 1956 small). All 15 in large scale, 56 medium and 375 small were in RED category. Para 4.2 of report says, there is deterioration of water quality in the vicinity of TIA MIDC. Para 4.3 of report says that present effluent collection and disposal systems are not adequate to cater the effluent load. The report published in October 2005 by CPCB (Ann.2 to O.A.) says that in TIA MIDC, treatment plants are not meeting standards and it reflects gross neglect in operation. In 2010, CPCB and IIT Delhi assessed CEPI score of TIA MIDC as 72.01 i.e., Critically Polluted Area. This situation led to issue of O.M. dated 13.01.2010 by MoEF&CC imposing restriction on registration of development projects in TIA MIDC and similar other industrial estates. Pollution level in TIA MIDC worsened as is evident from annual report

2011-12 published by CPCB finding CEPI score 85.24 (Ann.A-8 to O.A.). The problem of pollution came before Bombay High Court in PIL 17/2011. There, MPCB filed affidavit (Ann. A-12 to O.A.) in January 2013 stating/admitting that capacity of CETP in TIA MIDC was only 25 MLD while industrial effluent discharge was more than 33 MLD. All these facts are self evident to show that industries were discharging polluted effluent exceeding prescribed standards. In fact, respondents' proponents have not at controverted these facts by placing any otherwise material before us. It is also not disputed that effluent ultimately reach Arabian sea at Navapur. MPCB' letter dated 09.03.2016 shows that CPCB survey found level of COD, BOD, and SS extremely high in 2013-14; 2014-15; and 2015-16.

190. We have referred to these details to show that industries in TIA MIDC were polluting water bodies including creeks and sea for the last more than two and half decades. For their own commercial interest, they completely ignored their legal, social and moral obligations in regard of environment and persistently damaged it. They have shamelessly compromised with the health and ecology of flora and fauna in the vicinity including aquatic life. Applicants have shown serious consequences like loss of aquatic life and ecology, adverse effect on local residents' life due to consistent reduction in fishing activities, contamination of ground water etc. Here also no material has been placed to show any discrepancy, by respondents' proponents. When Tribunal took cognizance of the matter, learned counsel appearing on behalf of TEPS admitted before us on 09.09.2016 that CETP at TIA MIDC has limited capacity of only 25 MLD while discharge of industrial effluent is much higher, hence large quantity of untreated or partially treated effluent is reaching Arabian sea. The defence was lack of control over new

establishment of industries adding burden by increasing volume of effluent, delay on the part of statutory authorities in permitting setting of new CETP, non control on member industries on release of volume of effluent etc. All these facts as also fact-finding reports of Committees appointed by us, which we have referred in detail above, leave no manner of doubt that responents proponents have been causing huge pollution by discharging polluted effluent in water bodies in vicinity, causing sever damage to environment and are liable for all legal consequences, jointly and individually. **We answer issue 1 accordingly**.

191. Before answering **issue 2** we find it appropriate to consider **objections raised by TEPS** vide **I.A. 93/2020, dated 14.09.2020**; and **M.A.01/2021 dated 29.12.2020**; **by TIMA** vide **objections dated 29.12.2020 (M.A.2/2021)** filed vide e-mail dated 07.01.2021 alogwith **individual objections raised by several industries.**

192. **ACTUAL QUANTUM OF DAMAGE TO ENVIRONMENT**: The foremost objection taken commonly by above Proponents is that before computing compensation, it was incumbent upon Committee to find out actual quantum of damage to environment, cost of its remediation and only then the Proponents could have been asked to pay compensation. Quantification of compensation can neither be presumptive nor assumptive. It must be based on actual facts and figures.

193. The argument is attractive but shows lack of understating of fundamentals of environmental laws and principles. Here discharge of polluted effluent in water bodies in violations of section 25 of Water Act 1974 and conditions of consent granted by MPCB is not disputed. Individually some proponents have taken defence that they did not discharge polluted effluent and some others are responsible but as a

whole it has not been controverted that through CETP, untreated or partially treated effluent was discharged in creeks and sea and Member Industries are contributibuting by releasing their industrial effluent in CETP. Further, effluent was highly polluted. Whenever polluted air is released in air or polluted water is discharged in water or land, it is bound to cause damage to ecological balance of respective air, water or land. When a drop of ink is mixed in a bucketful of water or a drum, the entire water gets contaiminated, degree may differ. Similarly, a small amount of poison, if enters in a bucketful of water or bigger drum, the entire water would get infected. Release of pollutant in environment would cause damage to environment in all cases, though degree of impact may differ. We can have illustration of air pollution in Delhi and NCR area. Pollutants affects air quality and whosoever inhales such air gets affected adversely, though apparent impact on individual's body would depend upon his level of immunity and other physical conditions. In some cases, reaction may be immediate but in others it may take longer time. Thus, when we talk of assessment of damage to environment, it does not mean a sheer mathematical computation of such damage. Here assessment includes several aspects as also various principles recognized as part of environmental laws. This aspect can more suitably be demonstrated by referring to law laid by Apex Court in a catena of authorities.

194. The issue relating to damages/compensation and further remedial or restorative action for the degradation/loss/damage caused to environment is largely governed by judicial precedents of Apex Court which has acted as a champion for protection of environment in the last almost four decades having considered various activities causing degradation/damage to environment in multi-various manner. It would

be appropriate to have a quick retrospect of such authorities which will be relevant and prove to be a useful guide as also binding precedent for answering questions relating to protection of environment, determination of environmental compensation, further direction necessary for remediation/restoration of environment and also to ensure that no further violation of environmental laws takes place.

195. In ***Municipal Council, Ratlam vs. Shri Vardhichand & Others, AIR*1980SC1622**, non-disposal of waste, stinking open drains and pollution created due to public excretion by nearby slum dwellers was brought to the notice of the court by the residents, by way of filing an application under Section 133 Cr.P.C. Magistrate held that local municipal body was responsible for cleaning and removal of waste. The matter came to Supreme Court. Upholding order of Magistrate, Court said that maintenance of public health is the statutory responsibility of Ratlam Municipality and its defence of lack of funds is of no consequence. Court issued various directions to Ratlam Municipality so as to maintain public health.

196. In ***Rural Litigation and Entitlement Kendra & Others vs. State of U.P. & Others,*** **AIR1985SC652**, issue of indiscriminate limestone quarrying causing ecological disturbance was brought to the notice of Supreme Court. Issues involving environment and development opposing each other were sought to be canvassed. Court preferred primacy to environment through the concept of 'sustainable development' and further said that **whosoever has caused harm to environment, has absolute liability, not only to compensate the victim of pollution, but also to bear cost for restoration of environmental degradation.**

197. In ***Rural Litigation and Entitlement (supra)***, Court said that over thousands of years, man had been successful in exploiting ecological system for his sustenance but with the growth of population, demand for land has increased and forest growth is being cut down. Man has started encroaching upon nature and its assets. Scientific developments have made it possible and convenient for man to approach the places which were hitherto beyond his ken. Consequences of such interference with ecology and environment had now come to be realised. It is necessary that the Himalayas, and Forest growth on mountain range should be left uninterfered with so that there may be sufficient quantity of rain. With regard to **top soil**, Court said that "*the* ***top soil can be preserved without being eroded*** *and the natural setting of the area may remain intact …… tapping of (natural) resources have to be done with requisite attention and care, so that ecology and environment may not be affected in any serious way, (and) there may not be any depletion of water resources and long term planning must be undertaken to keep up the national wealth. It has always to be remembered that these are permanent assets of mankind and are* ***not intended to be exhausted in one generation***".

198. Court emphasised that **preservation of environment and keeping ecological balance unaffected is a task which not only governments but also every citizen must undertake**. It is a social obligation and every citizen must remind to himself that it is his fundamental duty as enshrined under Article 51A(g) of the Constitution.

199. In ***Sachidananda Pandey vs. State of West Bengal & Others, AIR*****1987SC1109**, dealing with the matter pertaining to environment, Court said that whenever a problem of ecology is brought before it, the Court is bound to bear in mind Article 48A and 51A(g) of the

Constitution. When a court is called upon to give effect to the directive principles of fundamental duties, it cannot shirk its shoulders and say that priorities are a matter of policy and so it is a matter for the policy making authorities. The least court must give is, to examine whether appropriate considerations are gone in mind and irrelevancies are excluded. In appropriate cases Court could go further but how much further would depend upon the circumstances of the case. Court may always give necessary directions.

200. In ***M.C. Mehta vs. Union of India,*** **AIR1987SC1086 (Sodium gas leak case)**, issue of gas leak in a chemical factory and its repercussions came to be considered. Court expanded the doctrine of liability by modifying 'strict liability' principle enshrined in *Rylands v. Fletcher* to 'absolute liability; and said, "*enterprise which is engaged in a hazardous or inherently dangerous industry which poses a potential threat to the health and safety of persons working in the factory and residing in the surrounding areas, poses an absolute and non-delegable duty to the community to ensure that no harm results to anyone on account of hazardous or inherently dangerous nature of the activity which it has undertaken-the* ***enterprise must be absolutely liable to compensate for such harm and it should be not answer to the enterprise to say that it has taken all reasonable care****....".

201. Court also said that **larger and more prosperous enterprise, greater must be the amount of compensation** payable for the harm caused on account of the activity being carried on by the industry.

202. In ***M.C. Mehta vs. Union of India,*** **AIR1988SC1037 (pollution by tanneries in Ganga River)**, Court said that the State is under an obligation to stop exploitation of natural resources.

203. In ***State of Bihar vs. Murad Ali Khan, Farukh Salauddin & Others*** **AIR1989SC1**, dealing with an appeal, concerning protection of wildlife in Kundurugutu Range Forest in Bihar, Court referred to a decree issued by Emperor Ashoka in third century BC, which said "*Twenty six years after my coronation, I declared that following animals were not to be killed; parrots, mynas, the arunas, ruddy- geese, wild geese, the nandimukha, cranes, bats, queen ants, terrapins, boneless fish, rhinoceroses... and all quadrupleds which are not useful or edible....forests must not be burned.*"

204. Having referred to the abovesaid, Court further observed that environmentalist conception of the ecological balance in nature is based on fundamental concept of nature as a series of complex biotic communities of which a man is an interdependent part. It should not be given to a part to trespass and diminish the whole. Larger single factor in depletion of wealth of animal life in nature has been civilized man operating directly through excessive commercial hunting or, more disastrously, or indirectly through invading or destroying natural habitats.

205. In **Vellore Citizens Welfare Forum vs Union Of India & Others (1996)5SCC647**, Court held "*In view of the Constitutional and Statutory Provisions---, "Precautionary" Principle and "Polluter Pays" Principle are part of the Environmental Laws of our country*".

206. Explaining "Precautionary" principle, Court said that it includes (i) environmental issues - by the State Government and statutory bodies – must anticipate, prevent and attempt causes of environmental degradation (ii) where there are threats of serious and irreversible

damage, lack of full scientific certainty should not be used as a reason for proposing cost effective measures to prevent environmental degradation (iii) the 'onus of proofs' is on the actor or the developer/industrialist to show that the action is environmentally benign.

207. "Polluter Pays" principle was interpreted stating that **absolute liability for harm to environment extends not only to compensate victim of pollution but also the cost of restoring environmental degradation**. Environmental protection and prevention of pollution is primarily function of executive but unfortunately, they have failed.

208. In ***Tarun Bharat Sangh, Alwar vs. Union of India, AIR1992SC514***, issue of mines licenses granted in Rajasthan for mining limestone or dolomite stone in Sariska Tiger Park was considered. Court issued various directions for protection of the area. It also observed that a litigation relating to environment initiated by a common person, individually or collectively, should not be treated as usual adversarial litigation. The person(s) is concerned for environment, ecology and wildlife and it should be shared by government also.

209. In ***Virendra Gaur vs. State of Haryana, (1995)2SCC577***, Court said that Government had no power to sanction lease of land vested in municipality for being used as open space for public use. The word 'environment' is of broad spectrum which brings within its ambit "hygienic atmosphere and ecological balance". It is duty of State and every individual to maintain hygienic environment. State in particular has duty to shed its extravagant unguided sovereign power and to forge in its policy to maintain ecological balance in hygienic environment. Court further said:

> "*Enjoyment of life and its attainment including their **right to life** with human dignity encompasses within its ambit, **the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life cannot be enjoyed,** any contra acts or actions would cause environmental pollution. Environmental, ecological, air, water pollution etc. should be regarded as amounting to violation of Article 21.*"

210. Court also held that hygienic environment is an integral facet of right to healthy life and it would be impossible to live with human dignity without a human and healthy environment. Court further said

> *"Therefore, there is a constitutional imperative on the State Government and the Municipalities, not only to ensure and safeguard proper environment but also an imperative duty to take adequate measures to promote, protect and improve both the manmade and the natural environment."*

211. In ***Indian Council for Enviro-Legal Action vs. Union of India, (1996)3SCC212***, Court said that once activity carried on is hazardous or inherently dangerous, a person carrying on such activity is liable to make good, the loss, caused to any other person, by his activity, irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on. It was held that **polluting industries are absolutely liable to compensate for the harm caused by them to the people in the affected area, to the soil and to the underground water.**

212. **Polluter Pays Principles** means absolute liability for harm to the environment, not only to compensate victims of pollution but also cost of restoring environmental degradation. Remediation of damaged environment is part of the process of 'sustainable development'. As such, **polluter is liable to pay cost to the individual sufferers as well as cost of reversing the damaged ecology**.

213. With respect to polluter pays principle, Court in ***Indian Council for Enviro-Legal Action vs. Union of India (supra),*** in para 65, said that **any principle evolved in this behalf should be simple, practical and suit to the conditions obtaining in the country**.

214. In ***Indian Council for Enviro-Legal Action (supra)***, issue of damage to mother earth by industries producing toxic chemicals was brought to the notice of the Court. It was found that water in wells and streams turned dark and dirty rendering it unfit for human consumption or even for cattle and for irrigation. Court issued various directions which included closure of industries.

215. Again issue of pollution from tanneries in rivers including river Ganga was considered by Supreme Court in ***Vellore Citizens' Welfare Forum (supra)***. Recognizing principle of 'sustainable development', Court held that it is a balancing concept between ecology and development and remediation of damage to the environment is part of the process of sustainable development; precautionary principle, polluter pays principle and new burden of proof have become part of environmental law of the country.

216. In ***M.C. Mehta vs. Kamal Nath & Others, (1998)1SCC388*** a two Judges Bench had an occasion to examine, "whether natural resources can be allowed to be used or processed by private ownership for commercial purpose". The background facts giving rise to above issue are, that a news item was published in daily newspaper 'Indian Express', dated 25.02.1996, under the caption "Kamal Nath dares the mighty Beas to keep his dreams afloat". The news item reveals that after encroachment of 27.12 bighas of land which included substantial forest land, in 1990, a Club was built in Kullu-Manali valley by a private

company 'Span Motels Private Limited', which owns a resort- Span Resorts. The land was later regularised and leased out to the company on 11.04.1994. At the time of regularisation, Mr. Kamal Nath was Minister of Environment and Forests. The swollen Beas changed its course, engulfed Span club and adjoining lawns, washing it away. Thereafter, management took steps and by using bulldozers and earth-movers, turned course of Beas by blocking flow of river just 500 meters and creating a new channel to divert River to atleast 1 km downstream. Supreme Court took *suo-moto* cognizance of the matter, and case was registered as W.P. No. 182/1996 under Article 32 of the Constitution. Notices were issued to the company as well as Mr. Kamal Nath. After considering the pleadings and other material, Supreme Court decided vide Judgment dated 13.12.1996 recording a finding that Motel had encroached upon an area of 22.2 bighas adjoining to the lease-hold area. Earlier, 40 bighas 3 biswas land, alongside Kullu- Manali Road on the bank of river Beas, was granted on lease to the above Motel for a period of 99 years with effect from 1.10.1972 to 1.10.2071. Besides above, the motel encroached upon 22.2 bighas of land further. It also built extensive stone, cemented and wire-mesh embankments all along the river bank. Various activities undertaken by motel show a serious act of environmental degradation on its part. Motel tried to defend construction raised by it on the ground that it was to protect lease land from floods. Court held that **motel interfered with natural flow of river by trying to block natural relief/spill channel of the river**. With regard to river, it was observed that Beas is a young and dynamic river, runs through Kullu valley, between mountain ranges of Dhaulandhar in the right bank, and Chandrakheni, in the left. The river is fast flowing, carry large boulders, at the time of flood. When water velocity is not sufficient to carry boulders, those are deposited in

the channel often blocking flow of water. Under such circumstances, the river stream changes its course by remaining within the valley but swinging from one bank to the other. The right bank of river Beas where motel is located, mostly comes under forest; the left bank consists of plateaus, having steep bank facing the river, where fruit orchards and cereal cultivation are predominant. The area is ecologically fragile and full of scenic beauty, should not have been permitted to be converted into private ownership, and for commercial gains. Having said so, Court refers to the right of public to nature and natural resources and said that public has a right to expect certain lands and natural areas to retain their natural characteristic. Court refers to the work of David B. Hunter (University of Michigan) and Professor Barbara Ward where it was stressed upon that major ecological tenet is that the world is finite. Earth can support only so many people and only so much human activity before limits are reached. Absolute finiteness of the environment when coupled with human dependency on the environment, leads to the unquestionable result that human activities will, at some point, be constrained. There is a commonly recognised link between laws and social value but to ecologists, a balance between laws and values is not alone sufficient to ensure a stable relationship between humans and their environment. Laws and values must also contend with the constraints imposed by the outside environment. Unfortunately, current legal doctrine rarely accounts for such constraints, and thus environmental stability is threatened. Historically, we have changed environment to fit our conceptions of property. We have fenced, plowed and paved. The environment has proven malleable and to a large extent still is. But there is a limit to this malleability, and certain types of ecologically important resources-for example, wetlands and riparian forests - can no longer be

destroyed without enormous long-term effects on environmental and therefore social stability. Need for preserving sensitive resources does not reflect value choices but rather is the necessary result of objective observations of the laws of nature. Court refers to the legal theory said to be developed in ancient Roman empire, i.e., 'Doctrine of Public Trust' founded on the idea that certain common properties such as rivers, sea-shore, forests and the air were held by Government in trusteeship for the free and unimpeded use of general public. English law as well as American Law on the subject was also referred to and then it is said in para 34 of the Judgment that our legal system includes Public Trust Doctrine as part of the Jurisprudence. State is the trustee of all natural resources which, by nature, are meant for public use and enjoyment. Public at large is beneficiary of the sea- shore, running waters, airs, forests and ecologically fragile lands. State as a trustee, is under a legal duty to protect natural resources. These resources meant for public use cannot be converted into private ownership. Executive, acting under **Doctrine of Public Trust**, cannot abdicate natural resources and convert them into private ownership or for commercial use.

217. Supreme Court while disposing of Writ Petition issued certain directions contained in para 39 of the judgment which included that the motel shall pay compensation by way of cost for restitution of environment and ecology of the area. Pollution caused by various constructions made by motel in river bed and banks of river Beas has to be removed and reversed. NEERI was directed to inspect the area and make an assessment of the cost, likely to be incurred for reversing damage caused to environment and ecology. Further, motel is also required to show cause as to why it be not imposed pollution fine in addition to cost for restoration of ecology which it had to pay.

218. In ***S. Jagannath vs. Union of India & Others, AIR1997SC811***, adverse effect of shrink culture in coastal zones notified under Coastal Zone Regulation Notification dated 19.02.1991 came up for consideration and Court issued directions for closure of shrink culture industries in view of ecologically fragile coastal areas and adverse effect on environment.

219. In ***M.C. Mehta vs. Union of India, (1997)11SCC312*** **(groundwater matter)**, Court issued various directions including constitution of regulatory authorities for management of groundwater i.e., Central Government Ground Water Body as an authority under Section 3(3) of EP Act, 1986.

220. In ***Dr. Ashok vs. Union of India & Others, (1997)5SCC10***, issue of use of pesticides and chemicals causing damage to the health was considered and directions were issued for constitution of a committee of experts and senior officers to collect information and take suitable measures in respect of insecticides and chemicals found to be hazardous for health.

221. The activity of fishing and reservoir within areas of national park in Madhya Pradesh was considered in ***Animal and Environment Legal Defence Fund vs. Union of India, (1997)3SCC549***. Court observed that livelihood of tribals should be considered in the context of maintaining ecology in the forest area and if there is shrinkage of forest area, State must take steps to prevent any destruction or damage to the environment, *flora-fauna* and wildlife keeping in mind Articles 48A and 51A(g) of the Constitution.

222. In ***M.C. Mehta vs. Union of India, (1997)2SCC411*** **(Calcutta tanneries matter)**, Court considered issue of discharge of untreated noxious and poisonous effluents into river Ganga by tanneries at Calcutta, and ultimately issued directions for closure of tanneries, relocation and payment of compensation to the employees.

223. In ***M.C. Mehta vs. Union of India, (1997)11SCC327*** **(hazardous industries in Delhi matter),** Court considered issue of pollution caused in Delhi by various industries engaged in hazardous, noxious products etc. and issued directions for shifting, relocation, closure and utilization of land for protection of environment and payment of compensation.

224. The issue of preservation of forest was considered at length in ***T.N. Godavarman Thirumulpad vs. Union of India & Others, (1997)2SCC267*** and series of orders were passed from time to time for protection of forest and prevention of unlawful felling of trees in forest, encroachment, etc. Court expanded the term 'forest' to include certain areas as deemed forest beyond what was defined in the Statutory Act.

225. In ***M.C. Mehta vs. Union of India, (1997)3SCC715*** **(Badkal and Surajkund lakes matter)**, Court considered the issue of preservation of tourist spots near Delhi at Badkal and Surajkund lakes. Applying principle of 'sustainable development' and 'precautionary principle', Court banned construction activities within the radius of 1 km from the lakes. Court relied on the reports of experts from National Environmental Engineering Research Institute (NEERI) and Central Pollution Control Board (CPCB) stating that it is not advisable to permit large scale construction activities in close vicinity of lakes which would have an adverse impact on local ecology. It could affect water level under the ground and also disturb hydrology of the area.

226. In ***M.C. Mehta vs. Union of India, (1997)2SCC353*** **(Taj Trapezium matter)**, issue of preservation of Taj was considered and Court issued directions for changeover of coal in coal-based industries within Taj Trapezium zone, to the use of natural gas or otherwise industries should stop functioning or shift.

227. In ***M.C. Mehta vs. Union of India, (1998)6SCC60***, issue of vehicular pollution in Delhi City was considered and several orders were issued. Court said that it is the duty of Government to see that air is not contaminated by vehicular pollution since right to clean air also stemmed from Article 21.

228. For protection of environment by making available lead-free petrol supply, directions were issued in ***M.C. Mehta vs. Union of India, (1998)8SCC648*** **(lead free petrol matter**), **phasing out** old commercial vehicles of more than 15 years old was considered and directions were issued in ***M.C. Mehta vs. Union of India, (1998)8SCC206*** **(matter of clean air in Delhi by phasing out old commercial vehicles)**.

229. Issue of poor efficiency of Common Effluent Treatment Plants at Patancheru, Bollaram and Jeedimetla in Andhra Pradesh was considered in ***Indian Council for Enviro-Legal Action vs. Union of India, (1998)9SCC580*** and Court issued directions that **industry should not be allowed to discharge effluent which exceeded permissible limits**. Such industries should install system for release of effluents upto permissible limits. Similar directions in the context of UP industries, discharging effluent beyond permissible limits, were issued in ***World Savior vs. Union of India & Others (1998)9SCC247***.

230. In ***Almitra H. Patel vs. Union of India, (1998)2SCC416***, issue of urban solid waste management was considered and directions were issued.

231. Hazardous waste lying in docks/ports/ICDS and its management was considered in ***Research Foundation for Science vs. Union of India & Others, (1999)1SCC223.*** Court directed authorities to personally monitor waste and not release auction of waste unless matter is examined by Statutory Regulators as per law and appropriate directions are issued.

232. Pollution by discharge of effluents by distilleries attached to sugar industries was considered in ***Bhawani River Sakthi Sugar Ltd. Re: (1998)6SCC335*** and directions were issued for control of pollution and monitoring by Statutory Regulators.

233. The casual approach on the part of Statutory Regulators like State PCBs was examined in ***M.C. Mehta vs. Union of India, (1998)2SCC435*** and criticizing the same, Court issued appropriate directions. The issue of pollution by hot mix plants towards supplying hot mix for runways at airports, causing pollution due to smoke emitted by them was considered in ***M.C. Mehta vs. Union of India, (1999)7SCC522*** **(Hot mix plant matter)** and appropriate directions were issued.

234. The matter of providing clean drinking water for Agra town was considered in ***D.K. Joshi vs. Chief Secretary, State of UP, (1999)9SCC578***.

235. Applying **doctrine of accountability** to the State and Statutory Regulators and its officers, in ***Pollution Control Board, Assam vs.***

Mahabir Coke Industry & Another, (2000)9SCC344, Court held that they are accountable for wrong advice.

236. Liberal attitude of courts in the matter of quantum of punishment in criminal prosecution for offences relating to environmental pollution was criticised in ***UP Pollution Control Board vs. M/s Mohan Meakins Ltd. & Others, (2000)3SCC745***. It was held that courts cannot afford to deal lightly with cases involving pollution of air and water. Courts must share parliamentary concern on the escalating pollution levels of environment. Those who discharge noxious polluting effluents into streams appeared to be totally unconcerned about the enormity of injury which they are inflicting on the public health at large, the irreparable impairment it causes on the aquatic organisms, to deleterious effect it has on the life and health of animals. **Court should not deal with the prosecution for pollution related offences in a casual or routine manner**.

237. A major irrigation project relating to construction of dam on Narmada River came up for consideration in ***Narmada Bachao Andolan vs. Union of India, (2000)10SCC664***. The project involved construction of a network of over 3000 large and small dams. **Explaining precautionary principle and burden of proof, it was held that the same would apply to polluting project or industry where extent of damage likely to be inflicted is not known.** But where effect on ecology or environment on account of setting up of an industry is known, what has to be seen is whether environment is likely to suffer and if so what mitigative steps have to be taken to efface the same. Merely because there will be a change in the environment is no reason to presume that there will be ecological disaster. Once effect of project is known, then principle

of sustainable development would come into play and that will ensure that mitigative steps are taken to preserve ecological balance. Sustainable development means what type or extent of development can take place which can be sustained by nature/ecology with or without mitigation.

238. Where a project is likely to effect environment, a proper study of impact on environment ought to have been conducted and once such a study is conducted and project is found in public interest, necessary for development, the principle of sustainable development requires that the measures mitigating damage to the environment must be observed.

239. Precautionary principle, in the context of municipal laws means (i). Environmental measures, required to be taken by State Government and Statutory Authorities, and they must anticipate, prevent and attack the causes of environmental degradation; (ii) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental depredation; (iii) The onus of proof is on the actor or the developer/industry, to show that his action is environmentally benign.

240. In ***Essar Oil Ltd. vs. Halar Utkarsh Samiti, (2004)2SCC392,*** issue with regard to laying of pipelines passing through a portion of marine national park and marine century came to be decided by a two judges Bench of Supreme Court. M/s Essar Oil Ltd., Bharat Oman Refineries Ltd. and Gujarat Positra Port Company Ltd. intended to lay pipelines to pump crude oil from a single buoy mooring in the gulf across a portion of the marine National Park and Marine Sanctuary to their oil refineries in Jamnagar District. The issue was raised by filing a Public Interest Litigation that it would adversely affect environment in particular destruction or damage to habitate, wildlife etc. Gujarat High Court

restrained State Government from granting any further authorization and permission for laying down any pipeline in any part of Sanctuary or National Park. A number of appeals were filed before Supreme Court not only by oil companies but also by State of Gujarat and Gujarat Positra Port Company Ltd. Supreme Court also transferred Writ Petitions filed by Halar Utkarsh Samiti challenging order passed by State Government granting permission to Bharat Oman Refineries Ltd., pending in Gujarat High Court. Issue for consideration was "can pipelines carrying crude oil be permitted to go through the marine National Park and Sanctuary?". To answer this question, Court, besides EP Act, 1986, also considered Wildlife (Protection) Act, 1972 (hereinafter referred to as 'WL Act, 1972') and Forest (Conservation) Act, 1990 (hereinafter referred to as 'FC Act 1990'). It was an admitted position that there was declaration of Jamnagar National Park as a 'National Park', after following the procedure prescribed under WL Act, 1972. Court also referred to the Notification dated 19.02.1991 issued by Central Government under Section 3 (1), (2) (v) of EP Act, 1986 read with rule 5 of Environment (Protection) Rules, 1996 (hereinafter referred to as '**EP Rules, 1996**') declaring coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action in the landward side, up to 500 metres from the High Tide Lines and land between Low Tide Lines and High Tide Line, as 'Coastal Regulation Zone' (hereinafter referred to as 'CRZ') with effect from the date of Notification 19.02.1991. Notification imposes certain restrictions in CRZ but the same were modified by permitting some activities vide Notification SO 329 (E) dated 12.04.2001. Court held that all the statutes noted above, needed different clearances/permissions and are independent to each other. **Clearances under each of separate statue is essential** before any activity otherwise

prohibited under those Acts may be proceeded with. Court observed that High Court passed order without giving opportunity to the concerned industries and hence, principles of 'Natural Justice' were violated. But instead of remanding the matter, on this alone, it chose to decide on merits considering nature of the stakes involved, which demanded no further delay. Court held that Stockholm Declaration of 1972 is *Magna-carta* of our environmental laws resulting in amendments in Constitution of India in 1976, inserting Article 48 A and 51A (g). The principles containing the resolution aimed at balancing economic and social needs on one hand with environmental considerations on the other hand. However, it is also true that in one sense, development is an environmental threat. The very existence of humanity and rapid increase in pollution together with consequential demands to sustain pollution has resulted in concerting of open lands, cutting down of forest, filling up of lakes and water resources and the very air which we breathe. Therefore, a balance and harmony has to be maintained in development and environment. Section 29 of WL Act, 1972, Court held, has to be construed keeping in mind the above background. There is no presumption of destruction of wildlife on account of laying of pipelines. It is a question of fact which is to be seen in the light of expert's opinion. State Government before granting approval under Section 29 or 35 of WL Act, 1972 should consider whether damage in respect of proposed activity is irreversible or not. If it is irreversible, it amounts to destruction and no permission may be granted unless there is positive proof of betterment of the lot of wildlife.

241. Court also observed that for preventing possible future damage, Government must publish its proposal for knowledge of the public so that the individuals or organizations, working as watchdogs to preserve

environment, may be aware and put forth their views on the matter. Hence all these preventions and precautions are to be taken by State Government. It should ensure that impact on environment is transient and minimized. Court will not substitute its own assessment in place of opinion of persons who are specialist and decide question with objectivity and ability. Supreme Court set aside judgment of High Court observing that ultimate permission was granted by Government of India under WL Act, 1972 and interpretation of High Court of Section 29 and 35, being erroneous, the judgment cannot be sustained. The appeals were allowed. Court directed State Government to issue authorization under the requisite format under Section 29 and 35 of WL Act, 1972. Court also said that once State Government has exercised its powers by application of mind under Section 29 and 35, it was not open to Chief Wildlife Warden to take otherwise decision. In fact, his decision has to be in accordance with the decision of State Government.

242. In ***Karnataka Rare Earth & Another vs. senior Geologist, Department of Mines and Geology & Another, (2004)2SCC783***, certain mining leases for quarry of granite in Government land were granted under Rule 3 of the Karnataka Minor Mineral Concession Rules, 1969. It was contrary to Rule 3A of the said Rules. The leases were challenged in Karnataka High Court in Public Interest Litigation. Writ petitions were allowed by a Learned Single judge and all grants were quashed. Intra Court Appeals were also dismissed by Division Bench. Lessees came to Supreme Court where an interim order was passed in favour of lessees on 19.11.1993. Ultimately, appeals were dismissed vide Judgment dated 18.01.1996 passed in ***Alankar Granite Industries vs. P.G.R. Scindia, (1996)7SCC416***. Lessees, who had continued with the quarry of granite, were issued notices by the Government requiring them

to pay price of granite blocks quarried by them during pendency of the matter. This demand was challenged in Karnataka High Court alleging that quarry was valid, pursuant to the court's order, therefore demand is penal in nature and illegal. Writ petitions were dismissed by High Court upholding demand of price of granite blocks by State Government, and that is how matter came to Supreme Court in ***Karnataka Rare Earth (supra)***. It was contended that quarrying of granite was accompanied by payment of royalty, issue of transport permits, though under interim order of the Supreme Court but was lawful and *bonafide*. Negating the argument, Court said, demand raised by State of Karnataka can neither be said to be penalty nor penal action. It is in the nature of recovering compensation for minerals taken away without any lawful authority. Court explained underlining principle by holding "*a* ***person acting without any lawful authority must not have himself placed in a position more advantageous, then the person raising minerals with lawful authority***". Relying on an earlier judgment in ***South Eastern Coal Fields Limited vs. State of M.P., (2003) 8 SCC 648***, Court said that the doctrine of 'actus curiae neminem gravabit', would apply not only to such acts of court which are erroneous but to all such acts to which it can be held that court would not have so acted had it been correctly apprised of facts and law. The principle of Restitution is attracted. Court said "*when on account of an act of a party, persuading the court to pass an order, which at the end is held as not sustainable, has resulted in one party gaining advantage which it would not have otherwise earned, or the other party has suffered an impoverishment which it would not have suffered but for the order of the Court and the act of such party, then a successful party finally held entitled to a relief, accessible to terms of relief at the end of litigation, is entitled to be compensated in the same manner in*

which the parties would have been if the interim order of court would not have been passed." Demand raised therefore, is not penal. Recovery of price of mineral is intended to compensate for loss of mineral, owned by it and caused by a person who has been held to be not entitled in law to raise the same. There is no element of penalty involved and recovery of prices is not a penal action. It is just compensatory.

243. In ***Deepak Nitride Limited vs. State of Gujarat & others, (2004)6SCC402***, question of determination of compensation of degradation of environment or damage caused to any concern by applying principle of 'Polluter Pays' was up for consideration before a two Judges Bench. A Public Interest Litigation was taken in Gujarat High Court alleging large scale pollution caused by industries located in Gujarat Industrial Development Corporation, Industrial Estate at Nandesari. On the order of High Court, 252 industrial units relating to chemical were also made party in the litigation besides State of Gujarat, CPCB, Gujarat Industrial Development Corporation and Nadesari Industries Association. A common effluent treatment plant (CETP) was erected in the industrial estate with contribution made by industrial units. The complaint was that CETP was not achieving required parameters laid by State PCB. On 9.05.1997, High Court directed industries to **pay 1 percent of maximum annual turnover of any of the preceding 3 years, towards compensation and betterment of environment**. This order was challenged in appeal before Supreme Court. High Court also directed to keep the said amount separate, by Ministry of Environment, and utilize for the work of socio- economic upliftment of people of the affected area, betterment of education, medical and veterinary facilities, agricultural and livestock etc. The imposition of 1 percent compensation was challenged on the ground that court had no power to impose penalty or

fine or make any general levy unless authorized by general statute. It was also said that in any case, award of damages may be by way of restitution to the victim or restoration or restitution and restoration of ecology but for this purpose a finding has to be given that there had been degradation of environment. It was urged that there is no damage to the people in vicinity in as much as CETP had permitted a separate channel to flow effluent into river which ultimately reached the sea and would not cause any damage to the people or villages in the vicinity. After considering the rival submissions, Supreme Court, in para 6, noted that the fact that standard prescribed by State PCB were not observed by industries discharging effluent from CETP to River Mahi and ultimately the sea is not disputed. However, that by itself would not lead to the consequence that such a lapse has caused damage to the environment. Court said, that **compensation awarded must have broad co-relation not only to the magnitude and capacity of the enterprises but also to the harm caused by it**. In a given case, **percentage of turnover itself may be a proper measure because the method to be adopted for awarding damages and the basis of Polluter Pays principle has got to be practical, simple and easy in application**. There has to be a finding that there has been degradation of environment or any damage caused to any of the victims by the activities of industrial units and then certainly damages have to be paid. Court remanded the matter to High Court to examine the aspect of damage to environment and/the people, as the case may be, and thereafter to decide appropriate compensation to be awarded.

244. In ***M.C. Mehta vs. Union of India, (2004)6SCC588 (Industries in residential area in Delhi matter)***, Court considered the question, "whether industrial activities in residential/non- conforming areas is

permissible and what directions should be issued to end such illegal activities". Various orders were passed in 1995 and onwards resulting in closure, shifting etc., of industries, which, by an estimation were about 1,01,000, operating in Delhi in non-conforming zones but illegally permitted by Municipal Corporation of Delhi to operate in residential areas/ non- conforming areas. An application was filed on behalf of Delhi Government that closure of such a large number of industries functioning in residential/non-conforming areas may render about 7 lakh workers unemployed, causing hardship to 7 lakh families. The question considered by Court was, "*whether a Government can plead such a justification for violation of law and throw to the winds norms of environment, health and safety or is it possible to help the workers even without violating law if there is a genuine will to do so*". There was an attempt on the part of the concerned authority for regularization of certain areas having concentration of industries. Deprecating it, Court said, "***Regularization cannot be done if it results in violation of the Right to Life enshrined in Article 21*** *of the Constitution. The question will have to be considered not only from the angle of those who have setup industrial units in violation of the master plan but also others who are residents and are using the premises as allowed by law."* Court also considered the changes proposed/made in the master plan and said, "*The changes in the master plan or its norms to accommodate illegal activities not only amount to getting reward for illegal activities but also resulted in punishing the law abiding citizen."* Commenting upon the authorities, Court said, "*lack of action and initiative by the authorities is the main reason for the industry merely continuing illegal activities.* ***There is total lack of enforcement of law by the authorities concerned."*** Rejecting an argument that industries were working with the consent of

Government, Court said that **an illegality would not become legality on inaction or connivance of the Government authorities**. It further said "*There cannot be any doubt that non-conforming industrial activities could not have commenced or continued at such a large scale in the capital of the country if the Government and the concerned authorities had performed their functions and obligations under various statutes. But such a situation cannot be permitted to continue forever so as to reach a point of no return, where the chaotic situation in city has already reached.* ***The law-breakers, namely, the industries cannot be absolved of the illegalities only on the ground of inaction by the authorities****."* Court also rejected an argument on behalf of the industries that if they are ready to pay penalty, so long as the same is paid, they are entitled to continue with their activities. Court held "*merely by payment of penalty, continued misuse cannot be permitted*." Court condemned authorities for inaction and said that growth of illegal manufacturing activity in residential areas has been without any check or hindrance from the authorities. The manner in which such large scale violations had commenced, and continued, leaves no manner of doubt that it was not possible without the connivance of those who are required to ensure compliance and reasons are obvious. Such activities result in putting on extra load on the infrastructure. The entire planning has gone totally haywire. The law abiders are sufferers. All this has happened at the cost of health and decent living of the citizens of the city violating their constitutional rights enshrined under Article 21 of the Constitution of India. Further, it is necessary to bear in mind that the law makers repose confidence in the authorities that they will ensure implementation of the laws made by them. If the authorities breach that confidence and act in dereliction of their duties, then the plea that the observance of law will

now have an adverse effect on the industry or the workers cannot be allowed. Court, in the light of the facts and pleadings, issued various directions including closure of all industries, came up in residential/non-conforming areas in Delhi on or after 01.08.1990. It also constituted a monitoring committee comprising of officials of Delhi Government, Delhi Police, local bodies and said that the said committee shall be responsible for stoppage of illegal commercial activities.

245. In ***N.D. Jayal vs. Union of India, (2004)9SCC362***, issue of safety and environmental aspects arising from Tehri Dam was considered by a 3 Judges Bench and the judgment has been rendered by majority. Looking to the retrospect of events, Court found that investigation for construction of dam at Tehri for hydel power generation commenced in 1961; Planning Commission in 1972 envisaged cost of Rs. 197.92 Crores; Government of U.P. granted administrative clearance to the project in 1976; In March 1980 the then Prime Minister directed authorities to undergo an in depth review of the entire project; Ministry of Science and Technology constituted an experts group which submitted an interim report in May 1980 and final report in August 1986; though 206 crores were already spent, expert committee recommended abandonment of project; recommendation was accepted by MoEF in October 1986; in November 1986 erstwhile USSR offered an administrative, technical and financial assistance on a turnover base and it revived Tehri project as recipient of such aid; and in November 1986 a protocol was signed with USSR for providing technical and financial assistance to the tune of 1000 M Rouble. Thereafter, events proceeded with pace. Government announced clearance of project in January 1987 and for execution of the project instead of irrigation department of Government of UP which had initiated, it was taken over by a joint venture company of Government of

India and Government of UP called "Tehri Hydro Development Corporation" (THDC). In February 1990, Environment Appraisal Committee of MoEF recommended that project does not merit environmental clearance. However, on 19.01.1990, conditional clearance was given. At this stage, matter was brought to Court by filing Writ Petition under Article 32 of the Constitution. It was argued that once project was already decided to be abandoned, how clearance could be given subsequently and that serious consequences of implementation have not been taken note. Court referred to similar issue already considered in relation to Sardar Sarovar Project in ***Narmada Bachao vs. Union of India, (2000)10SCC664***. It was held that once a considered decision is taken, it is for the Government to decide how to do its job. When it has put a system in place for the execution of the project, and such a system cannot be said to be arbitrary then the only role which Court has to play is to ensure that the system works in the manner in which it was envisaged. It further said "*decision that the questions whether to have an infrastructure project or not and what is the type of project to be undertaken and how it has be executed, are a part of policy making process and the courts are ill-equipped to adjudicate on the policy decision.*" Having said so, Court further said, "***courts have a duty to see that in the undertaking of a decision, no law is violated*** *and people's fundamental rights as guaranteed under the Constitution are not transgressed upon except to the extent permissible under the Constitution.*" Various specific aspects of safety and conditional clearance were examined on the basis of material which included safety aspect, and the aspects relating to conditional clearance comprising catchment area treatment, command area development etc. and lastly environmental conditions under head of catchment area, water quality maintenance,

command area Bhagirathi Basin Management Authority, impact on human health, disaster management and rehabilitation, were considered and challenge was negated. Thereafter for monitoring of observance of conditions of environment clearance, Court transferred the matter to Uttaranchal High Court for further consideration.

246. In ***M.C. Mehta vs. Union of India & Others, (2004)12SCC118 (Mining activities on Delhi, Haryana Border and in Aravalli Hills Matter)***, Supreme Court passed order on 20.11.1995 directing Haryana Pollution Control Board to inspect and ascertain the impact of mining operation on Badkal Lake and SurajKund, ecologically sensitive areas, falling within State of Haryana. Report said that rock blasting and mining has caused ecological disaster in the area. It was recommended that the miners must prepare an Environment Management Plan (EMP) and it should be implemented in a time bound manner. Report also recommended stoppage of mining activities within the radius of 5 Km from Badkal Lake and SurajKund. Haryana Government consequently issued an order to stop such mining within radius of 5 Km of Badkal Lake and SurajKund. Objections were filed by mining operators that such prohibition should not go beyond 1 Km radius. Supreme Court, by order dated 12.04.1996, sought opinion of NEERI and considering its report Court came to the conclusion that mining activities in vicinity of tourist resorts were bound to cause serious impact on local people. Court directed to stop all mining activities within 2 Km radius to tourist resorts of Badkal Lake and SurajKund and that mining leases within area from 2 Km to 5 Km will not be renewed without prior NOC from Haryana Pollution Control Board and also CPCB. This order is reported in ***M.C. Mehta vs. Union of India & Others, (1996)8SCC462***. Various conditions imposed by PCB and State PCB, while issuing NOC to mining

operators, were challenged and the issue of compliance of various statutory provisions was also raised in respect of areas of mining falling within the Districts of Faridabad and Gurgaon in Haryana State. Supreme Court considered effect on ecology, of mining activity carried on within an area of 5 Km of Delhi, and Haryana Border on Haryana side in areas falling within district of Faridabad and Gurgaon and in Aravalli Hills within Gurgaon District. The question formulated by Court for consideration was "*whether the mining activity deserves to be absolutely done or permitted on compliance of stringent conditions and by monitoring it to prevent the environmental pollution*". It was admitted that on 7th May 1992, parts of Aravalli range were declared ecologically sensitive under EP Act, 1986. Certain activities including new mining operations and renewal of mining lease were restricted and it was said that permission would be required from MoEF. In August 1992, Forest Department of Haryana had issued a notification under the Punjab Land Preservation Act 1900, banning the clearing and breaking up the land not under cultivation, quarrying of stone in the Badkal area without prior permission of the forest department. This ban was for 30 years. Further Central Government had certain powers under Notification dated 07.05.1992 which it delegated to State of Rajasthan and Haryana, vide Notification dated 29.11.1999, issued by MoEF in exercise of under power Section 23 read with 23 of EPF 1986 read with Rule 5 (4) of EP Rules of 1986. Among other issues, Court also examined circular dated 14.05.1918 issued by MoEF extending time to the units which did not apply for EC under EIA 1994 to obtain *ex-post-facto* EC. Court observed that statutory Notification cannot be notified by issue of circular. Further, if MoEF intended to apply the said circular to mining activities commenced and continued in violation of EIA, 1994 it would also show

total non-sensitivity of MoEF to the principles of Sustainable Development and the object behind issue of EIA 1994. It also said that **EIA 1994 is mandatory and its compliance before commencement of any mining operation is essential and cannot be dispensed with**. Referring to its earlier judgment in ***Subhash Kumar vs. State of Bihar (1991)1SCC598***, Court held that Right to Life is a fundamental right under Article 21 and included right to enjoyment of pollution free water and air for full enjoyment of life; natural resources of air, water and soil cannot be utilized if the utilization results in irreversible damage to environment. Court said that mining operation is hazardous in nature. It impairs ecology and people's right to natural resources. The entire process of setting up and functioning of mining operation requires utmost good faith and honesty on the part of intending entrepreneur for carrying on any mining activity close to township which has tendency to degrade environment and is likely to affect air, water and soil and impair the quality of life of inhabitants of the area, there will be responsibility on the part of the entrepreneur. Regularity authorities have to act with utmost care in ensuring compliance of safeguard norms and standards to be observed by such entrepreneur. Court further said "*where regularity authorities either connive or act negligently by not taking prompt action to prevent, avoid or control the damage to the environment, natural resources and people's life, health and property, the principles of Accountability for Restoration and Compensation have to be applied".* When there is an equilibrium between the interest of environment and development Court said *"protection of environment would have precedence over the economic interest."* Precautionary principle requires anticipatory action to be taken to prevent harm. The harm can be prevented even on a reasonable suspicion. It is not necessary that there should always be direct evidence

of harm to the environment. Considering applicability of EIA 1994 to the mining operations where only renewal was under consideration, Court said that a grant of renewal is a fresh grant and must be consistent with law and it must conform to EIA 1994. For this purpose, Supreme Court relied on its decision ***Ambica Quarry Works vs. State of Gujarat, (1987)1SCC213*** and ***Rural Litigation and entitlement vs. State of U.P. (supra)***. It clearly held that no mining operation can be held without obtaining mining EC under EIA 1994. With regard to the areas covered by Notifications issued under Section 4 and/5 of Punjab land Preservation Act, 1900 and also coming under FC Act, 1980, Court said that such areas shall be treated as Forest and for use of it for non-forestry purpose compliance with provisions of FC Act, 1980 would be necessary. The order dated 6.05.2002 of Supreme Court thereafter, was clarified by issuing directions in para 19 of the judgment.

247. In ***Re: Noise Pollution, (2005)5SCC733***, a two judges bench examined issue relating to noise pollution vis-a-vis right to life enshrined under Article 21 of the Constitution. A Public Interest Litigation was filed by one Anil K. Mittal, an engineer by profession, under Article 32, in Supreme Court, raising a serious and disturbing complaint that a minor girl, victim of rape, suffered since her cries for help went unheard due to blaring noise of music over loudspeaker in the neighbourhood. The girl, later in the evening, set herself ablaze and died of 100% burn injuries. It was complained that most modern sound equipments are used in functions, parties and merry making celebrations etc., without giving any regard to the level of sound and also disturbance caused to the people, in the neighbourhood or vicinity. It was prayed that the existing laws restricting use of loud speakers and high-volume sound equipments be directed to be rigorously enforced. In another matter, validity of

amendment made in Noise Pollution (Regulation and Control) Rules, 2000 (hereinafter referred to as 'NP Rules, 2000'), framed by Govt. of India, was challenged before Kerala High Court where petition was dismissed and thereagainst, an Appeal was filed before Supreme Court.

248. Writ Petition and Appeal came up before Supreme Court in 2003. Cognizance was taken and notices were issued to Govt. of India and CPCB. Court observed that Right to Life under Article 21 guaranteed a person, life with human dignity which includes all aspects of life which go to make a person's life meaningful, complete and worth living. No one has right to claim to create noise even in his own premises which would travel beyond his precincts and cause nuisance to neighbours or others. Even Article 19(1)(a) of Constitution does not give fundamental right to create noise by amplifying the sound. While one has a right to speech, others have a right to listen or decline to listen. Nobody can be compelled to listen and nobody can claim that he has a right to make his voice trespass into the ears or mind of others.

249. Supreme Court examined various kinds of noise and source of noise pollution, particularly in the special context of fire-works. Commenting upon the hazardous effect caused by high sounding fire crackers, Court observed that it not only increases ambient noise level but also contributes significantly, an increase in air pollution. Then it also examined methodology adopted in other countries for control of noise pollution and referred to the laws made in United Kingdom, United States of America, Japan, China, Australia and local laws made in Montgomery County, Maryland, USA, and statutory laws in India including NP Rules 2000, Section 268 of I.P.C, Section 133 of Cr.P.C. and provisions in Factories Act 1948, Motor Vehicles Act 1988, Air Act 1981, EP Act 1986

and Law of Torts. It also referred to some judgments of High Courts namely Punjab, Calcutta, Andhra Pradesh and Madras to observe that Indian judicial opinion is uniform in recognizing Right to live in freedom from noise pollution as Fundamental Right protected by Article 21 of Constitution. Noise pollution beyond permissible limits is an in-road on that right. For observance and enforcement of right against noise pollution, Court said that an appropriate legislation is still wanting to cover the menace of noise pollution. Further, there is equal need of developing a mechanism and infrastructure for enforcement of prevalent laws. The matter was disposed of, issuing orders and directions, in general to all the States, requiring to make provisions for seizure and confiscation of equipments/instruments, creating noise beyond the permissible limits. The judgment did not deal with the correctness of Kerala High Court judgment dismissing Writ Petition wherein validity of Rules 5 (3) inserted by Amendment Notification dated 11.10.2002 in NP Rules, 2000 was challenged. This was brought to the notice of Supreme Court by filing an IA. Vide order dated 03.10.2005 (reported in ***(2005)8SCC794)***, Supreme Court reopened Civil Appeal No. 3735/2005, examined correctness of High Court judgment and ultimately decided vide judgment dated 28.10.2005. Court found that power of exemption granted to the Government, permitting use of loudspeakers etc. during night hours (between 10 pm to 12 pm) or during any cultural or religious festive occasions for a limited duration, as such, cannot said to be unreasonable. Court upheld the said amendment, confirmed High Court judgment and dismissed Appeal. This judgment is reported in ***(2005)8SCC796***.

250. In ***Ganapathi Metals vs. M.S.T.C. Ltd. & Others (2005)12SCC169***, a question was raised that in a tender notice, there

was no condition with regard to compliance of Hazardous Wastes (Management and Handling) Rules, 1989 and, therefore, there was no obligation on the part of successful bidder to follow those Rules. Rejecting this argument, Court said that the compliance of statutory rules will not depend on the party's agreement, even if the party is a statutory body or Government and instead statutory rules have to be complied with.

251. In ***Research Foundation for Science vs. Union of India & Others, (2005)13SCC186***, in pending matters, namely, Writ Petition No. 457/1995; SLP(C) No. 16175/1997 and Civil Appeal No. 7660/1997, Supreme Court in its judgment dated 05.01.2005 considered the question, "*how hazardous waste oil imported and lying in 133 containers at Nhava Sheva Port is to be dealt with*". Monitoring Committee constituted by Court categorically found that what was imported is hazardous waste and it was imported illegally in the garb of importing lubricant oil. On behalf of the Importers, reliance was sought on the Basel Convention and standards mentioned therein but Court said that Basel Conventions are only guidelines and individual countries can provide different criteria in their national laws. National law laying stricter condition has to prevail. Imported hazardous material has, therefore, to be wasted and the manner it was to be done, left to be decided by the Government within the prescribed time. Court said:

> *"the liability of the importers to pay the amounts to be spent for destroying the goods in question cannot be doubted on applicability of precautionary principle and polluter pays principle. These principles are part of the environmental law of India. There is constitutional mandate to protect and improve the environment."* In para 28 of the judgment, Court categorically said, *"the national law has to apply and shelter cannot be taken under guidelines of Basel Convention".*

252. On 'polluter pays' principle, Court said,

> "*'polluter pays' principle basically means that the producer of goods or other items should be responsible for the cost of preventing or dealing with any pollution that the process causes.* ***This includes environmental cost as well as direct cost to the people or property, it also covers cost incurred in avoiding pollution and not just those related to remedying any damage. It will include full environmental cost and not just those which are immediately tangible.*** *The principle also does not mean that the polluter can pollute and pay for it. The nature and extent of cost and the circumstances in which the principle will apply may differ from case to case."*

253. Court also distinguished its earlier judgment in ***Deepak Nitrite Ltd. vs. State of Gujarat, (2004)6SCC402****,* observing that it was decided on its own facts and in the light of the circumstance that there was no finding of any damage to the environment. Having said so, Court also said that the decision in the ***Deepak Nitrite (supra)*** cannot be said to have laid down a proposition that in the absence of actual degradation of environment by the offending activities, payment for repair on the application of 'polluter pays' principle cannot be ordered. Court reiterated that *"in India the liability to pay compensation to affected persons is strict and absolute and the rule laid down in* ***Rylands vs. Fletcher, (1868) 3HL 330: (1861-73) ALL ER Rep 1, 626: 19 LT 220****, has been held to be not applicable".* Explaining judgment in ***Raylands vs. Fletcher (supra)***, Court said, the judgement was rendered in 19th sanctuary when all the developments of science and technology had not taken place. In modern day society, with highly developed scientific knowledge and technology, law has to grow to satisfy needs to fast-changing society. It has to evolve new principles and lay down new norms which would adequately deal with the new problems which arise in a highly industrialized economy. Court said:

> *"an enterprise which is engaged in a hazardous or inherently dangerous industry which poses a potential threat to the health and safety of the persons working in the factory and residing in the surrounding areas owes* ***an absolute and non-delegable duty to the community to ensure that no harm results to anyone."***

254. Court further said,

> *"if the enterprise is permitted to carry on a hazardous or inherently dangerous activity for its profit, the law must presume that such permission is conditional on the enterprise absorbing the cost of any accident arising on account of such activity as an appropriate item of its overheads."*

255. Referring to its earlier order dated 14.10.2003, in these very matters, Court said,

> *"**principle of good governance** is an accepted principle of international and domestic laws. It **comprises of the rule of law, effective State institutions, transparency and accountability in public** affairs, respect for human rights and the meaningful participation of citizens in the political process of their countries and in the decisions affecting their lives".*

256. Court said that environmental concerns are at the same pedestal as human rights, both being traced to Article 21 of the Constitution. The right to information and community participation for protection of environment and human health are also rights which flow from Article 21. Consequently, Court directed to destroy 133 containers having hazardous substance, as recommended by Monitoring Committee.

257. In ***Chhidda Singh Jat & Others vs. Suresh Chand Tyagi & Another, (2005)13SCC378***, Court gave an order of simple imprisonment and fine, imposed upon Shri Gopal Krishan Yadav, Chairman of Municipality who was found responsible for non-compliance of Court's order to regulate a nalla which was polluting surrounding area but that was not done. There, High Court had imposed above punishment for non-compliance of the order. Supreme Court affirmed the said order and dismissed appeal of Shri Gopal Krishan Yadav and others. The above order shows that **any public authority if found to violate order of the Court, regarding protection and preservation of environment, is accountable and can be imposed punishment**.

258. In ***T.N. Godavarman Thirumulpad vs. Union of India & Others, (1997)2SCC267,*** various writ petitions were filed in Supreme Court involving question about conservation, preservation and protection of forest and ecology. Various orders were passed from time to time, reported in law journals. In ***T.N. Godavarman Thirumulpad vs. Union of India & Others, (2006)1SCC1***, (order dated 23.09.2005), Court considered the question, when forest land is used for non-forest purpose, what measures are required to be taken to compensate for loss of forest land and to compensate the effect on ecology. Court recognized that development of nation undoubtedly involves industrial development but it has to be consistent with protection of environment and not at the cost of degradation of environment. Any programme, policy or vision for overall development must evolve systematic approach so as to balance economic development and environmental protection. Then Court considered the question, "*whether permission to use forest land for non-forest purpose and consequential loss or benefits must cause in imposing liability of payment of 'Net Present Value' (hereinafter referred to as 'NPV') of such diverted land, so as to utilize the amount for getting back in the long run, benefits which are lost by such diversion*?" In this regard, what should be the guidelines for determination of NPV, how to compute it, can there be some exemptions etc., are the aspects, to be considered by MoEF. Referring to earlier orders, Court said that MoEF was directed to formulate a scheme providing for compensatory afforestation, whenever permission for diversion of forest land is granted under Forest (Conservation) Act, 1980 (hereinafter referred to as, the 'FC Act'). MoEF, consequently, submitted a scheme with its affidavit dated 22.03.2002, which was examined by Central Empowered Committee (hereinafter referred to as '**CEC**') along with other relevant material and submitted a

report/recommendation dated 09.08.2002. MoEF, in principle, accepted recommendations of CEC and it was noticed by Supreme Court in its order dated 29.10.2002. MoEF, by Notification dated 23.04.2004, by exercising powers under sub-section (3) of Section 3 of EP Act, 1986, constituted an authority, i.e., Compensatory Afforestation Fund management and Planning Authority (hereinafter referred to as 'CAMPA'. Court suggested that in the said constitution of CAMPA, MoEF should include an expert in the field of forest and another expert in the field of forest economy development. Some other modifications/amendments in the said Notification were also recommended. Then the question, how NPV be determined, was examined in detail. Court observed that there are different factors which may count for determination of biodiversity valuation and it is for the experts in the field to make suggestion for determination of relevant factors for such computation. Environment is not a State Government's property but a national asset. It is the obligation of all to conserve environment and for its utilization, it is necessary to have regard to the principles of "sustainable development" and "inter-generational equity". Further, Court said, NPV is a charge or a fee within Entry 47 read with Entry 20 of List III of the Constitution. It further said *"the Fund set up is a part "of economic and social planning" which comes within Entry 20 of List III and the charge which is levied for that purpose would come under Entry 47 of List III and, therefore, Article 110 is not attracted."* The NPV is not only for compensatory afforestation but for ecology. Compensatory afforestation is only a small portion, in the long-range efforts, in the field of regeneration. Forest Management Planning involves a blend of ecological, economic and social systems with the economic and social sides of planning, often just as complex as the ecological sides. Rejecting contention of State Government that amount of

NPV shall be made over to State Government, Court held, natural resources are not the ownership of any one State or individual, the public at large is its beneficiary. In para 78, Court said

> *"The **damage to environment is a damage to the country's assets as a whole.** Ecology knows no boundaries. It can have impact on the climate. The principles and parameters for valuation of the damage have to be evolved also keeping in view the likely impact of activities on future generation.*

259. Examining various aspects of biodiversity and loss to ecology due to any destruction to biodiversity etc., Court recorded conclusions in para 98 of the judgment, as under:

> *"In view of the aforesaid discussion, our conclusions are:*
>
> *1. Except for government projects like hospitals, dispensaries and schools referred to in the body of the judgment, all other projects shall be required to pay NPV though final decision on this matter will be taken after receipt of Expert Committee Report.*
> *2. The payment to CAMPA under notification dated 23rd April, 2004 is constitutional and valid.*
> *3. The amounts are required to be used for achieving ecological plans and for protecting the environment and for the regeneration of forest and maintenance of ecological balance and eco-systems. The payment of NPV is for protection of environment and not in relation to any propriety rights.*
> *4. Fund has been created having regard to the principles of intergenerational justice and to undertake short term and long-term measures.*
> *5. The NPV has to be worked out on economic principles."*

260. Consequently, Court constituted a Committee of Experts to examine various aspects relevant for determination and computation of NPV and MoEF was directed to modify its Notification dated 23.04.2004.

261. In ***Bombay Dyeing & Mfg. Co. Ltd. vs. Bombay Environmental Action Group & Others, (2006)3SCC434***, a two judges' bench examined, whether development or redevelopment of lands of sick and/or closed cotton textile mills is valid and permissible or should not be allowed on the ground of damage to environment. Upholding statutory regulations, i.e., Development Control Regulation 58, as amended from

time to time, made under Maharashtra Regional and Town Planning Act, 1966, Court said that a balanced view has to be taken. Doctrine of 'sustainable development' indeed is a welcome feature but while emphasizing the need of ecological impact, a delicate balance between it and the necessity for development must be struck. The statute nowhere, *per se,* envisaged any degradation of environment. Before raising construction, if impact on ecology is examined by an expert Committee and it clears construction, unless there is anything *ex-facie* arbitrary, the view of experts has to be respected.

262. In ***M.C. Mehta vs. Union of India & Others, (unauthorised constructions and violation of laws in Delhi matter) (2006)3SCC399***, Supreme Court in its order dated 16.02.2006, dealing with the complaint that officers of State and Statutory Authorities are indulging in illegal activities and must be held accountable, observed:

> *"If the laws are not enforced and the orders of the courts to enforce and implement the laws are ignored, the result can only be total lawlessness**. It is, therefore, necessary to also identify and take appropriate action against officers responsible for this state of affairs. Such blatant misuse of properties at large scale cannot take place without connivance of the concerned officers. It is also a source of corruption. Therefore, action is also necessary to check corruption, nepotism and total apathy towards the rights of the citizens.** Those who own the properties that are misused have also implied responsibility towards the hardship, inconvenience, suffering caused to the residents of the locality and injuries to third parties. It is, therefore, not only the question of stopping the misuser but also making the owners at default accountable for the injuries caused to others. Similar would also be the accountability of errant officers as well since, prima facie, such large scale misuser, in violation of laws, cannot take place without the active connivance of the officers. It would be for the officers to show what effective steps were taken to stop the misuser."*

263. In ***Intellectuals Forum, Tirupathi vs. State of A.P. & Others, (2006)3SCC549***, a complaint was raised, in writ petitions filed before Andhra Pradesh High Court, that there is a systematic destruction of percolation, irrigation and drinking water tanks in Tirupathi town,

alienation of Avilala tank bed land to Tirupathi Urban Development Authority and AP Housing board for housing purposes. The writ petitions were dismissed on the ground that the activities were in public interest in view of growing population in the town and need of housing accommodation for the people. In appeal, Supreme Court formulated following four questions of law:

> *"1. Whether the Urban Development could be given primacy over and above the need to protect the environment and valuable fresh water resources?*
>
> *2. Whether the action of the A.P. state in issuing the impugned G.Os could be permitted in derogation of Articles 14 and 21 of the Constitution of India as also the Directive Principles of State Policy and fundamental duties enshrined in the Constitution of India?*
>
> *3. Whether the need for sustainable development can be ignored, do away with and cause harm to the environment in the name of urban development?*
>
> *4. Whether there are any competing public interests and if so how the conflict is to be adjudicated/reconciled?"*

264. Referring to the responsibly of State to protect environment and the principle of sustainable development, Court said,

> *"**merely asserting an intention for development will not be enough to sanction the destruction of local ecological resources**. What this Court should follow is a principle of sustainable development and find a balance between the developmental needs which the respondents assert, and the environmental degradation."*

265. Considering the facts that ground realities are different, huge amount has been spent and natural resource lost is irreparable and beyond the power of Court to rectify, best way was to accept findings of the Committee which suggested some rectification but with change in quantum of the area. Report was accepted by the authorities. Thus Court decided matter on the peculiar facts of the case but issued separate orders in respect to two tanks namely, Peruru tank and Avilala tank,

restraining any further construction in the area and to take other steps for avoiding/preventing any loss/damage to the said tanks.

266. In ***Mullaperiyar Environmental Protection Forum vs. Union of India & Others, (2006)3SCC643***, a three judges' bench of Supreme Court considered the question about safety of the dam if water level is raised beyond existing level of 136 ft. The aforesaid reservoir is surrounded by high hills on all sides with forest and is a sheltered reservoir. Concerned authorities intended to increase its height to 142 ft. from 136 ft. The dam/reservoir was serving two States, i.e., Tamil Nadu and Kerala, in terms of an agreement in 1970. The proposed increase in height by State of Tamil Nadu was objected by State of Kerala also. The dam is an old one having been constructed in 1895. Various aspects have been considered. In respect of FC Act, 1980, Court said that strengthening work of existing dam cannot be termed as non-forestry activity and there is nothing to show that increase in water level will affect flora and fauna. Experts submitted report that apprehension of adverse impact on environment and ecology is unfounded and their opinion was accepted by Supreme Court, in the absence of any material to contradict it.

267. In ***Akhil Bharat Goseva Sandh vs. State of A.P. & Others with Umesh & Others vs. State of Karnataka & Others, (2006)4SCC162***, M/s. Al Kabeer *Exports Limited,* a company engaged in the business of processing meat, mainly for export purposes, applied for permission to construct a factory and other buildings in village Rudraram, Medak district, Andhra Pradesh. On 24.03.1989, Gram Panchayat concerned, issued No Objection Certificate (hereinafter referred to as, 'NOC') and ultimately permission was granted by State Government to run slaughter

house, on the selected site, on 29.06.1989. Andhra Pradesh Pollution Control Board also issued NOC under Water Act, 1974. The company started construction work but thereafter an order was issued by Executive Officer of Gram Panchayat suspending permission, granted for construction of factory and other buildings. Some other organizations also opposed establishment of slaughter house. Initially company filed writ petition but subsequently it was withdrawn and a revision was filed before State Government which was allowed on 15.09.1990. This order was challenged by some organizations and individuals in writ petitions before High Court, wherein an interim order was passed and revisional order was stayed. Company filed writ appeals; wherein single judge's order was stayed. The writ petitions were disposed of by order dated 16.11.1991, wherein authorities were directed to examine the matter with regard to water, air and environment pollution etc. after giving opportunity to all concerned parties and thereafter, pass appropriate order. Consequently, State Government constituted a Committee, i.e., Krishnan Committee which submitted its report that after taking some safeguards/steps and proper monitoring by State PCB, pollution of air and water can be kept within reasonable limit but it concurred with the objections of Food and Agriculture Department, with regard to depletion of cattle wealth. However, it gave recommendation to allow establishment of slaughter house with certain conditions. When final decision on Committee report was pending at the level of the Government, a writ petition was filed by two Environmentalists seeking a direction to restrain Hyderabad Metropolitan Water Supply and Sewerage Board from supplying water to slaughter house. An interim order was passed, therein, by High Court. Some other writ petitions were filed challenging NOC granted by APPCB and also permission granted for running of

slaughter house. The writ petitions were dismissed, giving rise to five appeals in Supreme Court. Among various questions, the issue with regard to sanction of grant of consent by APPCB was examined, whether it was in accordance with law or not. Court took the view that function of company would not result in depletion of buffalo population in the Hinterland of the abattoir and reliance placed on the judgment in ***Mohd. Hanif Quareshi & Others vs. The State of Bihar, (1959SCR629)***, does not help the organizations since in that case there was a complete ban on slaughter of old cattle which was struck down. Further, judgment in ***State of Gujarat vs. Mirzapur Moti Kureshi Kassab Jamat and Others, (2005)8SCC534***, also did not help since there was a finding that adequate quantity of cattle feed resources was available and, therefore, the question of total ban on slaughter of old cattle does not arise. In ***State of Gujarat vs. Mirzapur Moti Kureshi Kassab Jamat and Others (supra)***, Court did not hold, that permitting slaughter of bovine cattle by itself is unconstitutional. With regard to grant of consent, Court observed that matter was examined by experts under the statutes and thereafter consent has been granted, therefore, in the absence of anything to show that their satisfaction was arbitrary or illegal, no interference would be called by the Court. Moreover, grant of NOC was challenged on the ground that information was not disclosed but it was repelled observing that no member of public has any legal right to demand any information from PCB prior to issue of NOC. Challenge to NOC on the ground that PCB was not properly constituted was also repelled and for this purpose Court relied on Section 11 of Water Act, 1974, that if there is some defect in the composition of PCB that would not validate consent order.

268. In ***T.N. Godavarman Thirumulpad vs. Union of India & Others (2006)5SCC28*** (Order dated 10.04.2006), an issue raised by Mr. Deepak Agarwal through an Interlocutory Application regarding allotment of land to a company for setting up of a coal washery plant on the ground that it was forest land was examined. Court referred to its earlier order in ***T.N. Godavarman Thirumulpad vs. Union of India & Others (1997)2SCC267***, wherein Court had held, *"FC Act, 1980, must apply to all forests irrespective of the nature of ownership or classification thereof. The word 'forest' must be understood according to its dictionary meaning. This description covers all statutorily recognised forests, whether designated as reserved, protected or otherwise for the purpose of Section 2(i) of the FC Act. The term 'forest land' would also include any area recorded as forest in the Government record irrespective of the ownership."*

269. Before proceeding on merits, Court observed that if the person filing a PIL is found not to be a *bona-fide pro bono* litigant, Court has to decline its judicial scrutiny at the behest of that person. However, only in exceptional cases, it may proceed to examine the matter on merit. With regard to Deepak Agarwal, Court clearly recorded its findings that he is nothing but a name lender, application lacks bonafide and has a camouflage of PIL. Thereafter, Court examined issue on merits since it was with regard to forest land and found that land in dispute was not a forest land. Application was dismissed with cost of ₹ 1,11,000/- (Rupees One lakhs) awarded against Deepak Agarwal.

270. In ***T.N. Godavarman Thirumulpad vs. Union of India & Others, (2006)5SCC47*** (**Order dated 10.04.2006**), Court considered whether fish tanks constructed inside Kolleru Wildlife Sanctuary would be permissible or not. Central Empowered Committee had issued directions for

demolition of all fish tanks constructed inside Kolleru Wildlife Sanctuary which included Kolleru lake area extended over 901 sq. km. The lake is largest shallow freshwater lakes in Asia, located between delta of Krishna and Godavari rivers in State of Andhra Pradesh. It is serving as a natural flood, balancing reservoir for the two rivers. It receives water from 67 inflowing drains and channels. However, only 308 sq. km area was declared as wildlife sanctuary. On account of blockage of free flow of water into the lake caused by encroachers, resulting in submergence of delta facility in upstream area, order was issued by CEC for demolition of all fish tanks. Court observed that interest of fishermen for having traditional method of fishing was not obstructed but they were not allowed to raise any construction and also not using pesticides and chemicals for their traditional agriculture. In the circumstances, direction for removal of encroachment has not affected any right of the fishermen. When a bund is found in a sanctuary or a lake it seeks to encapsulate an area which in turn obstructs free flow of water to lake bed area, formation of bund reduces retention capacity of lake. This formation, if allowed, would destroy lake and all commercial activities would also destroy ecology which is prohibited under Section 29 of Wild Life (Protection) Act, 1972. Court further observed that oil cakes used as manure also pollute Sanctuary. It is true that there are other effluents which also pollute the lake hence, destruction of fish tanks is justified. Court also made it clear that use or transportation of inputs for pisciculture shall be stopped immediately.

271. In ***Karnataka Industrial Areas Development Board vs. C. Kenchappa and Others, (2006)6SCC371***, acquisition of agricultural land for industrial purposes was challenged on the ground of adverse impact on environment, depravation of villagers of their fertile

agricultural land etc. for setting up of an industrial establishment by Gee India Technology Centre Pvt. Ltd. Karnataka Industrial Areas Development Board sought to acquire land which was challenged in writ petition. The writ petition was allowed to the extent of acquisition of land which was reserved for grazing cattle, agricultural and residential purpose. High Court also directed that whenever there is an acquisition of land for industrial commercial or non –agricultural purpose, except of residential purposes, authorities must leave one kilometre area from the village limits as a free zone or green area to maintain ecological equilibrium. Consequently, acquiring body, i.e., Karnataka Industrial Areas Development Board came in appeal. Supreme Court examined in the light of several decades continuous degradation resulting in continuous depletion of environment and observed that the entire world is facing a serious problem of environmental degradation due to indiscriminate development. Industrialization, burning of fossil fuels and massive deforestation are leading to degradation of environment. Court said that if we carefully evaluate entire journey of judicial pilgrimage from the decade of 1960 till 2006, one would find that in the decade of 1960, hardly anyone expressed concern about ecology and environment. In the decade of I970, a serious concern about degradation of ecology and environment was articulated and it was realised that for a civilized world both development and ecology are essential. The concern was examined in detail later leading to the principle of sustainable development. Court allowed appeal and disposed the matter by issuing directions which included that *"in future,* ***before acquisition of lands for development, the consequence and adverse impact of development on environment must be properly comprehended*** *and the lands be*

acquired for development that they do not gravely impair the ecology and environment."

272. In ***Susetha vs. State of Tamil Nadu & Others (2006)6SCC543***, Court said that **natural water storage resources are not only required to be protected but also steps are required to be taken for restoring the same if it has fallen in disus**e. The same principle cannot be applied in relation to artificial tanks.

273. In ***T.N. Godavarman Thirumulpad (45) vs. Union of India & Others, (2007)15SCC288*** (**order dated 23.11.2001)** passed in (IA No. 295 and 664 in WP (C) No. 202 of 1995), one of the aspects considered by Court is use of money received by various Governments, for compensatory afforestation, from user agencies to whom permissions were granted for using forest land, for non-forest purposes. Court found that substantial amount released was not used by respective Governments. Hence Court directed MoEF&CC to formulate scheme placing responsibility upon the user agency to take steps for compensatory afforestation, from the amount it ought to have paid to the concerned State Government, and for this purpose, State Government must provide land either at the expanse of user agency or State Government, as decided by the concerned State Government. The scheme must ensure that afforestation takes place as per the permission granted, and there should be no shortfall in respect thereto.

274. In ***T.N. Godavarman Thirumulpad (39) vs. Union of India & Others, (2007)15SCC273*** (**order dated 22.09.2000)** passed in (IA No. 424 in WP (C) No. 202 of 1995), Court considered the issue of permission of felling of trees vis-a-vis regeneration. Court noticed, when permission for felling of trees, subject to regeneration is granted, felling of trees part

is executed but other part i.e., regeneration, used to remain unimplemented. Court observed that both activities must co-exist. There cannot be felling without regeneration because that will cover a period of time, and if not observed rigorously, may result in vanishing of forest. If there is shortfall with regard to regeneration, and felling continue, it would result in depletion of forest cover. The authorities responsible under law, must ensure that no further depletion of forest cover takes place, instead, targets for increase in forest cover are met. In other words, **regeneration should commensurate with the felling**. Further, regularization of encroachment in forest area will not be made unless conditions found necessary for regularization are first fulfilled/observed/complied. Court said that eligible conditions for permission to grant regularization of encroachments should be fulfillment beforehand of conditions under the guidelines specially in regard to compensatory afforestation.

275. In ***Research Foundation for Science Technology and Natural Resource Policy vs. Union of India & Others, 2007(15)SCC193*** (order dated 11.09.2007 in IA 34 of 2006 In WP (C) No. 657 of 1995), Court considered the issue, "*whether permission for dismantling of ship "Blue Lady" at Alang, Gujarat should be granted or not*". The ship, a passenger liner, built in France in 1961, was a steam turbine driven vessel, registered as a Barge under the flag of Bahamas. The ship was beached on 15.08.2006/16.08.2006, off the Alang coast which is located on the west coast of Gujarat. Alang is the largest ship recycling yard and one of the choicest ship-scrapping destination for ship owners around the world. Observing that ship breaking is an industry, Court said that **when apply principle of 'sustainable development', one has to keep in mind concept of development on one hand and concepts like generation of**

revenue, employment and public interest on the other hand and here the principle of proportionality comes in. Court examined report of Technical Experts Committee and said that suggestions made by the said Committee, must be observed. It will satisfy the concept of "balance". Permitting Ship breaking, Court also observed that recycling is a key element of sustainable development.

276. In ***State of Madhya Pradesh & Others vs. Madhukar Rao, (2008)14SCC624*** **(order dated 09.01.2008)** in (Civil Appeal Nos. 5196 to 5200 of 2001, SLPs (C) Nos. 2095 & 8024 of 2002 and Criminal Appeal No. 487 of 2006), the question for consideration was, "whether a vehicle or vessel etc., seized under Section 50(1)(c) of Wild Life (Protection) Act, 1972 (hereinafter referred to as 'Act 1972') will put beyond power of Magistrate to direct its release during pendency of trial, in exercise of powers under Section 451 of CrPC 1973. Court held that Section 50 and other provisions in Chapter VI of Act 1972 would not exclude application of any provision of CrPC. Section 51(4) expressly excludes application of Section 360 of CrPC and provisions of Probation of Offenders Act to persons eighteen years or above in age. But it does not mean that Section 50 of Act 1972 in itself or taken along with the other provisions under Chapter VI, constitutes a self-contained mechanism so as to exclude every other provision of the Code. Court, therefore, answered the question stating that Section 50 of Act 1972 and amendments made thereunder, do not in any affect magistrate power to make an order of interim release of the vehicle under Section 451 of CrPC.

277. In ***T.N. Godavarman Thirumulpad (57) vs. Union of India & Others, (2008)16SCC337*** (**order dated 29.10.2002**), question of encroachment of forest area and liability of compensation was examined.

There was some dispute with regard to boundary of forest but for this purpose, Court held that the map drawn by Survey of India must be accepted as it is a body under duty to prepare plan after carrying out surveys hence Survey Report of Survey of India, have to be accepted. Further, it held that all encroachers into forest land have to be evicted. Court said:

> "*if an area which falls within these said forests/forest land and cannot be encroached upon*".

278. Court also directed, that encroachers are liable to compensate for the losses caused due to encroachments, especially when land encroached upon has been utilized for commercial purposes. Taking a lenient view, Court observed that if encroachers voluntarily vacate by the prescribed date, they may not pay compensation but if they continue to remain in possession, they will have to pay Rs. 5 lakhs per hectare per month as compensation which shall be used for forest protection and reutilization. Court also imposed a ban upon mining activity in Aravalli hills specially in the parts which have been recorded as forest area or protected under EP Act, 1986. This order was subsequently modified by order dated 16.12.2002 (***(2008)16SCC401***) and permission/approval under Forest Conservation Act, 1989 and EP Act, 1986 was granted.

279. In ***Gujarat Pollution Control Board vs. Nicosulf Industries & Export Pvt. Ltd. & Others, (2009)2SCC171***, **(order dated 04.12.2008)** in (*Criminal Appeal No. 9 of 2002*), question was, "whether the complainant i.e., the officer of State PCB had authority to file complaint or not". Interpreting Section 49 of Water Act, 1974, Court said that it required State Board to file a complaint or to authorize any of its officers to file complaint. The authorization has to be by State Board. There is no difference between power to sanction a complaint or power to authorize

the complaint in as much as when a sanction to file a complaint is given in law, it amounts to authorize to file the complaint.

280. In ***U.P. Pollution Control Board vs. Dr. Bhupendra Kumar Modi & Another, (2009)2SCC147***, **(order dated 12.12.2008)** in (*Criminal Appeal No. 2019 of 2008*), order of High Court of Judicature at Allahabad, Lucknow Bench, quashing complaint, filed by State PCB under Section 44 of Water Act, 1974 was challenged. High Court quashed proceedings on the ground that there was no material on record to show that Dr. Bhupendra Kumar Modi, at the relevant time, was incharge and responsible to the company for conduct of its business. The only question considered by Court in Appeal, was, "whether the view taken by High Court is justified or not". Court did not find the view of High Court to be correct in view of the averments made in the complaint, read with Sections 25, 26, 44 and 47 of Water Act, 1974 and hence allowed Appeal and set aside the order. Before Supreme Court, an argument was raised that the proceedings commenced in 1985 and long time has passed but rejecting this, Court said that **lapse of long period cannot be a reason to absolve respondents from the trial, considering nature of the matter involving public health**. If it is ultimately proved that the act of accused has affected public health, Court cannot afford to deal lightly with cases involving pollution of air and water. It said,

> *"The message must go to all concerned persons whether small or big that the courts will share the parliamentary concern and legislative intent of the Act to check the escalating pollution level and restore the balance of our environment.* ***Those who discharge noxious polluting effluents into streams, rivers or any other water bodies which inflicts (sic harm) on the public health at large, should be dealt with strictly de hors to the technical objections****. Since escalating pollution level of our environment affects on the life and health of human beings as well as animals, the courts should not deal with the prosecution for offences under the pollution and environmental Acts in a causal or routine manner".*

281. In ***Fomento Resorts & Hotels & Another vs. Minguel Martins & Others, (2009)3SCC571*** **(order dated 20.01.2009)** in (*Civil Appeal No. 4154 of 2000*), a private company approached State Government for acquisition of land comprised in Survey nos. 788, 789, 803, 804, 806 and 807 of Village Taleigao, Dona Paula for construction of Beach Resort Hotel Complex by highlighting its benefits. Acted thereupon, acquisition proceedings were initiated. Acquisition proceeding were challenged but in the meantime hotel project was completed and commenced function. Goa Bench of Bombay High Court allowed writ petition and quashed acquisition notification by judgment dated 26.06.1984. The judgment was reversed in appeal by Supreme Court in ***Fomento Resorts and Hotels Ltd. vs. Gustavo Renato Da Cruz Pino, (1985)2SCC152*** and matter was remitted to High Court. Subsequently, parties compromised and writ petition was withdrawn from High Court. The hoteliers entered into an agreement with the Government. The hoteliers thereafter, applied for extension of hotel building and this issue was raised again in a writ petition filed in High Court which was allowed by observing that extension of hotel building was impermissible. The issue of acquisition was also raised. Supreme Court formulated it as issue one and answered in negative in para 35 of the judgment. Next question was, whether public access to beach, available through survey no. 803 before acquisition, could have been restricted by hoteliers. Court refers to public trust doctrine and said that there is an implicit embargo on the right of the State to transfer public properties to private party if such transfer affects public interest, mandates affirmative State action for effective management of natural resources and empowers the citizens to question ineffective management thereof. In para 54 of judgment, Court said,

> "*The* ***heart of the public trust doctrine is that it imposes limits and obligations upon government agencies*** *and their*

> *administrators on behalf of all the people and especially future generations. For example,* ***renewable and non-renewable resources, associated uses, ecological values or objects in which the public has a special interest (i.e. public lands, waters, etc.) are held subject to the duty of the State not to impair such resources, uses or values, even if private interests are involved.*** *The same obligations apply to managers of forests, monuments, parks, the public domain and other public assets*".

282. Elaborating it, in para 55, Court said,

> "***Public Trust Doctrine is a tool for exerting long-established public rights over short-term public rights and private gain****. Today, every person exercising his or her right to use the air, water, or land and associated natural ecosystems has the obligation to secure for the rest of us the right to live or otherwise use that same resource or property for the long term and enjoyment by future generations. To say it another way,* ***a landowner or lessee and a water right holder has an obligation to use such resources in a manner as not to impair or diminish the people's rights*** *and the people's long term interest in that property or resource, including down-slope lands, waters and resources*".

283. Referring to ancient Indian heritage and culture which was in harmony with nature, Court said:

> "*The Indian society has, since time immemorial, been conscious of the necessity of protecting environment and ecology. The main moto of social life has been "to live in harmony with nature". Sages and Saints of India lived in forests.* ***Their preachings contained in Vedas, Upanishadas, Smritis etc. are ample evidence of the society's respect for plants, trees, earth, sky, air, water and every form of life****. It was regarded as a sacred duty of every one to protect them. In those days, people worshipped trees, rivers and sea which were treated as belonging to all living creatures. The children were educated by their parents and grandparents about the necessity of keeping the environment clean and protecting earth, rivers, sea, forests, trees, flora fauna and every species of life*".

284. Court reiterated that natural resources including forest, water bodies, rivers, seashore etc. are held by State as a trustee on behalf of people and specially the future generations. These constitute common properties and people are entitled to uninterrupted use thereof. State cannot transfer public trust properties to a private party. If such a transfer interferes with the right of the public, Court can invoke public

trust doctrine and take affirmative action for protecting right of people to have access to light, air and water and also for protecting rivers, sea, tanks, trees, forests and associated natural eco-systems. The questions, were answered observing that access road cannot be obstructed. Court also upheld the view taken by High Court that extension of hotel building was illegal and, therefore, it has to be demolished.

285. In ***Nature Lovers Movement vs. State of Kerala & Others, (2009)5SCC373*** **(order dated 20.03.2009)** in (*Civil Appeal No. 2116 of 2000*), Section 2 of Forest (Conservation) Act, 1980 (hereinafter referred to as 'FC Act, 1980') *vis-a-vis* Kerala Forest Act, 1961 were under consideration. Court held that FC Act, 1980 enacted by virtue of list III Seventh Schedule and contains non obstante clause. Section 2, hence, has over-riding effect. The purpose of Act is conservation of forest and to prevent depletion thereof. The Act is applicable to all forests irrespective of the nature of ownership or classification thereof. After 25.10.1980 i.e., date of enforcement of FC Act, 1980, no State Government or other authority can pass an order or give a direction for de-reservation of reserved forest or any portion thereof or permit use of any forest land or any portion thereof for any non-forest purpose or grant any lease, etc. in respect of forest land to any private person or any authority, corporation, agency or organization which is not owned, managed or controlled by the Government. Further user of forest land for non-forest purpose prior to enforcement of FC Act, 1980 will not be a ground to explain tenure of such activity by way of renewal etc.

286. In ***M.C. Mehta vs. Union of India & Others, (2009)6SCC142*** (**Aravalli hills range mining matter**) (order dated 08.05.2009), Court said that the Aravalli is the most distinctive and ancient mountain chain

of Peninsular India, mark the site of one of the oldest geological formations in the world. Due to its geological location, desertification is stopped and it prevents expansion of desert into Delhi. However, Court noticed regular mining activates in violation of law particularly, environmental laws and norms. Since mining was banned by Supreme Court, applications were filed for modification and seeking permission. Disposing all applications, Court said that since statutory provisions have not been complied with, all mining operations in Aravalli hill range falling in State of Haryana within the area of approximately 448 sq. kms. in Districts of Faridabad and Gurgaon including Mewat shall remain stopped till Reclamation Plan duly certified by State of Haryana, MoEF and CEC is prepared with law.

287. In ***Tirupur Dyeing Factory Owners Association vs. Noyyal River Ayacutdars Protection Association and others, (2009)9SCC737*** (order dated 06.10.2009 in ***Civil Appeals No. 6776 of 2009 with 6777 of 2009***), Public Interest Litigation was filed by Noyyal River Ayacutdars Protection Association (hereinafter referred to as 'Association') seeking directions for preservation of ecology and for keeping Noyyal river in Tamil Nadu free from pollution. It was alleged that large number of industries working in Tirupur area had indulged in dyeing and bleaching works and discharging industrial effluents into river causing water pollution to the extent that river water was neither fit for irrigation nor potable. It had also affected Orthapalayam reservoir and other tanks and channels of Noyyal river. Court **directed to set up CETP** with zero liquid discharge trade effluents. Court also directed the industries association to pay an amount compensating damage to ecology for cleaning and desilting operations and for remediation. In Appeal, Supreme Court initially directed industries association to deposit Rs. 25 crores and while

deciding the matter finally, it observed that **there has been unabated pollution by members of industries association. They cannot escape responsibility to meet out the expenses of reversing the ecology**. They are bound to meet the expenses of removing the sludge of the river and also for cleaning the dam. The principles of "polluters-pay" and "precautionary principle" have to be read with the doctrine of "sustainable development". **It becomes the responsibility of the members of the appellant Association that they have to carry out their industrial activities without polluting the water**. Court also held that a number of farmers have suffered because of pollution caused by industries. Farmers could not cultivate any crop in the land and industries have to pay to the farmers also. Court also directed State PCB to ensure that no pollution is caused, giving strict adherence, to the statutory provisions.

288. In ***Tirupur Dyeing Factory Owners Association vs. Noyyal River Ayacutdars Protection Association & Others, (2009)9SCC737***, Court said:

> "*in spite of stringent conditions, degradation of environment continues and reaches a stage of no return, the court may consider the closure of industrial activities in areas where there is such a risk. The authorities also have to take into consideration the macro effect of wide scale land and environmental degradation caused by absence of remedial measures.The right to information and community participation for protection of environment and human health is also a right which flows from Article 21.*

289. In ***T.N. Godavarman Thirumulkpad v. Union of India & Others, (2006)13SCC689*** (order dated 17.10.2016) in (IAs No. 1156, 1192, 756, 1463, 1501 and 1532 in WP(C) No. 202/1995), a complaint was made that in Master Plan, 1962 certain area was earmarked/identified as green area but changing user to urban area under latter Master Plan, i.e., 2001, Delhi Development Authority (hereinafter referred to as 'DDA') has proposed development of International Hotels Complex on such land,

area 315 ha, situated in Vasant Kunj. Court constituted a Committee to examine environment impact assessment of the area and stopped constructions till submission and consideration of report by the said Committee. Latter stand was taken before Supreme Court that out of 315 ha only 220 ha would be used for commercial construction purposes. Committee submitted its report in which it observed that DDA has not exercised adequate environment precaution based on sustainable environmental management approach. It also pointed out that many proponents have raised constructions in a very environmentally unsound manner and DDA had permitted a higher FAR. As damage control by strict implementation of effective Environment Management Plan and resource conservation measures, Committee made certain suggestions/recommendations. Commenting upon the role of DDA, Court said that it ought to have acted with more transparency. Thereafter, Court directed MoEF&CC to consider the stand taken by all the parties concerned and take a decision in the light of the suggestions made by Committee. It also directed MoEF&CC to decide, what remedial measures including imposition of such amount as cost, can be taken.

290. In ***Research Foundation for Science vs. Union of India & Another, (2007)8SCC583,*** (order dated 06.09.2007) in (WP(C) No. 657/1995 with SLP(C) No. 16175/1997, Civil Appeal No. 7660/1997), Court in the matter of ship breaking, examined report of High Powered Committee and noticing the same in para 9 of the order, directed Government of India to formulate a comprehensive code incorporating recommendations and to make the same operative until concerned statues are amended in line with the recommendations. Court also said that till such statutes are enacted, the recommendations shall be operative by virtue of its (Supreme Court) order, aforesaid.

291. In ***Parthiban Blue Metal & Others vs. Member Secretary, Tamil Nadu Pollution Control Board & Others, (2007)13SCC197,*** (order dated 01.02.2007) in (Civil Appeal No. 411/2007) issue of distance of stone crushers from residential area was considered. Various stone crusher units were operating in village Trisoolam, Kanjipuram district, Tamil Nadu prior to 1974. After enactment of Water Act, 1974 and Air Act, 1981, unit operators applied for consent but relying on Rule 36(1) of Tamil Nadu Minor Mineral Concession Rules, 1959, as amended, prohibiting quarrying within a radial distance of 500 metres from inhabited site, State PCB issued notices requiring proponents to shift to alternative sites. Writ Petitions were filed in Madras High court stating that units were operating since 1972 and at that time area was non-urban zone. Writ Petitions were dismissed and, then came to Supreme Court. In the matter of distance, Court did not interfere and said that since there is some dispute about the actual distance, the same be examined and for this purpose remanded the case to High Court.

292. In ***Suresh Estates Private Limited & Others vs. Municipal Corporation of Greater Mumbai & Others, (2007)14SCC439*** (order dated 14.12.2007) in (Civil Appeal No. 5948/2007), a three judges' bench, besides others, also considered the question, "*whether Coastal Regulation Zone (hereinafter referred to as, 'CRZ') will prevail over the provincial municipal laws or vice versa"*. The Notification dated 09.02.1991 issued under Sections 3(1) and 3(2)(v) of EP Act, 1986, declaring coastal stretches as CRZ and making regulations for regulating activates in such zone was considered. Court held that the word 'existing regulations' means those which were enforced on the date when CRZ Notification came into force, i.e., 19.02.1991. CRZ Notification referred to the structures which were in existence on the date of Notification and did not

talk of future provisions. After enforcement of CRZ Regulations, building activity permitted under that notification only shall be applicable and any future variation would not have any impact. Court said that in view of Section 3 of EP Act, 1986, any order/notification issued thereunder shall prevail over provisions of any other law which will also include MRTP Act, 1966 and Municipal laws.

293. In ***T.N. Godavarman Thirumulpad (104) vs. Union of India & Others, (2008)2SCC222***, (order dated 23.11.2007) in (IAs No. 1324, 1474 and 2081-82 in WP(C) No. 202/1995), an application was filed on behalf of M/s. Vedanta Alumina Ltd. seeking clearance for use of 723.343 ha of land including 58.943 ha of reserve forest land in Lanjigarh Tehsil of Kalahandi District for setting up alumina refinery. Court proposed certain conditions which if agreeable, it would consider grant of clearance but in the context of principle of sustainable development *vis-a-vis* mining activities, Court said: *"while applying principle of sustainable development one must bear in mind that* ***development which meets the needs of the present without compromising the ability of future generations to meet their own needs is sustainable development****--it is the duty of the State under our Constitution to devise and implement a coherent and coordinated programme to meet its obligation of sustainable development based on inter-generational equity."* Court further said that *"mining is an important revenue-generating industry"* but Court cannot allow country's national assets to be placed into the hands of companies without a proper mechanism in place and without ascertaining credibility of the user agency.

294. In ***A. Chowgule and Company Limited vs. Goa Foundation India & Others, (2008)12SCC646***, (order dated 18.08.2008) in (Civil

Appeal No. 5180/2001), issue of "prior approval", in the context of FC Act, 1980 read with Forest (Conservation) Rules, 1981, was considered. M/s. A. Chowgule & Co. Ltd. (hereinafter referred to as, 'proponent') was engaged in mining, processing and export iron ore. Certain land was allotted to the proponent for establishment of 100% export-oriented unit in Sanguem Taluka in South Goa district. No Objection Certificate was issued by State PCB on 15.04.1991. The allotted land included some part which was claimed to be forest land but for permitting non-forest activities in forest land, no prior approval was obtained from MoEF&CC. A Writ Petition was filed in Goa bench of Bombay High Court wherein lease agreement dated 01.11.1989 was quashed. For holding what forest is, reliance was placed on Supreme Court judgment in ***T.N. Godavarman Thirumulkpad vs. Union of India, (1997)2SCC267***. Court examined Section 2 of FC Act, 1980 and Rules framed thereunder and said that under the provisions, "prior approval" is required for diversion of any forest land and its use for some other purpose. It also said that before promulgation of Act, a lease may be granted as per the then law but for renewal the provisions of subsequent enactment would have to be followed. Referring and relying on earlier decisions in ***Ambica Quarry Works vs. State of Gujarat, (1987)1SCC213***; ***Rural Litigation and Entitlement Kendra vs. State of U.P. (Supra)***; ***T.N. Godavarman Thirumulkpad vs. Union of India, (1997)2SCC267*** and ***M.C. Mehta vs. Union of India, (2004)12SCC118***, Court held *"after the coming into force of the Act, the renewal of a pre-existing mining lease in a forest area can be granted only if the requirements of Section 2 are satisfied."* Considering the arguments that proponent was willing to reforest in identical area if the lease is allowed to be effectuated, Court examined as to what is implied by the term 'afforestation' or 're-forestation'. It is said

"is it merely the replacement of one tree with another or does it imply something a little more complex? "Reforestation is the restocking of existing forests and woodlands which have been depleted, with native tree stock, whereas afforestation is the process of restoring and recreating areas of woodlands or forest that once existed but were deforested or otherwise removed or destroyed at some point in the past"."

295. Court also noticed its experience that re-forestation or afforestation carried out in India does not meet the fundamentals and planting of new trees to match the numbers removed is too simplistic and archaic a solution, as in the guise of compensatory replantation, local varieties of trees are being replaced by alien and non-indigenous but fast-growing varieties such as poplar and eucalyptus which make up the numbers but cannot satisfy the needs of our environmental system. Court cautioned that one must borne in mind that both re-forestation and afforestation envisage a resurrection and re-plantation of trees and other flora similar to those which have been removed and which are suitable to the area in question. Court further elaborated its experience in the light of disappearance of different kinds of birds due to cutting of large scale of trees for widening of roads. In paragraphs 25 and 26 of the judgment, Court said:

> *"25. There is yet another circumstance which is even more disturbing inasmuch as the removal of existing forest or trees suited to the local environment have destroyed the eco system dependent on them. This is evident from the huge depletion of wild life on account of the disturbance of the habitat arising out of the destruction of the existing forest cover. A small but significant example is the destruction of plantations alongside the arterial roads in India. 30 years ago, all arterial roads had huge peripheral forest cover which not only provided shade and shelter to the traveller but were a haven to a large variety and number of birds and other wild life peculiar to that area. With the removal of these plantations to widen the roads to meet the ever growing needs of the traffic, and their replacement by trees of non-indigenous varieties, (which are often not eco or bird friendly) in the restricted and remaining areas bordering the widened roads,* ***the shelter for birds has been***

> ***destroyed*** *and where thousands of birds once nested and bred, there has been a virtual annihilation of the bird life as well.*
>
> *26. Those who live in North India would do well to remember that a drive along the Grand Trunk Road, National Highway No.1, northwards of Delhi, particularly during the hours of dawn or dusk, was as if through an aviary with thousands of birds representing a myriad of species with their distinctive calls reaching a crescendo during early evening and gradually fading into silence as darkness set in. Sadly, all that can now be seen are crows feeding on the decaying and mutilated carcasses of dogs and other animals killed by speeding vehicles. Equally disturbing is the decrease in the reptilian population as the undergrowth in which it lived and prospered has been destroyed, and with the concomitant increase in the rodent population, colossal losses and damage to the farmer and in the storage of food grains."*

296. The widening of roads has destroyed shelter for birds where thousands of birds used to nest and bred and it has resulted in virtual annihilation of the bird life as well. Court, therefore, dismissed appeal of the proponent and said that any subsequent approval will not make good the violation of environmental laws, already committed.

297. In ***News Item Published in Hindustan Times Titled "And Quiet Flows The Maily Yamuna", In Re, (2009)17SCC708*** (order dated 12.04.2005), Supreme Court continued to consider the issue of pollution of river Yamuna, deprecated authorities for their inaction/negligence and said,

> *"**It is for the Government to implement the laws**. It is no answer to say that the master plan, building bye-laws and other laws were observed in breach and the authorities were silent spectators. It seems that there was connivance of officers/officials concerned without which it is quite difficult for such large-scale unauthorized acts to take place".*

298. In para 13 of the order, Court referred to its earlier order dated 10.04.2001 wherein it has said:

> *"...right to life guaranteed under Article 21 of the Constitution would surely include the right to clean water, which is being deprived to millions of citizens of Delhi because of large-scale pollution of River Yamuna".*

299. Court recorded its concern in para 16 of the order, and said:

> *"This is a most unsatisfactory way of tackling the problem which, admittedly as per the Government's perception too, is alarming and emergent. How seriously the measures have been taken is evident from the fact that* ***despite the orders of this Court, there is no assistance or affidavit from the National Rover Conservation Authority. It seems evident that the Government and its functionaries and authorities have failed in their public duty*** *and obligations towards the citizens of Delhi. Despite all these years, they have not been able to provide clean water of Class 'C' category which had been directed years back".*

300. In ***News Item Published in Hindustan Times Titled "And Quiet Flows The Maily Yamuna", In Re, (2009)17SCC545*** (order dated 14.02.2006), Court noticed attempt of the authorities in placing alleged scheme for improvement of water quality, without any clarity, and in para 5 said:

> *"We do not know what are the so-called innovative and convenient ways of which suggestion is given in the affidavit. The* ***authorities have to be clear in their perception*** *and palm of action lest the huge amounts incurred with a view to improve the water quality go down the drain.* ***After clearly laying down the plan of action in consultation with all concerned, there has to be meticulous implementation, then alone some progress can be made in improving the quality of water****."*

301. Further in para 7, Court said, since State/authorities are not in a position to make available the basic services on the pretext of server limitation, there shall be no regularization of unauthorized colonies. Court clarified that regularization should be made only if it is possible for the respondents to make available the basic services.

302. In ***State of Uttaranchal vs. Balwant Singh Chaufal and others, (2010)3SCC402***, Court had a retrospect of the matters filed as Public Interest Litigation and examined its evolution in the backdrop where appointment of L.P. Naithani, Senior Advocate as Advocate General was challenged in a Public Interest Litigation on the ground that he was above 62 years, hence ineligible, though it was already settled in catena

of decisions that the age of superannuation prescribed for High Court Judges was not applicable to office of Advocate General. In para 23, Court said that Public Interest Litigation in question was an abuse of the process, and High Court should not have heard and entertained such petitions since controversy was decided as long back as in 1952 in ***G.D. Karkare vs. T.L. Shevde, AIR1952Nag330***. While going through evolution of Public Interest Litigation, Court said that the origin and development of PIL can broadly be placed in three phases:

> *"*
>
> - *Phase I.- It deals with cases of this Court where directions and orders were passed primarily to protect fundamental rights under Article 21 of the marginalized groups and sections of the society who because of extreme poverty, illiteracy and ignorance cannot approach this Court or the High Courts.*
> - ***Phase II.-** It deals with the **cases relating to protection, preservation of ecology, environment, forests, marine life, wildlife, mountains, rivers, historical monuments, etc.***
> - *Phase III.- It deals with the directions issued by the Courts in maintaining the probity, transparency and integrity in governance."*

303. Phase II deals with the public interest litigations entertained for issuing directions to preserve and protect ecology and environment and Court referred to some leading cases in paras 76 to 95.

304. In ***M. Nizamudeen vs. Chemplast Sanmar Limited and Others, (2010)4SCC240***, issue of transfer of hazardous substances from ships to ports in CRZ area in the light of the provisions of CRZ Notification dated 19.02.1991 as amended from time to time was considered. One M/s. Chemplast Sanmar Limited (in short 'Chemplast') sought to establish a unit for manufacturing Poly-Vinyl Chloride (in short 'PVC') at Semmankuppam village, SIPCOT Industrial Complex, Phase-II, Cuddalore District, Tamil Nadu. EC was granted by MoEF on 28.11.2005 subject to certain conditions. For manufacturing PVC one of the raw materials was Vinyl Chloride Monomer (in short 'VCM') which was not available

indigenously and had to be imported from international suppliers. Proponent proposed to install Marine Terminal Facility near the seashore at Chitrapettai Village for receiving and transferring VCM from ships to PVC plant through underground pipeline. This proposal was recommended in favour of proponent by District Coastal Zone Management Committee and considered by Tamil Nadu State Coastal Zone Management Authority (TNSCZMA) recommending to State Government to forward proposal to MoEF for issue of CRZ clearance. Government of Tamil Nadu vide letter dated 09.11.2005 informed National Coastal Zone Management Authority its acceptance of the recommendation made by the TNSCZMA and ultimately MoEF also granted EC on 19.12.2005. Consent under Water Act, 1974 was granted by State PCB on 14.09.2006. Thereafter, proponent made an application dated 06.02.2008 to Executive Engineer, PWD seeking permission for carrying seawater and raw-materials through pipelines laid 3.50 meter below the river bed. Initially, permission was granted by Executive Engineer on 27.02.2008 but within less than a month on 19.03.2008, the said permission was cancelled by Executive engineer on the ground that VCM may cause pollution and health hazard to the public. This order of cancellation was challenged by proponent in High court. Writ Petition was allowed on 18.07.2008 setting aside order cancelling permission dated 19.03.2008. Thereafter, one Shri M. Nizamudeen filed a PIL in Madras High Court challenging order dated 27.02.2008 granting permission by Executive Engineer. He did not challenge EC granted by MoEF on 28.05.2005 and 19.12.2005. High Court dismissed writ petition of Shri M. Nizamudeen vide judgment dated 31.10.2008 and thereafter, appeal came up before Supreme Court. The first question raised before Supreme Court was, whether river Uppanar and its drain at the point where

pipeline pass, fall in CRZ tree area and secondly if the first question is answered in affirmative whether pipeline crossing underneath Uppanar would require EC. Another incidental question was whether para 2(ii) of CRZ Notification, 1991 restricts transfer of VCM (hazardous substance) beyond port area to PVC plant through pipelines. Examining CRZ Notification, 1991 along with its amendments dated 29.12.1998 and 21.05.2002, Court observed that the provisions have to be read so as to render them workable and not ineffective, inoperative or redundant. Hence, explaining the expression "in the port areas", court said that it should be read as "in or through the port areas" so that the basic purpose is served effectively and in a workable manner. Court said that there cannot be an intention that hazardous substance though maybe brought into refinery or terminal in the port area from the ship but would remain there and cannot be taken beyond the port area because of the prohibition so as to frustrate the purpose for which the same were brought in.

305. In ***Goan Real Estate & Construction Ltd. & Anr. vs. Union of India, (2010)5SCC388***, writ petition under Article 32 was filed before Supreme Court with a prayer that building plans, sanctions and constructions made and on-going constructions pursuant to CRZ Notification dated 19.02.1991 as amended by notification dated 16.08.1994 are dwelled. Under Notification of 1991, area upto 100 meters from High Tide Line was earmarked as 'No Development Zone' and no construction was permissible within this zone except repairs etc. Vide notification dated 16.08.1994 an amendment was brought in relaxing no development zone from 50 meters to 100 meters pursuant whereto, some people applied for raising construction between 50 meters to 100 meters for which the concerned authorities granted permission and, in some

matters, construction started, and in some cases, it was already completed. Earlier in ***Indian Council for Enviro-Legal Action vs. Union of India, (1996)5SCC281*** a complaint that CRZ Notification 1991 was not being followed by the authorities themselves causing continuous degradation of ecology was made. In that writ petition, Goa Foundation Society filed an application challenging vires of notification dated 16.08.1994 by which notification dated 19.02.1991 was amended. The writ petition in ***Indian Council for Enviro-Legal Action (supra)*** was partly allowed and two amendments introduced by Notification dated 16.08.1994 were strike down. Reduction from 100 meters to 50 meters was not found to be rational and valid and held contrary to the object of EP Act, 1986. The authorities started action in respect of on-going project, in the light of Supreme Court judgment striking down amendment made by Notification dated 16.08.1994 and that is how matter came again before Supreme Court in ***Goan Real Estate and Contraction Limited (supra)***. The question for consideration was whether construction made or on-going pursuant to the plan sanctioned on the basis of Notification dated 16.08.1994 would be affected or not. The question was answered holding that judgment dated 18.04.1996 rendered in ***Indian Council for Enviro-Legal Action (supra)*** will not affect on-going constructions or completed constructions pursuant to plan sanctioned under Notification dated 16.08.1994 till two clauses of the same were set aside by Supreme Court and the said judgment will not affect the completed or the on-going constructions being undertaken pursuant to the amended Notification.

306. In ***James Joseph vs. State of Kerala, (2010)9SCC642***, Section 12-A(1) of Kerala Forest Act, 1961 was considered which provided second appeal. An argument was raised that second appeal would be available

only if there is a substantial question of law like Section 100 CPC and not otherwise. The said argument was rejected observing that an appeal is governed by statute and the Appellant authority can examine correctness of the order appealed on the point of law or fact, both, unless there is any specific requirement provided in the provision providing second appeal.

307. In ***Sansar Chand vs. State of Rajasthan, (2010)10SCC604***, while hearing criminal appeal wherein appellant has challenged his conviction under Wild Life Protection Act, 1972 (WLP Act 1972) on the charges of poaching etc., Court observed that preservation of wild life is important for maintaining ecological balance in the environment and sustaining ecological chain. Directions were issued to Governments and State authorities to ensure preservation of wild life and take stringent action against those who are violating the provisions of WLP Act, 1972.

308. In ***People for Ethhical Treatment of Animals vs. Central Zoo Authority and Others***, W.P. No. 195/2006 was filed in Supreme Court under Article 32 raising the issue of cruelty on animals in unrecognized/derecognized Zoos/Circuses/Rescue Centres etc. On 09.10.2006, Court directed that no zoo shall permit any breeding of animals beyond the numbers specified by Central Zoo Authority in its directive dated 07.02.1995, besides other directions. Ultimately, after noticing the progress resulting in closure of unrecognized/derecognized Zoos/Circuses/Rescue Centres etc., issue of guidelines, framing of rules etc., Court found that the purpose of writ petition has been achieved and disposed the matters vide order dated 10.02.2009 reported in ***(2010)14SCC733***.

309. In ***Re: Construction of Park at Noida near Okhla Bird Sanctuary vs. Union of India and Others, (2011)1SCC744***,

environmental issues arising from development of five parks at Sector 95 at NOIDA by State Government and NOIDA were considered. The project was opposed by applicants who brought the matter in Supreme Court in pending ***W.P. No. 202/1995, T.N. Godavarman Thirumulpad vs. Union of India & Others***, by means of IAs, on the ground that large number of trees were cut down for clearing ground in an area which was 'forest' in terms of judgment in ***T.N. Godavarman Thirumulpad (supra)***, in violation of FC Act, 1980 and EP Act, 1986. Project on its western side lies in very proximity to Okhla Bird Sanctuary which included a large water body and is home to about 302 species of birds. Sanctuary was so declared by Notification dated 08.05.1990 issued under Section 80 of WLP Act, 1972. The stand taken by State Government was that project area does not have naturally grown trees but planted trees; area has neither been notified as "forest" nor recorded as "forest" in Government record and not identified as deemed forest. Court accepted stand of the State and held that project site is not forest land hence does not contravene Section 2 of FC Act, 1980. With regard to application of EIA 2006 to the said project, Court examined provisions of EIA 2006, and said that entries 8(a) and 8(b) of Schedule talk of "building and construction project" and "townships and area development project". Since two kinds of projects are treated separate and differently, it would mean that an 'area development project' though may involve a good deal of construction, would not be a 'building and construction project'. Court also considered the argument that in Category 8(a), there is no mention of the construction activities of more than 1,50,000 sq.m. and, therefore, necessarily, it would be covered by Category 8(b) and said in para 64, 65, 66 and 67, as under:

> *"64. The amicus, also arguing in the same vein, submitted that as far as building and construction projects are concerned there was no*

*qualitative difference in Items 8(a) and 8(b) of the schedule to the notification**. A combined reading of the two clauses of Item 8 of the schedule would show the continuity in the two provisions; 1,50,000 sq m of built-up area that was the upper limit in Item 8(a) was the threshold marker in Item 8(b). This clearly meant that building and construction projects with built-up area/activity area between 20,000 sq m to 1,50,000 sq m would fall in Category 8(a) and projects with built-up area of 1,50,000 sq m or more would fall in Category 8(b)**. The amicus further submitted that though it was not expressly stated, the expression "built-up area" in Item 8(b) must get the same meaning as in Item 8(a), that is to say, if the construction had facilities open to sky the whole of the "activity area" must be deemed to constitute the "built-up area".*

*65. It is extremely difficult to accept the contention that the contention that the categorisation under Items 8(a) and 8(b) has no bearing on the nature and character of the project and is based purely on the built-up area. **A building and construction project is nothing but addition of structures over the land. A township project is the development of a new area for residential, commercial or industrial use. A township project is different both quantitatively and qualitatively from a mere building and construction project**. Further, an area development project may be connected with the township development project and may be its first stage when grounds are cleared, roads and pathways are laid out and provisions are made for drainage, sewage, electricity and telephone lines and the whole range of other civic infrastructure. Or an area development project may be completely independent of any township development project as in case of creating an artificial lake, or an urban forest or setting up a zoological or botanical park or a recreational, amusement or a theme park.*

*66. **The illustration given by Mr Bhushan may be correct to an extent. Constructions with built-up area in excess of 1,50,000 would be huge by any standard and in that case the project by virtue of sheer magnitude would quality as township development project. To that limited extent there may be a quantitative correlation between Items 8(a) and 8(b).** But it must be realised that the converse of the illustration given by Mr Bhushan may not be true. For example, a project which is by its nature and character an "area development project" would not become a "building and construction project" simply because it falls short of the threshold mark under Item 8(b) but comes within the area specified in Item 8(a). **The essential difference between items 8(a) and 8(b) lies not only in the different magnitudes but in the difference in the nature and character of the projects enumerated thereunder.***

*67. In light of the above discussion it is difficult to see the project in question as a "building and construction project". Applying the test of "**dominant purpose or dominant nature"** of the project or the "**common parlance" test** i.e. how a common person using it and enjoying its facilities would view it, the project can only be categorised under Item 8(b) of the schedule as a township and area*

development project". But under that category it does not come up to the threshold marker inasmuch as the total area of the project (33.43 ha) is less than 50 ha and its built-up area even if the hard landscaped area and the covered areas are put together comes 1,05,544.49 sq m i.e. much below the threshold marker of 1,50,000 sq m. The inescapable conclusion, therefore, is that the project does not fall within the ambit of the EIA Notification S.O. 1533(E) dated 14-9-2006. This is not to say that this is the ideal or a very happy outcome but that is how the notification is framed and taking any other view would be doing gross violence to the scheme of the notification."

310. On the question of project being within 10 kms of Okhla Bird Sanctuary, it was noticed that Sanctuary is hardly at a distance of 50 meters but unfortunately, neither there was any notification declaring eco-sensitive zone nor Central or State Government have notified buffer zones around Sanctuaries and National Parks to protect sensitive and delicate ecological balance required for the Sanctuaries. However, Court said that absence of statute will not preclude Court from examining project's effects on the environment with particular reference to Okhla Bird Sanctuary. **As per jurisprudence developed by Court, environment is not merely a statutory issue but is one of the facets of the Right to Life guaranteed under Article 21 of Constitution. Environment, therefore, is a matter directly under Constitution** and **if Court perceives any project or activity as harmful or injurious to environment, it would feel obliged to step in**. Consequently, Court issued certain directions for maintaining soft/green landscaping and thick cover of trees of native variety on the side of bird sanctuary.

311. Court also noticed anomaly in EIA 2006 Items 8(a) and 8(b) and in para 84 said:

*"84. .... **The EIA Notification dated 14-9-2006 urgently calls for a close second look by the authorities concerned. The projects/activities under Items 8(a) and 8(b) of the schedule to the notification need to be described with greater precision and clarity and the definition of built-up area with facilities open to the sky needs to be freed from its present ambiguity***

> ***and vagueness.*** *The question of application of the general condition to the projects/activities listed in the schedule also needs to be put beyond any debate or dispute. We would also like to point out that the environmental impact studies in this case were not conducted either by the MoEF or any organisation under it or even by any agencies appointed by it.* ***All the three studies*** *that were finally placed before the Expert Appraisal Committee and which this Court has also taken into consideration,* ***were made at the behest of the project proponents and by agencies of their choice. This Court would have been more comfortable if the environment impact studies were made by the MoEF or by any organisation under it or at least by agencies appointed and recommended by it***."

312. In ***Krishnadevi Malchand Kamathia and Others vs. Bombay Environmental Action Group and Others, (2011)3SCC363***, the matter was taken up in I.A. in contempt. Original proceedings in Civil Appeal No. 4421 of 2010 were decided vide judgment dated 07.05.2010. It was brought to the notice of Court that appellant has damaged mangroves in the garb of repair of bund and violated Court's order. Observing that justice is only blind or blindfolded to the extent necessary to hold its scales evenly, and it is not, and must never be allowed, to become blind to the reality of the situation, lamentable though that situation may be, Court held appellant guilty of contempt and issued directions for restoration of bund by removing all debris/bricks, etc. and restore situation as it existed earlier so as to facilitate natural flow of sea water into land.

313. In ***K. Balakrishnan Nambiar vs. State of Karnataka and Others*****,** (***2011)5SCC353***, a question arose '*whether areca nut cultivation can be treated to be a forest activity or not*'. On behalf of appellant, the argument was that areca nut cultivation cannot be treated as a non-forest activity since it does not involve cutting of trees. Rejecting the same, Court dismissed appeal. Reference was made to judgment in ***T.N. Godavarman Thirumulpad vs Union of India & Others, (1997)2SCC267***, where direction was issued to all State Governments to

ensure that all on-going non-forest activities within any forest, without prior approval of Central Government, must seize forthwith. Court also emphasized that every State Government must ensure total cessation of all non-forest activities forthwith.

314. In ***State of Karnataka and Others vs. Janthakal Enterprises and Another, (2011)6SCC695***, continued mining by scrupulous mining lease holders, who got order from High Court, was deprecated and Court said:

> *"The Courts should share the legislative concern to conserve the forest and mineral wealth of the country.* ***Court should be vigilant in issuing final or interim orders in forest/mining/environment matters so that unscrupulous operators do not abuse the process of courts to indulge in large-scale violations or rob the country of its mineral wealth or secure orders by misrepresentation to circumvent the procedural safeguards under the relevant statutes****.....A wrong decision in such matters may lead to disastrous results-in regard to public interest-financially and ecologically. Therefore, writ petitions involving mineral wealth/forest conservation or environmental protection should not be disposed of without giving due opportunity to the departments concerned to verify the facts and file their counter affidavits/objections in writing.*

315. The effect of mining on environment in the context of National Forest Policy, 1988 was considered in ***Lafarge Umiam Mining Private Limited vs. Union of India, (2011)7SCC338***. The company, M/s. Lafarge Surma Cement Ltd. (hereinafter referred to as 'LSCL') was incorporated under the laws of Bangladesh. It had set up a cross-border cement manufacturing project at Chhatak in Bangladesh which *inter-alia* has a captive limestone mine of 100 hectares located at Phlangkaruh, Nongtrai, East Khasi Hills District in State of Meghalaya. Mine was leased out in favour of Lafarge Umium Mining (P) Ltd. (hereinafter referred to as 'LUMPL'), which was a company incorporated under Companies Act, 1956 and wholly owned subsidiary of LSCL. Entire produce of mine was used for production of cement at manufacturing plant at Chhatak under

agreement/arrangement between Governments of India and Bangladesh. There was no other source of limestone available for LSCL except for captive limestone mine situated at Nongtrai. LUMPL conveyed limestone extracted from mines situated at Nongtrai after crushing in a crusher plant to LSCS plant in Bangladesh. LUMPL submitted an application on 01.09.1997 for grant of EC under EIA 1994 for limestone mining project at Nongtrai. The application was returned by MoEF with the direction to seek site clearance as well as project clearance as per amendment made in EIA 1994. Application for site clearance was submitted on 23.09.1998, which was allowed by MoEF vide letter dated 18.06.1999. Thereafter, application was submitted on 17.04.2000 for grant of EC under EIA 1994 for excavation of 2 million tonnes per annum of limestone and transportation thereof to Chhatak in Bangladesh through a conveyor belt. The mining area of 100 hectares was declared as 'barren' land. Divisional Forest Officer issued a certificate on 13.06.2000 certifying that mining site was not forest area nor did it fall under any notified reserved or protected forest. Ultimately, EIA clearance was given by MoEF on 09.08.2001. Chief Conservator of Forest, however, vide letter dated 01.06.2006 informed MoEF that mining area included thick natural vegetation cover with sizable number of tall trees and permission under FC Act, 1980 was necessary, which was not obtained. Project Proponent applied for NOC from Forest Department. On the ground that the area included forest and there was violation of FC Act, 1980, Chief Conservator of Forest requested Government of Meghalaya to stop further mining etc. MoEF consequently issued order dated 30.04.2007 for complete closure of all on-going non-forest activities by Lafarge. This prompted Lafarge to move to Supreme Court by filing I.A No. 1868 of 2007 in ***Lafarge Umiam Mining Private Limited, T.N. Godavarman***

Thirumulpad vs. Union of India and others, (2011)7SCC338 seeking a direction to MoEF to expeditiously process its application under Section 2 of FC Act, 1980. Vide order dated 05.02.2010 (reported in ***T.N Godavarman Thirumulpad vs. Union of India, (2010)12SCC376)*** Court directed proponent to stop all mining activities. MoEF granted EC on 19.04.2010 with certain additional conditions and forest clearance was issued on 22.04.2010. State Government recommended diversion of 116.589 hectare of forest land for limestone mining in favour of project proponent vide letter dated 16.07.2007 which was examined by Expert Appraisal Committee and ultimately, Government of Meghalaya vide letter dated 12.07.2010 made recommendation for grant of formal approval under Section 2 of FC Act, 1980. Answering the issues relating to nature of land and validity of ex-post facto clearance, Court said that universal human dependence on use of environmental resources for the most basic needs render it impossible to refrain from altering the environment. As a natural corollary, environmental conflicts are ineradicable and environmental protection is always a matter of degree, inescapably requiring choices as to the appropriate level of environment protection and the risk which are to be regulated. This aspect is recognized by the concept of 'sustainable development'. Court held it valid on the ground that record show that it was not granted without due consideration and hence it is not vitiated for non-application of mind. Court also held that ex-post facto clearance is based on revised EIA 1994, EIA 2006 has no application. It also observed in para 119 that facts of the case justify application of constitutional 'doctrine of proportionality' to the matters concerning environment as a part of process of judicial review in contradistinction to merit review. In this regard, Court said,

> *"It cannot be gainsaid that utilisation of the environment and its natural resources has to be in a way that is consistent with*

> *principles of sustainable development and intergenerational equity, but balancing of these equities may entail policy choices. In the circumstances, barring exceptions, decisions relating to utilisation of natural resources have to be tested on the anvil of the well-recognised principles of judicial review.* ***Have all the relevant factors been taken into account? Have any extraneous factors influenced the decision? Is the decision strictly in accordance with the legislative policy underlying the law (if any) that governs the field? Is the decision consistent with the principles of sustainable development in the sense that has the decision-maker taken into account the said principle and, on the basis of relevant considerations, arrived at a balanced decision?*** *Thus, the Court should review the decision-making process to ensure that the decision of MoEF is fair and fully informed, based on the correct principles, and free from any bias or restraint. Once this is ensured, then the doctrine of "margin of appreciation" in favour of the decision-maker would come into play."*

316. Further, directions were issued by Supreme Court for future cases. In para 122, Court said that National Forest Policy, 1988 which lays down far-reaching principles, must necessarily govern grant of permissions under Section 2 of FC Act, 1980 as the same provides road map to ecological protection and improvement under EP Act, 1986. Court further said, "*The* ***principles/guidelines mentioned in the National Forest Policy, 1988 should be read as part of the provisions of the Environment (Protection) Act, 1986 read together with the Forest (Conservation) Act****, 1980*". Court also directed Central Government to appoint an appropriate authority in the form of Regulator at State and Central level, for ensuring implementation of National Forest Policy, 1988. Several other guidelines in respect of clearance for non-forest activities in forest area and grant of EC where forest land is involved, were issued in para 122 and 123 of the judgment.

317. In ***Indian Council for Enviro-Legal Action vs. Union of India and Others (2011)8SCC161***, Court examined issue of environmental compensation as also compensation to the individual victims on account of industrial activities carried out by M/s. Hindustan Agro Chemicals

Ltd., Rajasthan Multi Fertilisers, Phosphate India, Jyoti Chemicals and Silver Chemicals. It was an off-shoot of earlier proceedings initiated by same complainant namely; Indian Council for Enviro-Legal Action, where the matter was decide vide judgment dated 13.02.1996, reported in ***(1996)3SCC212***. W.P.(C) No. 967 of 1989 was filed complaining that certain chemical industries were indulged in industrial activities in utter violation of statutory conditions and environment norms; they are recklessly spreading hazardous industrial waste (iron sludge and gypsum sludge) all over the area and do not bother to ensure proper disposal; Toxic substances percolated into earth polluting soil, aquifers and subterranean water supply and also causing ailments and diseases to local villagers. During pendency of Writ Petition, Rajasthan State PCB directed closure of certain industries by issuing an order under Section 33 (A) of Water Act, 1974. This order was also challenged before Supreme Court in W.P.(C) No. 76 of 1994, wherein, an interim order was passed, permitting industry to continue to run with certain conditions. Another W.P.(C) No. 824 of 1993. filed by M/s. Hindustan Agro Chemicals also came up for disposal along with W.P.(C) Nos. 967 of 1989 and 76 of 1994 and decided by judgment dated 13.02.1996 reported in ***(1996)3SCC212 (supra)***. Court held that industries concerned were liable for pollution caused and industries had forfeited all claims for any lenient consideration. Court directed attachment of factories, plant, machinery and all other immovable assets of the said industries and Rajasthan State PCB was directed to seal all the factories and plants. Later, vide order dated 04.11.1997, Court determined cost of remedial measures at Rs. 37.385 crores on the basis of assessment/reports of various authorities and by adjudicating the contentions raised. M/s. Hindustan Agro Chemical Ltd., however, avoided payment by keeping litigation alive for

1½ decade and, thereafter, in I.A. filed, Court, in para 197, laid down certain principles to be observed and followed, as under:

> *"197. The other aspect which has been dealt with in great details is to* ***neutralize any unjust enrichment and undeserved gain made by the litigants.*** *While adjudicating, the courts must keep the following principles in view:*
>
> *(1) It is the bounden duty and obligation of the court to neutralize any unjust enrichment and undeserved gain made by any party by invoking the jurisdiction of the court.*
>
> *(2) When a party applies and gets a stay or injunction from the court, it is always at the risk and responsibility of the party applying. An order of stay cannot be presumed to be conferment of additional right upon the litigating party.*
>
> *(3) Unscrupulous litigants be prevented from taking undue advantage by invoking jurisdiction of the Court.*
>
> *(4) A person in wrongful possession should not only be removed from that place as early as possible but be compelled to pay for wrongful use of that premises fine, penalty and costs. Any leniency would seriously affect the credibility of the judicial system.*
>
> *(5) No litigant can derive benefit from the mere pendency of a case in a court of law.*
>
> ***(6) A party cannot be allowed to take any benefit of his own wrongs.***
>
> *(7)* ***Litigation should not be permitted to turn into a fruitful industry*** *so that the unscrupulous litigants are encouraged to invoke the jurisdiction of the court.*
>
> *(8) The institution of litigation cannot be permitted to confer any advantage on a party by delayed action of courts."*

318. Ultimately, Court directed M/s. Hindustan Agro Chemicals Ltd. to pay Rs. 37.385 crores along with compound interest at 12% per annum and also cost of Rs. 10 lakhs in both I.As.

319. In ***T.N. Godavarman Thirumulpad (2011)15SCC671*** (Order dated 28.11.2006 in I.A. No. 826 and others), Court considered complaint about constitution of Forest Advisory Committee where in Mining and Civil Engineers were brought in as Members. Deprecating the same, Court said that "*extraction of minerals and reclamation strictly does not follow within the domain of Ministry of Environment and Forest and an expert needed for conservation of forest cannot be substituted by alleged experts in the field of mining etc.*" In para 21, Court said, "*mining or other development projects cannot be said to be allied disciplines of forestry.*

Allied disciplines may be like water harvesting, wildlife protection, biodiversity, etc. The composition of these 3 is to strengthen the participation of people in the matter of conservation of forest and to check the degradation of the environment". Again, in para 23, Court said that it is implicit in Rules of 2003 and when seen in the light of 1981 Rules, coupled with the objects of FC Act, 1980 that the persons to be included in the category under consideration are those who are independent experts in the field of conservation of forests and allied disciplines, and have established their credentials in that capacity as opposed to those who may be government servants.

320. In ***Meghwal Samaj Shiksha Samiti vs. Lakh Singh & Others (2011)11SCC800***, Court shows its concern for protection of water body. In village Raniwara Kalan, District Jalore, Rajasthan, in Revenue records, a village pond as '*gair mumkin nada*' was recorded. After sometime it fell into disuse whereafter District Collector allotted 0.48 hectares of the area of the said pond to Meghwal Samaj Shiksha Samiti on 99 years lease. The said allotment was challenged in a writ petition filed in High Court which was allowed vide judgment dated 20.11.2002. Court said that once the land was recorded as pond, it was incumbent upon the authorities concerned to restore and maintain the same as pond and it could not have been allotted for any purpose or construction. The allottee in Appeal before Supreme Court placed reliance on the report of *Patwari* that there was no water in the pond and hence, it could have been allotted but rejecting the same, Court relied on the judgment in ***Hinch Lal Tiwari vs. Kamala Devi (2001)6SCC496***, and said that if land was recorded as pond it had to be maintained as it is and the report of *Patwari* will not be of any consequence. In ***Hinch Lal Tiwari (supra)***, it was found that once a pond is existed and recorded in Revenue records, merely because for

some time or otherwise, it has encroached or dried up, will not change its nature and it has to be protected. In para 13 of the judgment Court said: *"the material resources of the community like forests, tanks, ponds, hillock, mountain, etc. are nature's bounty. They maintain delicate ecological balance. They need to be protected for a proper and healthy environment which enables people to enjoy a quality life which is the essence of the guaranteed right under Article 21 of the Constitution."*

321. Court further said that Revenue Authorities should make all attempts to develop the pond if it is so recorded and cannot take advantage of any encroachment or drying up of the pond. Protection and preservation of the pond would prevent ecological disaster and provide better environment to the people at large.

322. Protection of wild buffaloes mostly found in Western and Eastern *ghats* of the country in the context of State of Chhattisgarh was considered in ***T.N. Godavarman Thirumulpad vs. Union of India & Others (2012)3SCC277*** (order dated 12.02.2012 in IA Nos. 1433 and 1477 of 2005 in WP (C) No. 202 of 1995). Wild buffalo was declared State animal in State of Chhattisgarh. Referring to the statute enacted for protection of wild life i.e., WP Act, 1972, Court observed that prior to the said act there was a scheme namely "Assistance for the Development of National Parks and Sanctuaries" which used to support only National Parks and Wildlife Sanctuaries. Subsequently with the enactment of Act 1972 and amendment made in 2003, two more categories were added i.e., Conservation Reserves and Community Reserves. Earlier the areas namely Sanctuaries, National Parks and Closed Areas were substituted by the words "protected areas" by Act 16 of 2003 and in view of the 42nd amendment of Constitution and insertion of Entry 17A i.e. "forest" and

Entry 17B i.e. "protection of wild animals and birds", Central as well as State Government both got mandated with the responsibility of protection and conservation of wild life and its habitants. Steps taken by State were not found satisfactory for protection of wild buffalos and directions were issued for undertaking intensive research and monitor as also training to the officials and maintain sanctuary and other areas whereby buffalos are found, in a more scientific and effective manner.

323. The issue of protection of sandalwood and red sandalwood said to be endangered species was considered in ***T.N. Godavarman Thirumulpad vs. Union of India & Others, (2012)4SCC362*** (order dated 13.02.2012 in IAs Nos. 1287, 1570-71 of 1996 with other IAs). NGO moves Central Empowered Committee for initiating steps to close unlicensed sandalwood industries particularly, in State of Kerala. CEC submitted report. After giving notice, the matter was considered. Court observed that the examination of Statues relating to environment in India as also international convention it found that there was a shift from environmental rights to ecological rights though gradually but substantial. The report was based on anthropocentric ethics which also find ambit in the principle that all humans are equitable access to natural resources meaning thereby all natural resources are treated as property and not alive. Further Precautionary Principle and Polluter Pays Principle followed by this Court, also based on anthropocentric principle since they also cause harm to human as a pre-requisite for invoking these principles. The principle of sustainable development and Inter-Generational equity too pre-supposes the higher needs of humans and lays down that exploitation of natural resources must be equitably distributed between present and future generations. Environmental ethics behind the above principles were human need and exploitation but

have no role when an issue of endanger species come for consideration before this Court. Explaining anthropocentric approach, Court said that it considers humans to be the most important factor and value in the universe. Humans have greater intrinsic value than other species. Under this approach, environment is only protected as a consequence of and to the extent needed to protect human well being. However, there is another approach i.e. ecocentric which stress the moral imperatives to respect intrinsic value, inter dependence and integrity of all forms of life. Thereafter, Court issued directions for conservation of sandalwood.

324. In ***Deepak Kumar & Others vs. State of Haryana & Others, (2012)4SSC629***, effect of mining of minor minerals and its regulation was considered in the context of auction notices issued by Department of Mines and Geology, Government of Haryana. Supreme Court, however, extended its scope of direction, Pan India. Background facts are, that auction notice dated 3.6.2011, issued by Department of Mines and Geology, Haryana proposing to auction extraction of minor minerals, boulders, gravel and sand quarries of an area, not exceeding 4.5 ha in district of Panchkula, was challenged. Further, auction notices dated 8.11.2011, in the district of Panchkula, Ambala and Yamuna Nagar exceeding 5 ha and above, quarrying minor mineral, road metal and masonry stone mines in the District of Bhiwani, stone and sand mines in the district of Mohindergarh, slate stone mines in the district of Rewari, and also in the districts of Kurukshetra, Karnal, Faridabad and Palwal, with certain restrictions for quarrying in the riverbeds of Yamuna, Tangri, Markanda, Ghaggar, Krishnavati River basin, Dohan River Basin etc., were also challenged. It was also brought to the notice of Supreme Court that similar illegal mining is going on in various districts of Rajasthan and Uttar Pradesh. It was pointed out that under EIA 2006, EC is

required only when mining is permitted in an area not less than 5 ha. Auction notices permitting mining in area less than 5 ha were challenged on the ground that in order to escape from environment study under EIA 2006, bigger areas have been divided in smaller areas of less than 5 ha and that is how illegal mining is being permitted causing damage to environment. Supreme Court noticed the stand taken by MoEF in its affidavit dated 23.11.2011 that where mining area is homogenous, physically proximate and identifiable piece of land of 5 ha or more, it should not be broken into smaller sizes to circumvent EIA 2006. There was a Committee of Minor Minerals which had recommended minimum lease size of 5 ha for minor minerals for undertaking scientific mining for the purpose of integrating and addressing environmental concerns. Court said that minor minerals, boulders, gravel and sand quarries etc., in the places notified in auction notices, including the riverbeds of Yamuna, Tangri, Markanda, Ghaggar, Krishnavati River basin, Dohan River Basin etc., would result in environmental degradation and threat to bio-diversity, damage to riverine vegetation, cause erosion, pollute water resources etc. There was nothing on record to come to otherwise conclusion. It further shows that sand mining on either side of river upstream and instream, is one of the causes for environmental degradation and also threat to biodiversity over the years; India's rivers and riparian ecology had been badly affected at alarming rate due to unrestricted sand mining which has caused damage to ecosystem of rivers and safety of bridges, weakening of riverbeds, destruction of natural habitats of organisms living on the riverbeds. It would also affect fish breeding and migration, spells disaster for conservation of many bird species, and had increased saline water in rivers. Commenting on the loss to the environment due to mining of minerals within or near

streambeds or inside streambeds, Court observed, that extraction of alluvial material from within or near a streambed has direct impact on stream's physical habitat characteristics. These characteristics include bed elevation, substrate composition and stability, instream roughness elements, depth, velocity, turbidity, sediment transport, stream discharge and temperature. If these habitat characteristics are altered, the same can have deleterious impact on both, instream biota and the associated riparian habitat. It is true that demand for sand had continued and would continue to increase, day by day, due to ongoing construction of new infrastructures and expansion of existing ones. It is continuous process, placing immense pressure on the supply of sand resource. This has, and would, encourage mining activity which are bound to go on, legally or illegally, without any restriction. Lack of proper planning and sand management cause disturbance of marine ecosystem and would upset, the ability of natural marine processes to replenish the sand. Court expressed its anguish in the manner auction notices which were published by State of Haryana, permitting quarrying, mining and removal of sand from upstream and instream of several rivers which may have serious environmental impact on ephemeral, seasonal and perennial rivers and riverbeds, and sand extraction may have an adverse effect on biodiversity as well. This may also lead to bed degradation and sedimentation having a negative effect on the aquatic life. Some of the rivers mentioned in the auction notices are on the foothills of fragile Shivalik Hills. Shivalik Hills are the source of rivers like Ghaggar, Tangri, Markand, etc. River Ghaggar is a seasonal river which rises up, in the outer Himalayas, between Yamuna and Satluj and enters Haryana near Pinjore, District Panchkula, which passes through Ambala and Hissar and reaches Bikaner in Rajasthan. River Markanda is also a seasonal

river like Ghaggar, which also originates from the lower Shivalik Hills and enters Haryana near Ambala. During monsoon, this river swells up into a raging torrent, notorious for its devastating power, as also River Yamuna. Court found that without conducting any study on the possible environmental impact, on/in the riverbeds, and elsewhere, the auction notices were issued. Court said that, when extraction of alluvial material within or near a riverbed has an impact on river's physical habitat characteristics, like river stability, flood risk, environmental degradation, loss of habitat, decline in biodiversity, it is not an answer to say that extraction is in blocks of less than 5 ha, separated by 1 km, since their collective impact may be significant, hence the necessity of a proper environmental assessment plan. MoEF brought to the notice of Court that it had come across several instances across the Country regarding damage to lakes, river beds and ground water leading to drying up of water beds and causing water scarcity on account of quarrying/mining leases and mineral concessions granted under rules, by Provincial Governments. State Government paid less attention on environmental aspect of minor minerals on the pretext that area was small but ignored the fact that collective impact in a particular area, over a period of time, was or would be significant. For taking note of these aspects, MoEF constituted, a Core Group under Chairmanship of Secretary (Environment and Forest) to look into the environmental aspects associated with mining of minor minerals, vide order dated 24.3.2009. The Core Group considered matter on following aspects: i.) Need to relook the definition of minor mineral, ii.) Minimum size of lease for adopting eco-friendly scientific mining practices, iii.) Period of lease, iv.) Cluster of mine approach for addressing and implementing EMP in case of small mines, v.) Depth of mining to minimise adverse impact on hydrological

regime, vi.) Requirement of mine plan for minor minerals, similar to major minerals, vii.) Reclamation of mined out area, post mine land use, progressive mine closure plan etc., The Core Group examined the matter and submitted a Draft report to MoEF which was considered and discussed on 29.01.2010 and thereafter final report was circulated to all the State Governments vide MoEF's DO letter dated 1.06.2010. The Ministry of Mines, Government of India also prepared draft rules called "Minor Minerals (Conservation and Development) Rules 2010", and also sent communication dated 16.05.2011, called "Environmental Aspects of Quarrying and of Minor Minerals-Evolving of Model Guidelines" along with a draft model guideline, calling for inputs, before 30.06.2011. In view of above, Court noticed that it is absolutely necessary to have an effective frame work of mining plan which will take care of all environmental issues, evolve a long term rational and sustainable natural resource base and also bio assessment protocol. Quarrying of river sand is an important economic activity of the Country with river sand, forming a crucial raw material for infrastructural development and construction industry, but excessive instream sand and gravel mining causes degradation of rivers. Instream mining lowers the stream bottom of rives which may lead to bank erosion. Depletion of sand in the streambed and along coastal areas causes deepening of rivers which may result in destruction of aquatic and riparian habitats as well. Extraction of alluvial material from within or near a streambed has a direct impact on stream's physical habitat characteristics. Sand mining, therefore, may have an adverse effect on bio-diversity as loss of habitat caused by sand mining will affect various species of flora and fauna and may also destabilise soil structure of river banks and often leaves isolated islands.

325. In these circumstances, Supreme Court said that Government of India's recommendations made in March 2010 followed by Model Rules 2010 must be given effect so as to inculcate spirit of Article 48 (A), Article 51 (A) (g) read with Article 21 of the Constitution. Court, therefore, issued directions to all States and Union Territories, MoEF and Ministry of Mines to give effect to the recommendations made by MoEF in its Report of March 2010 and the model guidelines framed by Ministry of Mines, within a period of six months from the date of the Judgment i.e., 27.02.2012 and submit compliance. Court also directed Government of India to take steps to bring into force Minor Minerals Conservation and Development Rules, 2010 at the earliest. Various State Governments and Union Territories were also directed to take steps to frame necessary rules under Section 15 of MMRD Act, 1957, taking into consideration recommendations of MoEF in its Report of March 2010 and Model Guidelines framed by Ministry of Mines, Government of India.

326. The details of recommendation made by MoEF are reproduced in para 19 of the judgment and key recommendations contained in MoEF's DO letter dated 1.06.2010 are mentioned in para 22 of judgment. Supreme Court specifically directed that lease of minor minerals including renewal of an area of less than 5 ha would be granted by concerned authorities only after getting EC from MoEF.

327. In ***Samaj Parivartan Samudaya & Others vs. State of Karnataka (2012)7SCC407***, issue of illegal mining in Andhra Pradesh was for consideration. Court constituted a Committee to collect facts and report. Report of Committee was challenged on the ground that no opportunity was given to the parties. Rejecting this argument, Court said that Committee is not discharging quasi-judicial or even administrative

functions with a view to determine any rights of the parties. It was not expected of Committee to give notice to the companies involved in illegalities or irregularities, as it was not determining any of their rights. It was simpliciter reporting matters to the Court as per ground realities, primarily with regard to environment and illegal mining, for appropriate directions. In fact, Committee was conducting a fact finding inquiry. A similar argument was raised in respect to CBI enquiry was rejected by Court observing that there is no provision in CrPC which requires investigating agency to give an opportunity to the affected party before registering an FIR or even before carrying on investigation prior to registration of case against the suspect. Court also commented upon the obligation of State where offences by carrying out illegal mining are being committed. Court said that State cannot escape its liability by stating that private complainant, who made complaint, must bring sufficient material to prove offence. Court also said that whenever and wherever State fails to perform its duties, Court shall step in to ensure that Rule of Law prevails over the abuse of process of law. Such abuse may result from inaction or even arbitrary action of protecting the true offenders or failure by different authorities in discharging statutory or legal obligations in consonance with the procedural and penal statutes.

328. In ***Orissa Mining Corporation Ltd. vs. Ministry of Environment and Forest, (2013)6SCC476***, order of MoEF&CC dated 24.8.2010 rejecting Stage-II Forest Clearance for diversion of 660.749 hectares of forest land for mining of bauxite ore in Lanjigarh Bauxite Mines in Kalahandi and Rayagada Districts of Orissa, was challenged in writ petition filed under Article 32 of the Constitution and decided by a 3 judges bench vide judgement dated 18.04.2013. The brief background facts are that M/s. Sterlite, (parent company of Vedanta), sought EC from

MoEF submitting application dated 19.03.2003 for establishing Alumina Refinery Project (ARP) in Lanjigarh Tehsil of District Kalahandi. The company stated that no forest land was involved within an area of 10 kms. Another application dated 6.03.2004 was filed by M/s. Vedanta seeking clearance for use of 723.343 ha of land (including 58.943 ha of reserve forest land) in Lanjigarh Tehsil of District Kalahandi for setting up an Alumina Refinery. Involvement of forest land rendered State of Orissa to forward a proposal dated 16.08.2004 to MoEF for diversion of 58.90 hectare of forest land which included 26.1234 hectare of reserve forest land. Later, State of Orissa withdrew its proposal. MoEF granted EC on 22.9.2004 to M/s. Sterlite to execute Alumina Refinery Project with 1 million tonne per annum capacity of refinery along with 75 MW coal based CPP at Lanjigarh on 720 hectare land, by delinking it with the mining project. Later, State of Orissa vide letter dated 24.11.2004 informed MoEF about involvement of 58.943 ha of forest land in the project where it was mentioned NIL, in the application for EC. Forest Department issued a show cause dated 5.08.2004 to M/s. Vedanta for encroachment of 10.41 acres of forest land by way of land breaking and levelling. State of Orissa, on 28.2.2005 forwarded proposal to MoEF for diversion of 660.749 ha of forest land for mining bauxite ore in favour of Orissa Mining Corporation in Kalahandi and Rayagada Districts. Central Empowered Committee (CEC), in the meantime, sent a letter dated 2.3.2005 to MOEF stating that pending examination of the project by CEC, no proposal for diversion of forest land be decided. M/s. Vedanta filed I.A. No. 1324 of 2005 seeking direction to MoEF to take a decision on his application for forest clearance which was objected by CEC. Court on 03.06.2006, directed MoEF to consult experts and submit report. Ultimately Forest Advisory Committee (FAC) on 27.10.2006 approved

proposal of Orissa Mining Corporation for diversion of 660.749 ha. of forest land for the mining, subject to the conditions. Vedanta's I.A. was disposed of by Court on 23.11.2007 making certain observations. The suggestions made in the said order were jointly agreed by M/s. Sterlite, State of Orissa and Orissa Mining Company. One Siddharth Nayak filed a Review Petition stating that Court did not pose appropriate question while deciding I.A. and has not examined ecological and cultural impact of mining in Niyamgiri Hills. MoEF agreed in principle for diversion of 660.749 ha of forest land subject to conditions and communicated its decision to Orissa Government vide letter dated 11.12.2008. EC was granted to Orissa Mining Corporation by MoEF vide proceeding dated 28.04.2009, subject to certain conditions. MoEF rejected request for stage-II clearance by order dated 24.08.2010 considering report of Forest Advisory Committee and Saxena Committee appointed by MoEF, and this order was challenged in Court. Since matter involved Tribal area, Court also examined Article 244(1) and 5th Schedule of the Constitution. Referring earlier judgment in ***Samatha vs. State of Arunachal Pradesh, (1997)8SCC191***, Court said that all relevant clauses in the Schedule and Regulations should be harmoniously and widely be read as to elongate Constitutional objectives and dignity of person, to Scheduled Tribes and ensuring distributive justice as an integral scheme thereof. It also referred to Panchayats (Extension to Scheduled Areas) Act, 1996 extending Part IX of the Constitution to the Scheduled Areas and that its validity was upheld in ***Union of India vs. Rakesh Kumar, (2010)4SCC50***. It also examined provisions of Schedule Tribes and other traditional forest dwellers (Recognition of Forest Rights) Act, 2006, a social welfare or remedial statute, enacted to protect a wide range of rights of forest dwellers and Schedule Tribes including customary rights

to use forest land as a community forest resource and not restricted merely to property rights or to areas of habitation. The inter se relationship of Forest Rights Act and Mines and Minerals Development Regulations Act, 1957 was considered and relying on earlier judgement in ***Amritlal Athubhai Shah and others vs. Union Government of India and Another, (1976)4SCC108***, Court held, "*the State Government is the owner of minerals within its territory, and the minerals vest in it and hence power to reserve any particular area for Bauxite mining for a public section corporation"*. However, for deciding nature and extent of individual or community forest rights or both, Court found that it is the Gram Sabha which is the competent authority which can take such a decision and hence directed Gram Sabha to take appropriate decision on the question, whether Schedule Tribes had any religious right of worship over the Niyamgiri hills, and the writ petition was disposed of.

329. In ***G. Sundarrajan vs. Union of India & Others, (2013)6SCC620***, ecological and environmental issues in the context of setting up of a nuclear power plant at Kudankulam in the State of Tamil Nadu were considered. National policy was pronounced by Central Government to develop, control and use of atomic energy for welfare of people of India. Atomic Energy Act, 1948 was repealed and replaced by Atomic Energy Act 1962. In September 1987, Government of India formed a public sector company i.e., Nuclear Power Corporation of India to design, build and operate nuclear reactors in the country. The nuclear power was broadly utilized for generation of electricity and about 20 power reactors were installed with a capacity of 4780 MWe, between 1969 to 2011. Seven more were proposed with a capacity of 5300 MWe which included Kudankulam. Examining the fact that in India bulk of the electricity i.e., 64% is generated from thermal sources, 18% was available

from hydro project and 15% from renewal sources, and only 3% share of electricity generation was attributable to nuclear projects, Court observed that it cannot sit over the judgment/decision taken by Government for setting up of nuclear plant. It is not for Court to determine whether a particular policy or a particular decision taken in fulfillment of a policy is fair or not. In Para 15, Court said, "*It is not for Courts to determine whether a particular policy or a particular decision taken in fulfillment of a policy, is fair. Reason is obvious, it is not the province of a court to scan the wisdom or reasonableness of the policy behind the Statute.*" However, Court proceeded to examine only legal aspects involving Statutes as also the environmental issues. Entire project was examined with the consideration that people's comfort, happiness, prosperity and economic growth of nation is always concern of their representatives in the Parliament. Public opinion, national policy, economic growth, sustainable development, energy security, are all intrinsically interlinked. One cannot be divorced from other, all the same, a balance has to be struck. National policy is that atomic energy has a unique position in the emerging economics in India. Nuclear energy is a viable source of energy and it is necessary to increase country's economic growth. Nuclear energy is considered in India as a sustainable source of energy and country cannot afford to be a nuclear isolated nation, when most of the developed countries consider it as a major source of energy for their economic growth. In this back drop, Court considered, 'whether project had obtained all necessary environmental clearances' and said that the mere fact that project is a nuclear one and has been cleared by Atomic Energy Commission and other bodies related with nuclear establishments, would not be sufficient to confer authority upon Project Proponent to commission a nuclear project unless it conforms to the standards set by

statutory authorities like MoEF and State Pollution Control Board and follow environmental laws. Court found that, when project was sought to be commenced, Regulations relating to Coastal area were not available, EC was granted by competent authority and neither there was any violation of CRZ Notification, 1991 nor there was violation of EIA 1994 since environmental clearance was granted to units 1 and 2 on 19.05.1989. It also held that for units 3 to 6 EC was granted in accordance with EIA 2006. Meeting various objections, Court did not find any legal or otherwise flaw in execution of the project. Serious apprehension expressed by certain section were repelled by observing that apprehensions howsoever, legitimate, cannot override justification of the project. Nobody on this earth can predict what would happen in future and to a larger extent we have to leave it to the destiny. But once justification test is satisfied, apprehension test is bound to fail. Court said that apprehension is something, we anticipate with anxiety or fear, a fearful anticipation, which may vary from person to person. Power generation through a nuclear plant, set up after following all safety standards, rules and regulations, is for welfare of people and economic growth of the country. Nuclear energy assumes an important element in country's energy mix for sustaining economic growth of natural and domestic use which in future has to replace a significant part of fossil fuel like coal, oil, gas etc. Electricity is the heart and soul of modern life, a life, meant not for the rich and famous alone but also for the poor and down trodden. They should also have an adequate means of livelihood, job opportunities for which we have to set up Industries and commercial undertakings in the public as well as private sector and also have to invite foreign investment. Referring to ***Chameli Singh & Others vs. State of U.P. & Another, (1996)2SCC549***, Court reiterated that in an

organized society right to live as a human being is not ensured by meeting only the animal needs of man, but secured only when he is assured of all facilities to develop himself and is freed from restrictions which inhibit his growth. Right to shelter includes adequate living space, safe and decent structure, clean and decent surroundings, sufficient light, pure air and water, electricity, sanitation and civil amenities like road etc. so as to have easy access to his daily avocation. Nuclear power plant is being established not to negate right to life but to protect the said right guaranteed under Article 21.

330. In concurring judgment, Hon'ble Dipak Mishra, J. in ***G. Sundarrajan (supra)***, referred to the role of welfare state and reminded the concept of *parens patriae* recognised in ***Charan Lal Sahu vs. Union of India, (1991)6SCC613*** and the maxim *salus populi (EST) suprema* lex, i.e., regard for public welfare is the highest law. His Lordship also referred to other maxim that is *salus republicae suprema lex* i.e. safety of State is a supreme law, and said that law has many a mansion and the mosaic of law covers many spectrums so that both the maxims, namely, *solus populi supreme lex* and *salus republicae supreme lex*, can harmoniously coexist. His Lordship also referred to judgment in ***T.N. Godavarman Thirumulpad (supra)***, observing that no development is possible without some adverse effect on the ecology and environment, the projects of public utility cannot be abandoned and it is necessary to adjust interest of people as well the necessity to maintain environment. A balance has to be struck between the two interests. When commercial venture or enterprise would bring in results which are far more useful for the people, difficulty of a small number of people has to be bye passed.

331. In ***Association for Environment Protection vs. State of Kerala and Others, (2013)7SCC226***, Court considered an appeal arising from judgment of Kerala High Court. Writ Petition raising a question of illegal construction on the banks of river Periyar within the area of Aluva Municipality was dismissed by High Court, not by discussing matter on merit, but only on ground that complainant has questioned construction of a hotel while builder was constructing a restaurant as part of the project for renovation and beautification of Manalpuram Park. Issue was raised by an Association, a registered body, engaged in protection of environment in State of Kerala. In 2005, Aluva Municipality reclaimed a part of Periyar river. District Tourism Promotion Council, Ernakulam decided to construct a restaurant on reclaimed land by citing convenience of public coming on Sivarathri festival. Proposal was forwarded to State Government by including the same in project for renovation and beautification of Manalpuram Park. Administrative sanction was granted by State Government by order dated 20.05.2005. When construction was started by State Promotion Council, ***W.P.(C) No. 436/2006*** was filed in High Court seeking a direction to the respondents restraining from continuing with construction on the bank of river Periyar and to remove construction already made. Writ Petition was dismissed by High Court, after taking cognizance of Government sanction order dated 20.05.2005. The construction was challenged before Supreme Court stating G.O. dated 13.01.1987 mandated a reference to environmental planning and coordination committee for review and assessment where cost of scheme is more than 10 lakhs but no such review and reassessment was made. Court found that construction was sanctioned and proceeded in violation of mandate of Government order dated 13.01.1987. Court also read Government order as power exercised to protect and improve

environment envisaged under Article 48A and thus mandate of the said order could not have been condoned. Accordingly, Court allowed appeal, and while setting aside High Court's order, allowed Writ Petition. It also directed respondents to demolish structures raised in the park. Court resorted to the above direction relying on various earlier orders and specifically referred to the decision in ***M.I. Builders Pvt. Ltd. vs. Radhey Shyam Sahu, (1999)6SCC464***, where decision of Lucknow Nagar Mahapalika permitting construction of an underground shopping complex in Jhandewala Park, Aminabad Market, Lucknow was set aside by High Court and construction made on the park land was directed to be demolished and this was upheld up Supreme Court.

332. In ***Samaj Parivartana Samudaya & Others vs. State Of Karnataka & Others, (2013)8SCC154*** (order dated 18.04.2013 deciding Writ Petitions 562 of 2009, 411 of 2010, 66 of 2010 and 76 of 2012 and other connected appeals), issue of systematic plunder of natural resources by a handful of opportunists seeking to achieve immediate gains in the context of mining of Iron Ore and allied minerals in the State of Karnataka was considered. While deciding, Court referred to its earlier order dated 28.09.2012 wherein resumption of mining was allowed subject to payment of **minimum compensation of Rs. 5 crores per hectare** and further additional amount on the basis of final determination of national loss caused by illegal mining and illegal use of land for overburden dumps, roads, offices, etc. **Court also required guarantee money to be paid by leaseholders, to the extent of 15% of the sale proceeds of the iron ore sold**. Looking to the gravity of situation, Court observed that an extraordinary situation has arisen on account of large scale illegalities committed in the operation of mines in question resulting in grave and irreparable loss to the forest wealth of the

country besides colossal loss caused to the national exchequer. The situation being extraordinary, the remedy, indeed, must also be extraordinary. Illegal mining, apart from playing havoc on the national economy had, in fact, cast an ominous cloud on the credibility of the system of governance by laws in force. It has a chilling and crippling effect on ecology and environment. Thereafter in the light of the joint committee constituted by court, it passed various directions.

333. The issue of protection of Asiatic Lion was considered in ***Centre for Environmental Law, WWF-India vs. Union of India, (2013)8SCC234***. While considering legal framework, Court observed that Bio Diversity Act, 2002 was enacted for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the utilisation of genetic resources. **Article 21 was extended by observing that it protects not only the human rights but also casts an obligation on human being to protect and preserve animals as species are becoming extinct and conservation and protection of environment is an irreparable part to Right to Life.** Consequently, directions were issued for identification of the species which are endangered and take appropriate remedial steps.

334. ***Laxmi Narain Modi vs Union of India & Others, (2013)10SCC227***, Court needed guidelines issued by MoEF for transportation of animal and slaughter Houses for proper implementation of provisions of prevention of cruelty to animals, (Establishment and Registration of Societies for Prevention of Cruelty to Animals) Rules, 2000, the Environment Protection Act, 1986, the Solid Waste (Management and Handling) Rules, 2000, the Prevention of Cruelty to

Animals (Slaughter House) Rules, 2000 and directed all the Governments to follow the said guidelines.

335. In ***Alaknanda Hydro Power Co. Ltd vs. Anuj Joshi & Others (2014)1SCC769***, ecological issue relating Srinagar Hydro Electric Project (SHEP) located in Tehri/Pauri Garhwal on river Alaknanda came up for consideration. Applicability of EIA 1994 with regard to grant of EC when it was already granted long back, also came up for consideration. Central Electricity Authority exercising power under Section 29 of Electricity (Supply) Act, 1948, issued Techno-Economic Approval to establish 200 MW hydro generation project over river Alaknanda, in its meeting dated 6.11.1982, subject to environmental clearance from Ministry of Environment. Initially project was clubbed with some other projects but later it was segregated. A separate Environment Impact Assessment (EIA) was made with regard to SHEP on 9.2.1985. Consequently, MoEF granted EC vide letter dated 03.05.1985. Project involved diversion of 338.38 hectares of forest land which was granted by Forest Department vide letter dated 15.04.1987. Subsequently, Electricity Board proposed to increase capacity from 200 MW to 330 MW which was approved by Central Electricity Authority and Planning Commission also granted investment approval. The project could not make any effective progress due to paucity of funds with State Electricity Board. State Government entered into a Memorandum of Understanding (MOU) with M/s Duncan Industries Ltd. on 27th August, 1994 for development of project. M/s Duncan Industries Ltd. in terms of the MOU established a generating company 'Duncan North Hydro Power Co. Ltd.'. Energy Department of Uttar Pradesh wrote to MoEF vide letter dated 04.09.1997 to transfer EC in favour of the said company. M/s Duncan submitted revised EIA and conveyed that the project of enhanced capacity had to be transferred to

M/s Duncan. MoEF consequently transferred EC to M/s. Dunan on 27.07.1999. Central Electricity Authority also granted Techno Economic Clearance vide letter dated 14.06.2000 to Duncans. M/s. Duncan also gave up project after carrying out some work and then it was substituted by M/s. Alaknanda Hydro Power Company Ltd. (AHPCL) in whose favour also EC was transferred by MoEF vide letter dated 27.03.2006. Writ Petition was filed in 2009 in High Court of Uttarakhand at Nainital challenging order enhancing capacity to 330 MW. Writ Petition was disposed of on 19.04.2011 permitting M/s. AHPCL to approach MoEF for a specific decision as to the clearance for increased capacity of generation and increased height of the dam. MoEF in its turn clarified that transfer letter dated 27.03.2006 was for 330 MW and communicated its decision dated 03.08.2011. It was challenged in Writ Petition no. 68 of 2011 i.e., a PIL which was disposed of by order dated 3.11.2011 directing M/s AHPCL to place the matter before MoEF again and Ministry was directed to hold a public hearing. That is how matter came before Supreme Court in Appeal by AHPCL. Court examined the matter and disposed of by issuing various directions on the subject of safety of dam, safety and security of the people, muck management and disposal Catchment Area Treatment. Court also expressed concern over mushrooming of large number of hydroelectric projects in State of Uttrakhand and its impact on Alaknanda and Bhagirathi river basins. Taking note of recent tragedies/calamities suffered by the people of Uttrakhand, Court issued certain directions in para 52 of the judgment which included that no further EC or forest clearance be granted for any hydro-electricity power project in State of Uttrakhand until further order and on further examination by expert committee to be constituted by MoEF.

336. In ***Godrej & Boyce Mfg. Co. Ltd. & Another vs. State Of Maharashtra, (2014)3SCC430***, a question arose, "*whether disputed land was a forest land*", and further, "*whether constructions already raised in last more than half a century should be directed to be demolished"*. M/s. Godrej & Boyce herein referred to as GBMCL, by registered deed of conveyance dated 30.07.1948, acquired land in Vikhroli in Salsette taluka in Maharashtra. Land belonged to one Nowroji Pirojsha, (successor in interest of Framjee Cawasjee Banaji) who was given a perpetual lease/kowl for the land by Government of Bombay on 07.07.1835. Land was described in the perpetual lease/kowl as "waste land". The dispute raised before Court related to Survey Nos. 117,118 and 120 covering area of 133 acres and 38 gunthas of land. On 27.08.1951, Legislative Assembly of State of Bombay passed Salsette Estates (Land Revenue Exemption Abolition) Act, 1951 which came into force on 1.03.1952. It provided that waste lands granted under a perpetual lease/kowl, not appropriated or brought under cultivation before 14.08.1951, shall vest in and be the property of the State. State Government claimed that disputed property has vested in it under Section 4 of the aforesaid Act which was challenged by GBMCL in Suit No. 413 of 1953, filed in Bombay High Court seeking a declaration that it was the owner of the disputed land. Suit, though contested by Government but ultimately decided by a consent decree on 8.01.1962 to the effect that except for an area of 31 gunthas, all other land was appropriated and brought under cultivation by Godrej before 14.08.1951 and are the property of Godrej. In 1967, a development plan for the city of Bombay was published. Next development plan was published in 1991. In both development plans, disputed land was designated as 'R' i.e. 'Residential'. On publication of the first development plan, Godrej applied

for construction of residential buildings which was allowed. It raised four such buildings. In 1976, Urban Land (Ceiling and Regulation) Act, 1976 came into force. The disputed land became excess land being beyond ceiling limit. Godrej applied for exemption which was allowed by State Government. Again, Godrej applied for further construction of multi storey buildings which was granted and constructions were made resulted in more than 40 multi-storeyed residential buildings on the disputed land. In 1975, State Legislature enacted Maharashtra Private Forests (Acquisition) Act, 1975. In 2006, Forest Authorities issued notices to M/s. Godrej to stop construction on the ground that disputed land was affected by the reservation of a private forest and hence no construction could be carried out without permission of Central Government under FC Act, 1960. This notice was challenged in High Court but Writ Petition was dismissed and then came up in appeal before Apex Court. The first question was, 'whether land is not "forest' within the meaning of Section 2 (c-i) of the Private Forests Act'. The question was answered in favour of M/s Godrej. In Para 48, Court said "*Under the circumstances, by no stretch of imagination can it be said that any of these disputed lands are 'forest' within the primary meaning of that word, or even within the extended meaning given in Section 2 (c-i) of the Private Forests Act.*" Thereafter, question of notice was decided in favour of M/s Godrej. The next question considered was with regard to decision of Government for demolition even if the land held to be forest land. Court said that the broad principle laid down by Supreme Court is not in doubt. An unauthorized construction, unless compoundable in law, must be razed. Court referred to ***MI Builders case (supra)*** where order of demolition was passed; ***Pleasant Stay Hotel And Another vs. Palani Hills Conservation, (1995)6SCC127*** wherein sanction was granted for two

floors but 7 floors were constructed and Court held that 5 floors constructed illegally, should be demolished; and ***Pratibha Co-operative Housing Society Ltd. vs. State of Maharashtra, (1991)3SCC341***, where also 8 floors were constructed in violation of FSI norms and hence **demolition order of 6 floors completely and 7th floor partially was issued.** However, in the case of Godrej, Court held that the above directions had to be given considering various circumstances and practical application of the principle. Municipal authorities and builders conspiratorially join hands in violating laws but the victim is an innocent purchaser or investor who pays for mal-administration; where activities have undergone for several decades, various permissions have been granted by statutory authorities and innocent buyers/purchasers have believed on state sanctions, such innocent buyers deserve to be protected.

337. In ***Municipal Corporation of Greater Mumbai and Others vs. Kohinoor CTNL Infrastructure Company Private Ltd., (2014)4SCC538***, issue of minimum recreational/amenity open spaces and other amenities including safety in respect of high rise/multi storied buildings was considered. Reduction of recreational area, height of the building vis-a-vis width of the roads, population of the area having impact on the traffic and height of the building resulting in fire hazards and safety problem, were all pointed out and non-application of mind and lack of consideration on these aspects by concerned statutory bodies was deprecated. With regard to open space/recreational area, Court said that it cannot be reduced to the minimum provided else it will violate Fundamental Right to Healthy Environment under Article 21 of the Constitution. Similarly, if height is increased causing fire hazard that also cannot be permitted. Court held that the human life cannot be made to

suffer only on the ground that in redevelopment scheme sufficient access cannot be provided for fire engines to enter the plot from one side. **Not providing a minimum space of six meters which makes room for the fire engine to access the building, amounts to violation to Right to Life and equality to the residents of these buildings by not providing the same standard of safety to them which are available to residents of all buildings.** Court directed fire department that it must insist upon the builders of all buildings to get certification of at least once in six months that the access to the building, the internal exits and the internal firefighting arrangements are maintained as per the expectations under the DCR, the norms of the fire department and must check them periodically on its own. Court also deprecated permission of construction of high-rise buildings creating congestions.

338. In ***Goa Foundation vs. Union of India & Others, (2014)6SCC590***, relying on interim report dated 15.03.2012 submitted by Justice Shah Commission to Ministry of Mines, Government of India recording its findings in respect of illegal Mining of iron ore in violation of Forest (Conservation) Act, 1980 (hereinafter referred to as 'FC Act 1980'), Mines and Minerals (Development and Regulation) Act, 1957 (hereinafter referred to as 'MMDR Act, 1957'), Mineral Concession Rules 1960 (hereinafter referred to as 'MC Act, 1960'), EP Act, 1986, Water Act, 1974, Air Act, 1981 and Wild Life (Protection) Act, 1972 (hereinafter referred to as 'WLP Act, 1972'), Goa Foundation came to Court by filing Writ Petition under article 32 of the Constitution, in Supreme Court and made a prayer that direction be issued to the Respondents to prosecute all those who have committed offences under different laws and are involved in pilferage of State revenue through illegal mining activities in State of Goa, including public servants who have aided and abated the offences. Goa

Foundation also prayed that an independent authority be appointed with full powers to take control, supervise and regulate mining operations in State of Goa and to ensure implementation of laws. Lastly, Goa Foundation also prayed for some incidental and consequential reliefs. Entertaining Writ Petition, Supreme Court on 05.10.2012, issued notice directing Central Empowered Committee to submit report on the issues raised in the Writ Petition. Supreme Court further directed that, till further orders, all mining operations in the leases identified in the report of Justice Shah Commission, transportation of iron ore and manganese ore from those leases, whether lying at the mine-head or stockyards, shall remain suspended, as recommended in the said report. Simultaneously, some mining lessees of State of Goa and Goa Mining Association had filed Writ Petition in Bombay High Court, (Goa Bench), seeking a declaration that report of Justice Shah Commission is illegal. They also prayed to quash the order issued by State Government, suspending mining operation in State of Goa, pursuant to the aforesaid report. MoEF's order dated 14th September, 2012, directing to keep Environmental Clearances to mines, in State of Goa, in abeyance, was also sought to be quashed. On the application moved before Supreme Court, Writ Petitions filed before Bombay High Court, were transferred to be heard in Supreme Court, along with ***Writ Petition (Civil) No. 435/2012*** filed by Goa Foundation. Some Background facts, giving rise to the above matter are, that prior to 19.12.1961, when Goa was a Portuguese territory, the then Government granted mining concessions in perpetuity to certain persons (hereinafter referred to as '**concessionaires**'). Goa was liberated on 19.12.1961. MMDR Act, 1957 was made applicable to State of Goa on 1.10.1963. Controller of Mining Leases, on 10.3.1975, issued a notification calling upon every lessee and sub-lessee to file returns under

Rule 5 of Mining Leases (Modification of Terms) Rules, 1956 and sent copies of the notification to concessionaires in Goa. The above notification was challenged by concessionaires in Bombay High Court (Goa Bench). Vide judgment dated 29.09.1983, in ***Vassudeva Madeva Salgaocar vs. Union of India,*** **(1985)1Bom.CR36**, Bombay High Court restrained Union of India from treating concessions as mining leases and from enforcing notification against concessionaires. To overcome difficulty arisen due to above judgment, Goa, Daman and Diu Mining Concessions (Abolition and Declaration as Mining Leases) Act, 1987 was passed which received assent of President of India on 23.05.1987. The said act abolished mining concessions and declared that with effect from 20.12.1961, every mining concession will be deemed to be a mining lease granted under MMDR Act, 1957 and that provisions of MMDR Act, 1957 will apply to such mining lease. The above Abolition Act was challenged by lessees in Bombay High Court wherein an interim order was passed permitting lessees to carry on mining operations and mining business in the concessions for which renewal applications had been filed under 24-A of the MC Rules, 1960. The above ***Writ Petition 177 of 1990, Shantilal Khushaldas and Bros. (P) Ltd. vs. Union of India*** was decided by Bombay High Court vide judgment dated 20.6.1997. The validity of Abolition Act, as such, was upheld, but Court held Section 22(i)(a) of Abolition Act to operate prospectively and not retrospectively. Concessionaires filed appeal in Supreme Court in ***SLP (C) no. 23827 of 1997, Shantilal Khushaldas and Bros. (P) ltd. vs. Union of India*** wherein an interim order was passed on 2.3.983 permitting concessionaires to carry on mining operations and mining business in the mining areas for which renewal applications were made but imposing a condition that lessees would pay to the Government, dead rent from the date of commencement of

Abolition Act. When appeal was pending, Central Government appointed a Commission under Section 3 of Commissions of Inquiry Act, 1952, by notification dated 22.11.2010, to enquire into and determine nature and extent of mining, trade and transportation, done illegally or without lawful authority, of iron ore and manganese ore, and the losses therefrom; and also, to identify the person etc., engaged in such illegal activities. The term of reference contained four aspects. Justice Shah Commission was constituted in view of various reports received from various State Governments regarding widespread mining of iron and manganese ore, in contravention of MMDR Act 1957, FC Act 1980, EP Act 1986 and rules and guidelines issued thereunder. Justice Shah submitted an interim report on 15th March, 2012 to Ministry of Mines, Government of India which was tabled on Parliament along with an Action Taken Report. State Government of Goa passed an order on 10.9.2012, suspending all mining operations in State of Goa, with effect from 11.9.2012. Consequently, District Magistrates in State of Goa, banned transportation of iron ore in their respective Districts. Director of Mines and Geology, ordered verification of mineral ore which was already extracted, and also issued show cause notices on 13.9.2012 to about 40 mining leases. On 14.9.2012, MoEF issued an order keeping in abeyance all ECs granted to mines in State of Goa. In this backdrop, Goa Foundation came in Supreme Court and other litigation arose as already stated. Report of Commission was challenged primarily on the ground of violation of Principles of the Natural Justice. Mining lessees argued that they were not given any opportunity of hearing in the Inquiry conducted by the said Commission and, therefore, Principles of Natural Justice have been violated. Supreme Court recorded stand of Government of Goa that no action will be taken against mining lessees only on the basis of

findings recorded in the report of Justice Shah Commission but it would make its own assessment of facts after giving opportunity of hearing to all concerned parties and in that view of the stand taken by State Government, Supreme Court, in para 14 of judgment, observed that it is not inclined to quash Justice Shah Commission's Report on the ground of violation of Principles of Natural Justice but also would not direct to prosecute lessees only on the basis of findings recorded in the said report. However, looking to the serious dispute raised in the matter pertaining to environment, Supreme Court proceeded to examine legal and environmental issues raised in the Report of Justice Shah Commission. The first issue was regarding continuance of leases, as deemed renewed. Court held, in para 28 of judgment, that deemed mining leases of the then lessees in Goa, expired on 22.11.1987, under sub-section (1) of Section 5 of Abolition Act. The maximum of 20 years renewal period of deemed mining leases in Goa, as provided in sub-section (2) of Section 8 of MMDR Act 1957 read with sub-rules (8) and (9) of Rule 24-A of MC Rules 1960, expired on 22.11.2007. The next question was, dumping of reject, tailing or waste, whether can be kept beyond lease area. This question was answered in negative i.e., against the stand taken by mining lessees. Court said (i) a holder of mining lease does not have any right to dump any reject, tailings or waste in any area outside the leased area of the mining lease on the strength of a mining lease granted under MMDR Act, 1957 and rules framed thereunder. Even if such area is outside the leased area of mining lease, belong to State or any private person, but if mining lease does not confer any right whatsoever on the holder of a mining lease to dump any mining waste outside the leased area, he will have no legal right whatsoever to remove his dump, overburden, tailings or rejects and keep the same in an area

outside the leased area. Dumping of waste materials, tailings and rejects, outside leased area, would be without valid authorisation under the lease deed. In view of Section 9(2) of MMDR Act, 1957, if mineral is removed or consumed from the leased area, holder of mining lease, has to pay royalty. The term 'mineral' includes tailings or rejects, excavated during mining operations. Rule 64-C of MC Rules, 1960, firstly, did not permit dumping of tailings or rejects in any area outside the leased area and even otherwise if a rule goes beyond what the section contemplates, the rule must yield to the statute as held in ***Central Bank of India vs. Workmen, AIR1960SC12***, therefore, Rule 64-C of the MC Rules, 1960, if suggests dumping of tailings or rejects outside the leased area, it must give way to section 4 of MMDR Act, 1957 which does not authorise dumping of minerals outside the leased area. The said Rule must give way to section 9 of MMDR Act, 1957 which does not authorise removal of minerals, outside the leased area, without payment of royalty. Even Rule 16 of Mineral Conservation and Development Rule 1988 (hereinafter referred to as 'MCD Rules, 1988') does not permit dumping of overburden and waste materials, obtained from mining operation, outside the leased area. The lessees also cannot be allowed to dump overburden tailings or rejects in the area owned by them for the reason that most of the land, owned by lessees, is located in the forest area where non-forest activities such as mining is not permissible in view of section 2 of FC Act, 1980 and it also requires prior EC under EP Act, 1986 read with rule 5 (3) of EP Act, 1986. For dumping of mining waste on the private land, Court said that prior clearance of Central Government under notification issued under Rule 5 (3) of EP Rules, 1986 would be necessary. Justice Shah Commission found that despite restriction on mining activities inside National Parks, Sanctuaries and other protected and eco-sensitive areas,

mining activities have been permitted within 10 km and inside the national parks, sanctuaries and protected area. Thus, Court considered next question as to within what distance from the boundaries of national parks and wildlife sanctuaries mining is permissible or not in the State of Goa. Answering this question, Court found that State of Goa has taken a clear stand that no mining operations were allowed inside any National Park or Wildlife Sanctuaries hence question to this extent did not require any adjudication. Next question was ***"whether mining could have been permitted or could be permitted within a certain distance from the boundaries of national park or wildlife sanctuary in the State of Goa"***. Answering it, Court said that the argument advanced on behalf of lessees that until a notification is issued under EP Act, 1986 and rules framed thereunder prohibiting mining activities in an area outside the boundaries of a national park/wildlife sanctuary, no mining can be prohibited, is misconceived. Here Court relied on article 21 of the constitution which guarantees right to life and further refers to a three Judge Bench Judgment in ***Noida Memorial Complex near Okhla Bird Sanctuary, In Re, (2011)1SCC744***, where it was held that environment is one of the facets of the right to life guaranteed under Article 21 of the Constitution. Environment is, therefore, a matter, directly under the Constitution and if Court perceives any project or activity as harmful or injurious to the environment, it would feel obliged to step in. Then, with regard to permissible mining activities, Supreme Court referred to order dated 4.8.2006 in ***T.N. Godavarman Thirumulpad vs. Union of India, (2010)13SCC740***, and 4.12.2006 in ***Goa Foundation vs. Union of India, (2011)15SCC791***, and said that the above orders make it clear that grant of temporary working permits should not result in any mining activities within safety zone, around National Parks and Wildlife

Sanctuaries, and as an interim measure, 1 km safety zone was to be maintained. Since the said orders were not varied subsequently, Supreme Court directed that the said order have to be followed and there will be no mining activity within 1 km safety zone around National Park and Wildlife Sanctuary in State of Goa.

339. The contention advanced on behalf of Goa foundation, that within 10 kms from the boundaries of national park or wildlife sanctuary, no mining activity can be permitted, was returned by Supreme Court holding that no such order was issued either in ***Goa Foundation vs. Union of India (supra)*** or elsewhere. Court further referred to EP Rules, 1986 and said that until Central Government takes into account various factors mentioned in sub-rule 1, follows procedure laid done in sub-rule 3 and issues a notification under rule 5 prohibiting mining operations in a certain area, there can be no prohibition under law to carry on mining activity beyond 1 km of the boundaries of national parks or wildlife sanctuaries. The issue of the distance, with regard to mining activities qua National Park and Sanctuaries, was decided accordingly. The next question was regarding transfer or amalgamation of lease for which Justice Shah Commission observed that Rule 37 and 38 of MC Rules, 1960 were violated. Here State Government took a stand that there was a practice prevailing in State of Goa that a mining lease, by a person other than lease holder, can be operated. Deprecating it, Supreme Court said that rules 37 and 38 clearly prohibit such transfer or amalgamation unless permitted specifically by State Government and directed State Government not to allow such activities in violation of rules 37 and 38. Court also found from CEC's Report that there was no effective checks and measures with regard to production and transportation of mineral from the mining leases in the State of Goa, hence there was every

possibility to believe that excess quantity of minerals were extracted and transported. Court also found existence of Goa (Prevention of Illegal Mining, Storage and Transportation of Minerals) Rules, 2013 but non-observance thereof by the Authority. It directed State Government to enforce above rules, strictly.

340. The next question related to environment. "To what extent, mining has damaged environment in Goa" and "what measures are to be taken to ensure intergenerational equity and sustainable development". In this regard, Court vide order dated 11 and 12.11.2013 (***Goa Foundation vs. Union of India, (2014)6SCC738***) constituted an Expert Committee to conduct, a macro-EIA study, and propose sealing of annual excavation of iron ore in State of Goa, considering its iron ore resources, carrying capacity, keeping in mind Principles of Sustainable Development, Intergenerational Equity and all other relevant factors. The said Committee submitted report dated 14.3.2014 indicating that economy of Goa depends upon tourism, iron ore mining, besides agriculture, horticulture and minor industries. Commenting upon damage to environment in State of Goa, Expert Committee said that production of iron ore has drastically jumped on, from 14.6 million tons in 1941 to 41.17 million tons in 2010-2011. This has led to massive negative impact on all ecosystems leading to enhanced air, water and soil pollution, affecting quality of life, across Goa. With regard to sustainability of iron ore mining in Goa, Expert Committee opined that mining at the rate of 20 to 27.5 million tons per annum may be sustainable in State of Goa. Supreme Court referred to a report of Indian School of Mines, Dhanbad (hereinafter referred to as 'ISM'), who was entrusted, by MoEF, to carry out regional impact assessment study of mining in Goa region. In the said report, ISM recommended a cap of 24.995 MT per annum on the basis of

carrying capacity of existing infrastructure of State of Goa. Relying on the said report, Court held that a cap between 20 to 27.5 MT per annum should be fixed for excavation of iron ore in State of Goa. Court also found that Goa State Pollution Control Board (Goa PCB) has immense powers under Air Act, 1981 and Water Act, 1974 but despite that, iron ore production in State of Goa has led to massive negative impact on all ecosystem leading to enhanced air, soil and water pollution affecting quality of life across State of Goa, and Goa PCB has miserably failed in discharge of its statutory functions. Supreme Court's observations are, ***"Rather, it appears that the Goa State Pollution Control Board, though conferred with immense statutory powers, has failed to discharge its statutory functions and duties"***. Court directed that Goa PCB would exercise strict vigil and monitor water and air quality and if lessees failed to conform the prescribed norms, Goa PCB must not hesitate in closure of mining operations of such lessees. Further, for restoration of environment, Court directed that **10% of sale proceeds of all iron ore**, excavated in State of Goa, and sold by lessees, would be appropriated towards 'Goan Iron Ore Permanent Fund', constituted for the purpose of sustainable development and intergenerational equity.

341. The next question, "whether mining in future should be allowed by granting leases in auction or otherwise", was answered by noticing observations in ***Centre for Public Interest Litigation vs. Union of India (2012)3SCC1***, that ***"State of the legal owner of the natural resources as a trustee of the people and although it is empowered to distribute the same, the process of distribution must be guided by the constitutional principles including the doctrine of equality and larger public good."*** Court also noticed observations of constitution bench in ***Natural Resources Allocation, In Re, Special Reference No.***

1 of 2012, (2012)10SCC1 that auction, despite being a more preferable method of alienation/allotment of natural resources, cannot be held to be a constitutional requirement or limitation for alienation of all natural resources, and therefore, every method other than auction cannot be struck down as ultra vires of the constitutional mandate. It is for State Government to decide as a matter of policy in what manner leases of mineral resources would be granted but this should be in accordance with statutory provisions i.e., MMDR Act, 1957 and rules framed thereunder by taking a policy decision. Supreme Court also quoted opinion of four Judges out of five Judges, in ***Natural Resources Allocation (supra)***, (in para 149), that alienation of natural resources is a policy decision and the means, adopted for the same, are, thus executive prerogatives. However, when such a policy decision is not backed by a social or welfare purpose, and precious and scarce natural resources are alienated for commercial pursuits of profit, maximising private entrepreneurs, adoption of means other than those that are competitive and maximise revenue, may be arbitrary and face wrath of Article 14 of the Constitution. Hence no hard and fast method ought to be laid by Court but judicial scrutiny of such matter would depend on fact and circumstances in each case. Supreme Court also held that the order issued by Government of Goa suspending mining operations cannot be quashed since in any case renewal of deemed mining leases expired on 22.11.2007 and any mining thereafter was illegal. Therefore, order dated 10.9.2012 of Government of Goa and 14.9.2012 of MoEF, will have to continue till decision is taken by State Government to grant fresh leases and MoEF takes decision for granting fresh EC for mining project in accordance with law. Supreme Court ultimately issued directions which are briefly stated in para 87 and 88 of the judgment. The above judgment

shows that for remedy to the damaged done to environment, 10% of sale proceeds of the subject i.e., goods and in this case mined iron ore, was required to be paid by lessees who excavated the said ore, illegally. The amount collected was to be kept in a separate fund, and to be consumed by appropriate authorities for sustainable development and intergenerational equity. Further, here environment compensation was determined at 10% in view of the fact that mining cannot be stopped, and would continue as providing revenue to Government and heavy profits to illegal minors. Further, environment compensation was determined on the rate of sale proceeds i.e., selling rate of mineral.

342. In ***Animal Welfare Board of India vs. A. Nagaraja & Others, (2014)7SCC547*** (order dated 07.05.2014 passed in Civil Appeals No. 5387/2014 with Nos. 5388/2014, 5389-90/2014, 5391/2014, 5392/2014, 5393/2014 and 5394/2014, Writ Petition (C) No. 145/2011, TCs Nos. 84-86, 97-98 and 127/2013) (commonly known as **Jallikattu matter**), rights of animals under Constitution of India, laws, culture, tradition, religion and ethology arising from the events held in the States of Tamil Nadu and Maharashtra, namely, Jallikattu, bullock cart races etc. came up for consideration. Issue was examined in the light of provisions of Prevention of Cruelty to Animals Act, 1960 (hereinafter referred to as 'PCA Act, 1960'); Tamil Nadu (Regulation of Jallikattu) Act, 2009 (hereinafter referred to as "TNRJ Act, 2009") and notification dated 11.7.2011 issued by Government of India under Section 22(ii) of PCA Act, 1960. The leading appeal had arisen from judgment of Madras High Court (at Madurai), dated 09.03.2007 passed in ***K. Muniasamythevar v. Supt. of Police, (2007)5MLJ135.*** Some other Writ Petitions were also filed by some organizations working against cruelty to animals wherein Notification dated 11.07.2011 was challenged and the said Writ Petitions

were transferred to Supreme Court. Another SLP No. 13199/2012, challenged Bombay High Court's order dated 12.03.2012 passed in ***Gargi Gogoi v. State of Maharashtra, PIL(L) No. 28/2012.*** Bombay High Court has upheld MoEF Notification dated 11.07.2011 and corrigendum issued by Government of Maharashtra, dated 24.08.2011 prohibiting all Bullock-cart races, games, training, exhibition etc. A review application was also filed but dismissed by Bombay High Court on 26.11.2012 and this was also challenged in SLP No. 4598/2013. The events of Jallikattu or Bullock-cart races etc., were challenged as constituting cruelty to animals alleging that there is no historical, cultural or religious significance, either in State of Tamil Nadu or Maharashtra and in any case provision of PCA Act, 1960 would supersede such practices and must be observed and enforced strictly. Court reminded a word of caution and concern and said in para 15 that the issue raised had to be examined, primarily keeping in mind welfare and well-being of the animals, not from the stand point of the Organizers, Bull tamers, Bull Racers, spectators, participants or respective States or Central Government, since a welfare legislation of a sentient being, over which human beings have domination, was being dealt with. Court would apply, in deciding the issue, standard of "Species Best Interest", subject to just exceptions, out of human necessity. Referring to PCA, 1960, Court said that it is a welfare legislation, to be construed keeping in mind the purpose and object of the Act and Directive Principles of State Policy laid down in the Constitution. The above Act should be liberally construed in favour of weak and infirm. Court should be vigilant to see that benefits conferred by remedial and welfare legislations are not defeated by subtle devices. Court has got the duty that, in every case, where ingenuity is expanded to avoid welfare legislations, to get behind the smoke-screen,

and discover the true state of affairs. Court can go behind the form and see substance of the devise for which it has to pierce the veil and examine whether the guidelines or regulations are framed so as to achieve some other purpose than the welfare of animals. **Regulations or guidelines, whether statutory or otherwise, if they purport to dilute or defeat welfare legislation and constitutional principles, Court should not hesitate to strike them down so as to achieve ultimate object and purpose of welfare legislation**. PCA Act, 1960, being welfare legislation, would over-shadow or override any tradition and culture, if any. Referring to earlier judgment in ***N.Adithayan v Thravancore Dewaswom Board & Others, (2002)8SCC106 (para 18)***, Court reiterated following extract:

> *"18……. Any custom or usage irrespective of even any proof of their existence in pre-constitutional days cannot be countenanced as a source of law to claim any rights when it is found to violate human rights, dignity, social equality and the specific mandate of the Constitution and law made by Parliament. No usage which is found to be pernicious and considered to be in derogation of the law of the land or opposed to public policy or social decency can be accepted or upheld by courts in the country."*

343. Court also quoted from Isha-Upanishads, saying *"The universe along with its creatures belongs to the land. No creature is superior to any other. Human beings should not be above nature. Let no one species encroach over the rights and privileges of other species."* Referring to international approach to animal welfare, Court observed that there is no international agreement which ensures welfare and protection of animals. Even United Nations, all the years, has sought to safeguard only rights of human beings and not the rights of other species like animals. Castigating this approach of international community, Court said *"there has been a slow but observable shift from anthropocentric approach to more nature's right centric approach in International Environmental Law, Animal Welfare Laws etc."* This development was noticed to have

proceeded in three stages; (i) First Stage: Human self-interest reason for environmental protection, referring to some instruments executed during the last century, i.e., Declaration of the Protection of Birds Useful to Agriculture (1875), Convention Designed to Ensure the Protection of Various Species of Wild Animals which are Useful to Man or Inoffensive (1900), Convention for the Regulation of Whaling (1931) which had objective of ensuring health of the whaling industry rather than conserving or protecting whale species. Attitude behind the above instruments of the treaties was assertion of an unlimited right to exploit natural resources which derived from their right as sovereign nations; (ii) Second Stage: International Equity-In this stage we saw extension of treaties beyond requirements of present generation to also meet needs to future generations of human beings; and (iii) Third Stage: Nature's own rights- Here Court referred to UNEP Biodiversity Convention (1992). Having said so, it was held that Supreme Court in India had accepted and applied eco-centric principles and for this referred to its earlier orders in ***T.N. Godavarman Thirumulpad vs. Union of India & Others (2012)3SCC77***; ***T.N. Godavarman Thirumulpad vs. Union of India & Others (2012)4SCC362*** and ***Centre for Environmental Law World Wide Fund India vs. Union of India & Others (2013)8SCC234***. Based on eco-centric principles, rights of animals have been recognized in various countries. In the above backdrop, Court said: *"when we look at the rights of animals from national and international perspective, what emerges is that* ***every species has an inherent right to live and shall be protected by law, subject to exception provided out of necessity. Animal has also honour and dignity which cannot be denied arbitrarily, its rights and privacy have to be respected and protected from unlawful attacks****."* Ultimately, Court held that the

events like Jallikattu, bullock cart race, etc. are illegal and violative of Sections 3, 11(1)(a) and 11(1)(m)(ii) of PCA Act, 1960. Court also upheld MoEF Notification dated 11.07.2011.

344. In ***Gulf Goans Hotels Company Limited & Another vs Union of India & Another (2014)10SCC673***, (order dated 22.09.2014 in Civil Appeals No. 3434-35/2001 with Nos. 3436-39/2001), owners of Hotels, Beach Resorts and Beach Bungalows in Goa facing threat of demolition of their properties claiming to be in existence at the respective places for last several decades, approached Supreme Court for protection of their properties. Background facts are that Goa Foundation, a non-Governmental body, claiming to be dedicated to the cause of environmental and ecological, filed a Writ Petition seeking demolition of alleged illegal constructions raised by the above hoteliers, resort owners etc. Simultaneously, some orders of demolition were passed by the Authorities which were challenged by owners of the property in Bombay High Court. Vide judgment dated 13.07.2000, Bombay High Court upheld demolition orders. Hence, matter came to Supreme Court. The orders of demolition were issued on the ground that constructions were raised between 90 to 200 meters from High Tide Line (HTL), though constructions within 500 meters of HTL were prohibited except in rare situations where constructions between 200 to 500 meters from HTL may be permitted by Competent Authority subject to observance of certain conditions. These constructions were raised before 19.02.1991, i.e., enforcement of Coastal Regulation Zone (CRZ) Notification dated 19.02.1991. The owners of property contended that at the time when constructions were raised prohibition was only within 90 meters from HTL and no construction was raised by property owners within the said range. On the contrary, authorities and complainants, justifying

demolition, relied on a letter dated 27.11.1981 issued from the office of Prime Minister, 'Guidelines issued in 1983 (Environmental Guidelines for Development of Beaches, July 1983),' order dated 11.06.1986 of Under Secretary, Ministry of Tourism addressed to Chief Secretary, Government of Goa, constituting an Inter-Ministerial Committee for considering Tourist Projects within 500 meters and Notification dated 22.07.1982 of Governor setting up Ecological Development Council for Goa, for scrutiny of beach construction within 500 meters of HTL. A question was raised '*whether above letter and guidelines satisfy requirement of law, authorizing authorities to demolish disputed property'*. Observing that protection of environment in the light of International conventions and resolutions as also various authorities of Supreme Court, is a matter of prime importance and concern but in the absence of any law, a person cannot be deprived of his property. Court said *"violation of Article 21 on account of alleged environmental violation cannot be subjectively and individually determined when parameters of permissible/impermissible conduct are required to be legislatively or statutorily determined under Sections 3 and 6 of the Environment Protection Act, 1986……"*.

345. In ***B.S. Sandhu vs. Government of India & Others, (2014)12SCC172***, (order dated 21.05.2014 in Civil Appeals No. 4682-83/2005 with Nos. 4684-85, 4798-4800/2005, SLPs(C) No. 19226 and 20235/2013), strictly relying on a Notification under Section 3 of Punjab Land Preservation Act, 1900, Court held that it covers forest and non-forest land and unless a specific finding is recorded that disputed property or non-forest activities are carried out in forest land, a prohibitory order by a High Court was not correct. Court held that FC Act, 1980 was enacted to check further deforestation and would apply to

all forest irrespective of nature of ownership or a classification that the land must be a forest land.

346. In ***State (NCT of Delhi) vs. Sanjay, (2014)9SCC772***, (order dated 04.09.2014 in Criminal Appeals No. 499/2011 with Nos. 2105-12/2013), authority of Police and other law enforcement agencies for prosecution under Mines and Minerals (Development and Regulation) Act, 1957 (hereinafter referred to as 'MMDR Act, 1957') was challenged and considered. Issue for consideration was 'whether Section 21 and 22 of the aforesaid Act would operate as bar against prosecution of a person who has been charged with allegations which constitute offences under Section 379/114 and other provisions of IPC, 1860. In other words, 'whether MMDR Act, 1957, explicitly or impliedly, excludes provisions of IPC when act of an accused is an offence under both statutes. The contention was that the offence, if any, committed under the provisions of MMDR Act, 1957 but no complaint had been made, then no cognizance can be taken in IPC and since the offence is covered by MMDR Act, 1957, provisions of IPC cannot be resorted to. Considering the above question, Court said that mining activity also cause and destruct environment if conducted in absence of proper scientific methodology; **lack of proper scientific methodology for river sand mining have led to indiscriminate sand mining**; and weak governance and corruption have led to widespread illegal mining. Court referred to UNEP Global Environmental Alert Service report, stating in reference to India, that sand trading is a lucrative business, and there is evidence of illegal trading broadly under the influence of sand mafias; **mining of aggregates in rivers has led to severe damage to river, including pollution and changes in level of pH; removing sediment from river causes the river to cut its channel through the bed of the valley**

floor, or channel incision, both upstream and downstream of the extraction site; leads to coarsening of bed material and lateral channel instability; it can change the riverbed itself; removal of more than 12 million tonnes of sand a year from the Vembanad Lake catchment in India has led to lowering of the riverbed by 7 to 15 centimeters a year; **Incision can also cause alluvial aquifer to drain to a lower level, resulting in a loss of aquifer storage; and can also increase flood frequency and intensity by reducing flood regulation capacity.** However, lowering the water table is most threatening to water supply exacerbating drought occurrence and severity as tributaries of major rivers dry up when sand mining reaches certain thresholds. Illegal sand mining also causes erosion. Damming and mining have reduced sediment delivery from rivers to many coastal areas, leading to accelerated beach erosion. Quoting above report of United Nations, impact of sand mining was further discussed in para 34 and 35 of the judgment, as under:

> *"34. The report also dealt with the **astonishing impact of sand mining on the economy**. It states that the tourism may be affected through beach erosion. Fishing, both traditional and commercial, can be affected through destruction of benthic fauna. Agriculture could be affected through loss of agricultural land from river erosion and the lowering of the water table. The insurance sector is affected through exacerbation of the impact of extreme events such as floods, droughts and storm surges through decreased protection of beach fronts. The erosion of coastal areas and beaches affects houses and infrastructure. A decrease in bed load or channel shortening can cause downstream erosion including bank erosion and the undercutting or undermining of engineering structures such as bridges, side protection walls and structures for water supply.*
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> *35. Sand is often removed from beaches to build hotels, roads and other tourism-related infrastructure. In some locations, continued construction is likely to lead to an unsustainable situation and destruction of the main natural attraction for visitors-beaches themselves. Mining from, within or near a riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in stream roughness of the bed, flow velocity, discharge capacity, sediment transportation capacity, turbidity, temperature, etc. Alteration or modification of the above attributes may cause*

hazardous impact on ecological equilibrium of riverine regime. This may also cause adverse impact on in stream biota and riparian habitats. This disturbance may also cause changes in channel configuration and flow-paths."

347. Relying on the Doctrine of Public Trust, applied in the context of environment, Court held that natural resources constitute public assets and State is trustee and custodian to protect it, even if proceedings have not been initiated under MMRD Act, 1957, if a person has extracted minerals unauthorizedly and illegally, it amounts to theft and, therefore, offence is covered under Sections 378 and 379 of IPC, wherein police can take cognizance and Magistrate on receipt of police report is empowered to proceed without waiting for a complaint to be filed by an officer authorized under MMRD Act, 1957. Court said that dishonest removal of sand gravel and other minerals from river which is property of the State, out of State's possession without consent, constitutes an offence of theft. Hence, provisions of MMRS Act, 1957 will not debar police from taking action against persons committing theft of sand and minerals by exercising power under Cr.P.C. and submit a report before Magistrate for taking cognizance against such persons. Court said *"any case* ***where there is a theft of sand and gravel from the Government land, the police can register a case****, investigate the same and submit a final report under Section 173 of Cr.P.C before a Magistrate having jurisdiction for the purpose of taking cognizance as provided in Section 190(1)(d) of Cr.P.C"*. Further in para 73, Court said that *"we are of the definite opinion that the ingredients constituting the offence under the MMDR Act and the ingredients of dishonestly removing sand and gravel from the river beds without consent, which is the property of the State, is a distinct offence under the IPC. Hence, for the commission of offence under Section 378 Cr.PC, on receipt of the police report, the Magistrate having jurisdiction*

can take cognizance of the said offence without awaiting the receipt of complaint that may be filed by the authorized officer for taking cognizance in respect of violation of various provisions of the MMRD Act."

348. ***Goa Foundation vs. Union of India & Others, (2015)1SCC153***, (order dated 14.10.2014 in IA No. 86/2014 in Writ Petition (Civil) No. 435/2012) is a follow up of earlier decision dated 10.09.2012 reported in ***(2014)6SCC590***. An application was filed by mining proponents claiming that they had extracted 67,285 metric tonnes of iron ore and they should be allowed to lift the same. Referring to the statutory provisions that extracted ore should have been removed within a period of six months, Court did not accept the above request and held that the provisions of Mineral Rules mandate that the excavated mineral ore is liable to be removed by lessee within a period of six months, failing which, after issuance of a notice, same would stand forfeited to the Government. Further, earlier direction of Supreme Court said that all extracted mineral ore contained in the inventory prepared by the Monitoring Committee would vest in the State Government. That being so, the request of mining proponent cannot be accepted.

349. In ***Muneer Enterprises vs. Ramgad Minerals and Mining Limited & Others, (2015)5SCC366***, (order dated 12.03.2015 in Civil Appeal No. 2818/201), an order of transfer of mining lease from original lessee to a third person was challenged on the ground that a lease which was surrendered or found illegal to have not followed law, cannot be allotted by transfer. In para 76 of the judgment, Court said that grant, operation and termination of mining lease is governed by statute, anyone of these factors, i.e., grant of lease or operation of mines based on such grant and termination, either by way of surrender at the instance of

lessee or by way of termination at the instance of State should be carried out strictly in accordance with prescribed stipulations of statutes. Referring to Section 19 of MMRD Act, 1957, Court said that any mining lease granted in contravention of the provisions of the said Act or Rules shall be void and would have no effect. The above provision is mandatory. Further, if a mining lease is granted in violation of Section 2 of FC Act, 1980, in law it can be said that there is no mining lease in existence. In para 104, Court said, *"therefore, for a mining lease to remain valid, twin requirements of the approval of the Central Government under the proviso to Section 5(1) of MMDR Act and Section 2 of the Forest Act of 1980 have to be fulfilled. Therefore, a lessee cannot be heard to contend that such statutory requirements are to be thrown overboard and permitted to seek for such approvals after the expiry of the lease at its own sweet will and pleasure and the time to be fixed on its own and that the operation of the mining lease should be allowed ignoring such mandatory prescription".* That being so, nothing could have been further transferred to anyone. Court also seriously deprecated State Authorities acting in violation of law and observed that strict action needed to be taken against them. In para 118 of the judgment, Court said, *"in this context, it will be more relevant to state that mines and mineral being national wealth, dealing with the same as the largesse of the State by way of grant of lease or in the form of any other right in favour of any party can only be resorted to strictly in accordance with the provisions governing disposal of such largesse and could not have been resorted to as has been done by the State Government and the Director of Mines and Geology of the State of Karnataka by passing the order of transfer dated 16.3.2002.* ***Such a conduct of the State and its authorities are highly condemnable and, therefore, calls for stringent action against*** *them".*

350. In ***M.C. Mehta vs. Union of India & others, (2015)12SCC764***, *a* complaint of pollution of river Ganga and its cleanliness was raised in Writ Petition No. 3727/1985 filed under Article 32 of the Constitution. Subsequently, petition was transferred to this Tribunal vide order dated 29.10.2014, ***(2015)12SCC764***, with the observations made in paras 19 and 20 as under:

> *"19. We are confident that the Tribunal which has several experts as its members and the advantage of assistance from agencies from outside will spare no efforts to effectively address all the questions arising out of industrial effluents being discharged into the river. This will include discharge not only from the grossly polluting industries referred to in the earlier part of this order but also discharge from "highly polluting units" also. As regards the remainder of the matter concerning discharge of domestic sewage and other sources of pollution we will for the present retain the same with us.*
> *20. We accordingly request the Tribunal to look into all relevant aspects and to pass appropriate directions against all those found to be violating the law.* ***We will highly appreciate if the Tribunal submits an interim report to us every six months only to give us an idea as to the progress made and the difficulties, if any, besetting the exercise to enable us to remove such of the difficulties as can be removed within judicially manageable dimensions****. The Registry shall forward a copy of the order to the National Green Tribunal alongwith a copy of the writ petition and the affidavits filed in reply from time to time."*

351. In ***Rajendra Shankar Shukla & others vs. State of Chhattisgarh & others, (2015)10SCC400***, (order dated 29.07.2015 in Civil Appeal No. 5769-70/2015 with Nos. 5771-75/2015), certain land owners whose land was acquired for Town Development Scheme, namely, Kamal Vihar Township Development Scheme No. 4, challenged acquisition of land on various grounds including violation of requirement of EC under EIA 2006. Having lost before Single Judge and Division Bench in High Court, land owners came to Supreme Court. The question relating to EC under EIA 2006 was considered as issue no. (vi) in para 116-126. Court held that since land in question was in 'critically polluted area', the category of the project from 'B1' would be treated as category 'A'

and Competent Authority to grant EC was MoEF&CC not SEIAA. Hence, EC granted by SEIAA was illegal. Court, however, held, if there is any deviation in land use from proposal as disclosed in the application, a fresh EC would have to be sought by the proponent. In the case, there was a change in land use but not such fresh EC was sought. In the circumstances, Scheme could not have allowed to proceed illegally. In para 126, Court said, *"therefore, we are of the opinion that due to the* ***change in the scope of the project, Respondent No. 2 RDA was required to seek sanction for the project from the Central Government. The same has not been done....failed to obtain the environmental clearance requirement which is the mandatory requirement in law*** *for initiating any project by the RDA...****town development scheme prepared through incompetent authorities with blatant violation of legal and environmental procedure cannot be the reason for deprivation of constitutional rights of the appellants****"*. Court thus held that acquisition of land will not be valid for an illegal project.

352. In ***Anirudh Kumar vs. Municipal Corporation of Delhi & Others, (2015)7SCC779***, (order dated 20.03.2015 in Civil Appeal No. 8284/2013), issue of noise pollution was raised where two doctors running a pathological lab in a residential building, were causing noise pollution. A direction was sought to restrain them from running such lab. Court held that running of pathological lab by respondent owners creates air and sound pollution rampantly on account of which public residents' health and peace is adversely affected. Therefore, public interest is affected and there is violation of rule of law. Appeal was allowed. The respondent owners were directed to close down their establishment, i.e., pathological lab. Municipal Corporation as well as Pollution Control

Committee were directed to ensure that no unlawful activities are carried out in residential premises. Commenting adversely upon role of local bodies and environmental regulatory authority, Court, in para 56 and 57, said:

> *"56. Therefore,* ***both the MCD and the DPCC abdicated their statutory duties in permitting the owners to carry on with the unlawful activities*** *which inaction despite persistent request made by the appellant and the residents of the area did not yield any results. The counsel for the MCD made the statement before the courts below and even before this Court that there are no illegal activities on the part of the respondent-owners as they are supported by issuance of a Regularisation Certificate. In this regard as discussed previously in this judgement, the issuance of* ***Regularisation Certificate to run the Pathological Lab in the building is totally impermissible in law*** *even though the respondent-owners have placed reliance upon Mixed Use of the land in the area as per MPD 2021 referred to supra.*
> *57. Further, it is necessary for us to make an observation here that the* ***conduct of the MCD and the DPCC for their inaction is highly deplorable as they have miserably failed to discharge their statutory duties on account of which there has been a blatant violation of the rule of law*** *and thereby a large number of residents of the locality are suffering on account of the unlawful activities of the respondent-owners, whose activities are patronised by both the authorities."*

353. It may be worthy to note that pathological lab was running in the basement, ground floor and first floor of the premises while complainant was residing on the second floor of the said building. Initially, complainant approached High Court but it declined to interfere, hence, he came to Supreme Court, where Appeal was allowed and order noted above was passed. The arguments raised on the plea that mixed use was allowed in residential building, Court deprecated and said, *"a liberalised provision of mixed use in the residential areas has been adopted adhering to the requisites of the environment while achieving better synergy between work-place, residence and transportation"*. Court also found that in the garb of running pathological lab, owners were also running a nursing home in the residential area which was not permissible in law. With regard to mixed use, Court referring to the Master Plan, said, ***"the***

area/street for mixed use activity should be identified by conducting a study of the impact on the traffic in that area/street in which such mixed use activity is likely to take place and also evaluate the environmental needs and impact on municipal services *of the area if mixed use is allowed".*

354. In ***Union of India vs. Vijay Bansal & Others, (2015)14SCC424***, appeal against Punjab and Haryana High Court, was considered wherein order directing State of Haryana to apply to Expert Appraisal Committee for determining Terms of Reference (TOR) and get Environmental Clearance Impact Assessment Report (EIAR) required for the entire mining area falling within the fragile Shivalik Ranges of the Himalayas and then complete process of public consultation and get a final Environmental Impact Assessment Report prepared, was challenged on the ground that application for grant of EC can be filed only by the party, applying for mining lease, and not by Government as such. Reliance was placed upon MoEF's notification dated 04.04.2011, wherein it was clarified that application for seeking EC shall be made by PP. Even Government of India before Supreme Court took the same stand and consequently, appeal was allowed and High Court's order was set aside to the extent of above direction, issued to State of Haryana.

355. In ***V.C. Chinnappa goudar vs. Karnataka State Pollution Control Board and Another, (2015)14SCC535***, an issue was raised that Government officer/public servant is entitled for protection under Section 197 CrPC and without such sanction, Magistrate cannot take cognizance even if, he is accused of an offence under section 48 of Water Act, 1974. High Court of Karnataka rejected this contention and in

appeal Supreme Court confirmed the above view, observing in para 8 and 9, as under:

> *"8. In this context, when we refer to Section 5 CrPC, the said section makes it clear that in the absence of specific provisions to the contrary, nothing contained in the Criminal Procedure Code would affect any special or local laws providing for any special form or procedure prescribed to be made applicable. There is no specific provision providing for any sanction to be secured for proceeding against a public servant under the 1974 Act. If one can visualise a situation where Section 197 CrPC is made applicable in respect of any prosecution under the 1974 Act and in that process the sanction is refused by the State by invoking Section 197 CrPC that would virtually negate the deeming fiction provided under Section 48 by which the Head of the Department of a government department would otherwise be deemed guilty of the offence under the 1974 Act. In such a situation the outcome of application of Section 197 CrPC by resorting to reliance placed by Section 4(2) CrPC would directly conflict with Section 48 of the 1974 Act and consequently Section 60 of the 1974 Act would automatically come into play which has an overriding effect over any other enactment other than the 1974 Act.*
>
> *9. In the light of the said statutory prescription contained in Section 48, we find that there is no scope for invoking Section 197 CrPC even though the appellants are stated to be public servants."*

356. In ***Vardah Enterpirises Private Limited vs. Rajendra Kumar Razdan and Others, (2015)15SCC352***, issue of construction in the alleged restricted area of Fatehsagar and Pichola Lakes in Udaipur was in question. Rajasthan Government issued a notification dated 17.01.1999 under Section 171 of Rajasthan Municipalities Act, 2009, declaring area around Fatehsagar and Pichola Lakes in Udaipur as "No Construction Zone". Another notification was issued on 10.12.1999, superseding the earlier one, declaring area around Fatehsagar and Pichola Lakes in Udaipur as 'Controlled Construction Area'. ***W.P. (C) No. 427 of 1999*** was filed by one Rajendra Kumar Razdan in Rajasthan High Court at Jaipur, praying that all constructions, in and around lakes specified in Rajasthan Government notification dated 17.01.1997, be stopped and Government agencies be stopped to carry on harmful and dangerous activities, for maintenance of lives of population in the said area. Writ

petition was allowed vide judgment dated 06.02.2007, taking a view that there would be no construction in and around the said lakes and their respective catchment areas; and Statutory Authorities cannot permit any construction activity in the 'Controlled Construction Area'. On the basis of perusal of record, Supreme Court found that the land of appellant which was disputed, did not attract either notification dated 17.01.1997 or 10.12.1999. Consequently, proceedings initiated against appellant *M/s. Vardha Enterprises Private Limited* were set aside. In another connected matter, where issue of wetland under Wetlands (Conservation and Management) Rules, 2010 was raised, Court held, where statutory permission was already granted, the aforesaid Rules of 2010 will not apply. Further, so long as, there is no wetland notified under the Rules, the prohibition/restriction contained therein, would not be attracted.

357. In ***Wildlife Rescue and Rehabilitation Centre and Others vs. Union of India and Others, (2016)1SCC716***, issue of cruelty upon captive elephants in State of Kerala was raised and referring to WLP Act, 1972 and Kerala Captive Elephants (Management and Maintenance) Rules, 2012, Court issued direction that those Rules and Statutory Provisions should be strictly followed, observed and applied and enforced by the concerned Authorities.

358. In ***Electrotherm (India) Limited vs. Patel Vipul Kumar Ramjibhai and others, (2016)9SCC300***, issue of public hearing before grant of EC in the context of EIA 1994 and EIA 2006 was under consideration. Gujarat High Court had set aside EC dated 27.01.2010 granted to appellant and allowed continuance of its unit only till fresh EC was accorded in its favour by MoEF. It was challenged by appellant/PP before Supreme Court stating that PP has set up a steel plant at village

Samakhiyali, for manufacturing various products; NOC was issued by State PCB on 25.02.2005 and Authorization Order was issued on 10.11.2005 for manufacture of Pig Iron, Steel Billets/Slabs, Steel Bars and Rods, etc.; appellant set up his plant and vide letter dated 30.11.2007 applied for grant of EC; it was granted by MoEF on 20.02.2008; appellant thereafter, applied for expansion of steel plant; informed Expert Appraisal Committee that while granting EC earlier public hearing for the project was already held on 12.06.2007 and since expansion would be within the existing industrial premises and no extra land would be required, hence an exemption be allowed for public hearing. Expansion project was granted EC by MoEF vide order dated 27.01.2010. This was challenged in Gujarat High Court on the ground that grant of EC for expansion of plant exempting public hearing was not in conformity with the provisions of EIA 2006. High Court held that grant of EC dated 27.01.2010 without any public consultation or hearing was bad since public consultation/public hearing was mandatory requirement under EIA 2006. In appeal, Supreme Court observed that public consultation/public hearing is one of the important suggestions while considering the matter for grant of EC; record show that exemption was allowed on the ground that no additional land will be required and no additional ground water drawl or other features will be necessary. Further, Court observed that so far as requirement of water is concerned, it is a community resource and when expansion was allowed, use of water would definitely be additional of what it was required earlier and, therefore, expansion of project would have entailed additional pollution load due to larger requirement of water. Court referred to the amendment notification dated 01.12.2009 of EIA 2006, wherein no provision for exemption from public hearing was made for holding that public

consultation/public hearing was mandatory, Supreme Court relied on its earlier decision in ***Lafarge Umiam Mining Private Limited vs. Union of India (supra)***. However, instead of closing the unit, Court permitted unit to continue till public hearing is conducted and observed that if as a result of public hearing, any negative mandate against expansion of the project is to be issued; Competent Authority may ensure scaling down activities to the level which was already permitted by earlier EC dated 20.02.2008. This method was adopted only since expansion had already been undertaken and proponent was working with expended capacity hence in the peculiar facts of the case and not as a general proposition of law, Court allowed indulgence though held that public hearing is mandatory.

359. In ***Anil Hoble vs. Kashinath Jairam Shetye and others, (2016)10SCC701***, judgment of this Tribunal was challenged whereby direction for demolition of construction raised in restricted coastal zone was issued. Background facts are that Anil Hoble, appellant raised a commercial building on plot of land bearing Chalta No.1/PTS No.10, Panjim City and Survey No.65/1-A Village Morombio Grande in Merces Panchayat, Goa without obtaining necessary permission from the concerned Authorities. Alleging that construction is detrimental to the coastal ecosystem and river ecosystem; likely to cause pollution of river water due to commercial activities of the bar and restaurant and the construction was raised with political influence in utter violation of CRZ Notification dated 19.02.1991; an application under Section 14 of NGT Act, 2010 was filed before Tribunal. The defence taken was that structure was in existence prior to 19.02.1991 hence would not attract restriction imposed by notification dated 19.02.1991. Tribunal after perusal of record, recorded findings that the defence taken by appellant that the

structure was prior to 19.02.1991 was not correct and, thereafter, relying on Bombay High Court's judgment in ***Goa Foundation vs. The Panchayat of Condolim & The Panchayat of Calangut, WP No. 422 of 1998***, decided on 13.10.2006, wherein directions were issued to State Authorities to take action against such unauthorized structures and construction put up on the land falling within CRZ-III area in Goa village or town after 19.02.1991, held construction raised by appellant illegal and directed its demolition by the concerned Executive Authority. Appellant was also imposed Rs. 20 lakhs cost of degradation of environment caused due to violation of CRZ Notification dated 19.02.1991. Appellant preferred review which was also rejected by order dated 14.12.2015. In appeal, Supreme Court found that appellant purchased plot vide sale deed dated 03.08.1992 when a small structure at the corner of the said plot was in existence, used as a garage hence the disputed structure admittedly was not there at least upto 03.08.1992 hence, Tribunal rightly found structure post 19.02.1991. Further, CRZ Policy prohibited construction upto 200 metres from High Tide Line as the said zone was treated as 'No Development Zone', except for repairs of existing authorized structures. Court agreed with the findings of Tribunal that construction was post 19.02.1991 and not prior to 19.02.1991 as pleaded by appellant. In that view of the matter, construction admittedly was contrary to CRZ Regulation as also judgment of Bombay High Court in ***Goa Foundation vs. The Panchayat of Condolim (supra)*** and Tribunal in fact, after recording the directions issued by Bombay High Court in ***Goa Foundation vs. The Panchayat of Condolim (supra)*** issued consequent directions in the present case also. Court held that the directions of Bombay High Court were imposed, and Authorities were bound by the same to implement and to prevent any breach thereof. Any

permission given contrary to the said direction, must be viewed as nullity and non-est, having been given in complete disregard of the directions of the High Court. Consequently, Court upheld the directions for demolition, issued by Tribunal.

360. On the issue of assessment of compensation for damage to environment in the matter of illegal mining, recently Supreme Court in ***Bajri Lease LOI holders Welfare Society vs. State of Rajasthan and others, SLP (Civil No.) 10584 of 2019*** (order dated 11.11.2021) has said that compensation/penalty to be paid by those indulging in illegal sand mining cannot be restricted to be value of illegally mined minerals. The **cost of restoration of environment as well as the cost of ecological services should be part of compensation**. 'Polluter Pays' principle as interpreted by this Court means that absolute liability for harm to the environment extends not only to compensate victims of pollution but also cost of restoring environmental degradation. Remediation of damaged environment is part of the process of "sustainable development" and as such the polluter is liable to pay the cost the individual sufferers as well as the cost of reversing the damaged ecology.

361. ***In M.C. Mehta vs UOI (2017)7SCC243 (Vehicular Air Pollution Matter)*** (orders dated 29th March 2017, 13th April 2017 and 20th March 2017 printed together), Supreme Court did not appreciate approach of automobile industries giving primary importance to commercial profit instead of taking proactive steps to reduce vehicular pollution. It is said, "*when the health of millions of our countrymen is involved, notification relating to commercial activities ought not to be interpreted in a literal manner.*"

362. Development vs. Environment paradigm may be debated upon but there cannot be any debate in the development vs. public health paradigm. Polluted air can lead to a variety of health problems as it is evident from a casual visit to website of CPCB and WHO. As per WHO report, when urban air quality declines, risk of stroke, heart disease, lung cancer, chronic and acute respiratory diseases including asthma increases. Office Memorandum dated 3.03.2015 cannot be read as to permit manufacture of BS-III complaint vehicles to go for manufacturing up to last and thereafter permit clearance sale thereof so as to postpone implementation of policy BS-IV complaint vehicles. Such an interpretation will make a mockery of all the efforts in regulating vehicular emissions and virtually would enable vehicle manufacturers to emasculate an important component of Right to Life guaranteed by Article 21 of the Constitution namely entitlement of millions of countrymen and women to breath less polluted air and ignore public health issues in conducting their business. Court therefore, rejected permission sought by Auto manufacturers for permitting clearance of the earlier version of vehicles.

363. Issue relating to illegal mining in State of Orissa in violation of environmental laws was considered in ***Common Cause vs. U.O.I. & Others (2017)9SCC499***. Two Writ Petitions were filed under Article 32 of the Constitution before Supreme Court, one by Common Cause, a public-spirited Organization, and another by Prafulla Samantra and Another complaining heavy illegal mining of iron ore and manganese ore in districts of Keonjhar, Sundergarh and Mayurbhanj in Odisha, national environment and forest and also causing untold misery to the tribals in the area. When Writ Petition were entertained initially on 21.04.2014,

noticing the averments that several mining operations were continuing without clearance under EP Act 1986 and FC Act 1980, Supreme Court directed Central Empowered Committee to make a list of such lessees who are operating leases in violation of law. The report dated 25.04.2014 submitted by CEC was considered on 16.05.2014 and Court found that in the above 3 districts, total leases granted for mining iron and manganese ore were 187 out of which 102 lease holders did not have requisite Environmental Clearance under EP Act, 1986 or approval under FC Act, 1980 or approved mining plan and/or Consent to Operate under the provisions of Air Act 1981 or Water Act 1974. Court directed suspension of such 102 mining leases till they obtain requisite clearances, approvals or consents. The order dated 16.05.2014 is reported in ***Common Cause vs. Union of India & Others, (2014)14SCC155.*** Out of 187 leases, 29 were already determined or rejected or had lapsed and direction was issued for suspension of said 29 mining leases till they commence operation after obtaining requisite statutory permissions etc. 53 iron ore/manganese ore mining leases were operational having necessary approvals under FC Act, 1980, consent to operate under Air Act 1981 or Water Act 1974 and also having approved mining plans but nothing was disclosed about availability of EC. 3 mining leases were located in forest as well as non-forest land, but mining operations were being conducted in non-forest areas. Court also examined above 56 operational mining leases and found that 14 were operating on first renewal basis under Section 8(2) of Mines and Minerals (Development and Regulation) Act, 1957 (hereafter referred to as 'MMDR Act 1957') read with Rule 24-A(6) of Mineral Concession Rules, 1960 (hereafter referred to as 'MCR 1960') and 16 mining leases were operating since lease deeds for grant of renewal were executed in their favour. The

remaining 26 mining leases were operating on second and subsequent renewal basis with renewal applications pending final decision with the State Government. Court allowed 14+ 16 mining leases to continue but in respect of 26 mining leases operating on 2nd and subsequent renewal applications, it found that in view of earlier judgement in ***Goa Foundation vs. U.O.I. (2014)6SCC590*** holding that for a second or subsequent deemed renewal no provision was available in view of Section 8(3) of MMDR Act 1957, Court directed to stop operation of 26 leases until express orders are passed by State Government under Section 8(3) of MMDR Act 1957. There was an amendment in MMDR Act 1957 with effect from 12th January, 2015 in Section 8(3) pursuant whereto remaining 26 leases also restart functioning. CEC in the report, dealt with the following ten topics:

I. *"Production of iron ore and manganese ore without/in excess of the environmental clearance/Mining Plan/Consent to Operate.*
II. *Mining leases operated in violation of the Forest (Conservation) Act, 1980.*
III. *Illegal mining outside the sanctioned mining lease areas.*
IV. *Mining leases acquired in violation of Section 6 of the MMDR Act, 1957.*
V. *Violation of Rule 37 of the Mineral Concession Rules, 1960 by the lessees.*
VI. *Illegalities involved in the mining leases of Essel Mining & Industries Ltd.*
VII. *Illegalities involved in the mining lease of Sharda Mines (P) Ltd.*
VIII. *Massive illegal mining in Uliburu Forest land.*
IX. *Inordinate delays in taking decisions by the State Government regarding renewal of the mining leases.*
X. *Other issues."*

364. Court formulated four issues as under:

I. *Leases lapsed under Section 4-A(4) of the Mines and Minerals (Development and Regulation) Act, 1957 (hereinafter referred to as MMDR Act, 1957) (11 leases);*
II. *Violation of Rule 24 of the Minerals (other than Atomic and Hydrocarbons Energy Minerals) Concession Rules, 2016 (hereinafter referred to as MCR, 2016) and Rule 37 of the Mineral Concessions Rules, 1960 (hereinafter referred to as MCR, 1960) (9 leases);*
III. *Illegal mining in forest lands (20 leases); and*
IV. *Iron ore produced without/in excess of the environmental clearance (each of the operating leases involved)."*

365. With respect of issue one, Court found that it was also covered by order dated 04.04.2016 reported in ***(2016)11SCC455*** and therefore did not survive for consideration. The remaining three issues, Court found overlapping with topics I, II and V, dealt with, by CEC. Further topics III, IV, VI, VII identified by CEC were also found worth adjudication but in respect to topics VIII, IX and X, parties did not advance any submissions and hence Court accepted reports on those topics. The judgement deals with the topics identified by CEC from I to VII. CEC also reported volume of mining to the extent of 2130.988 Lakhs MT of iron ore and 24.129 Lakhs MT of manganese ore. The above quantity did not include extraction of ore without Forest Clearance. In terms of value which CEC determined on notional basis, the iron ore extracted worth Rs. 17,091.24 crores while manganese ore worth Rs. 484.92 crores. With respect of illegal mining, Central Government had also appointed Judicial Commission under Commissions of Inquiry Act, 1952 vide notification dated 22.11.2010 appointing Justice M.B. Shah, a retired judge of Supreme Court to inquire on the Terms of Reference mentioned in Para 27 of the judgement. Commission's proceedings were also taken into consideration by Court. The objection raised by lease holders on the report of CEC on its authority was rejected. CEC was earlier constituted by Supreme Court's order dated 09.05.2002 ***((2013)8SCC198)*** and later by notification dated 17.09.2002 issued under Section 3(3) of EP Act 1986. It was constituted conferring a statutory status to the said body. Facts stated by Court regarding CEC were not disputed though there was some challenge to the conclusions drawn by CEC. MMDR Act, 1957 and MCR Act, 1960 were considered in detail and thereafter Court considered EIA 1994. Court said that EIA 1994 clearly contemplated that in the matter of mining operations site clearance shall be granted for sanctioned

capacity and would be valid for a period of five years from the date of commencement of mining operation. It shows that on receipt of an EC, a mining lease holder can extract mineral only from a specified site, upto the sanctioned capacity and only for a period of five years from the date of grant of an EC. This is regardless of the quantum of extraction permissible in the mining plan or mining lease and regardless of the duration of mining lease. Further, a mining lease holder would necessarily have to obtain a fresh EC after every five years and can also apply for an increase in the sanctioned capacity. Court very categorically said ***"There is no concept of a retrospective EC and its validity effectively starts only from the day it is granted****. Thus, the EC takes precedence over the mining lease or to put it conversely, the* ***mining operations under a mining lease are dependent on and 'subordinate' to the EC."*** Explanatory Note was added to EIA 1994 on 04.05.1994 and note one was found relevant which deals with the expansion and modernization of existing projects. Referring hereto, Court said, if any proposed expansion and modernization activity results in an increase in the pollution load than a prior EC is required, Project Proponent should approach concerned State Pollution Control Board (for short 'SPCB') for certifying whether the proposed expansion or modernization is likely to exceed the existing pollution load or not. If pollution load is not likely to be exceeded, Project Proponent will not be required to seek an EC but a copy of such a certificate from SPCB will be required to be submitted to the Impact Assessment Agency which can review the certificate. Note 8 permitted existing mining operations which have obtained NOC before SPCB before 27.01.1994, not to obtain EC from Impact Assessment Agency but this is subject to the substantive portion of EIA 1994 and 1st Note. It was made clear, if existing mining

project does not have a NOC from SPCB, then an EC under EIA 1994 was required. Court then formulated two questions.

a. What is the base year for considering pollution load while proposing any expansion activity?
b. What is the duration for which an EC is not necessary for an ongoing project which does not propose any expansion, or to put it differently, what is the validity period for a no objection certificate from SPCB?

366. First question was answered observing that base year is immediately preceding year that is 1993-94. The arguments of mine holders that annual production even prior to 1994 may be considered to ascertain whether there was an expansion or not was rejected observing that high annual production in any one year is not reflective of a consistent pattern of production and it would also lack uniformity between mining lease holders. Different base years for mining lease holders are not conducive to good governance. However, Court permitted an exception that if there was no production during 1993-94 in that eventuality immediately preceding year would be relevant. Further it is said that EIA is mandatory in character; applicable to all mining operations/expansion of production or even increase in lease area, modernization of the extraction process, new mining projects and renewal of mining leases. A mining lease holder is obliged to adhere to the terms and conditions of a mining lease and applicable laws and the mere fact that a mining plan has been approved does not entitle a mining lease holder to commence mining operations. The approach of MoEF by issuing circular permitting ex post facto EC did not mean that MoEF intended to legalize commencement or continuance of mining activity without compliance of requirement of EIA 1994. It was obligation of everyone to

abide by the law; and the soft approach taken by MoEF cannot be an escapist excuse for non-compliance with the law or EIA 1994.

367. Coming to EIA 2006, Court said that reference to any circular is of no consequence. A statutory notification cannot be over ridden by a circular. With regard to the arguments advanced by the mining lease holders of confusion created by MoEF, rejecting the same, Court said there is no confusion, vagueness or uncertainty in the application of EIA 1994 and EIA 2006 insofar as mining operations commenced on mining leases before 27.01.1994 (or even thereafter). Post EIA 2006, every mining lease holder having a lease area of 5 hectares or more and undertaking mining operations in respect of major minerals was obliged to get an EC in terms of EIA 2006. Court referred to major minerals since in the case in hand issue of major minerals was under consideration. It was also clarified that a mining plan is also subordinate to EC. Another argument that whenever EC is granted it would have retrospective effect from the date of application was also rejected observing that grant of EC cannot be taken as a mechanical exercise. It can be granted only after due diligence and reasonable care since damage to environment can have a long term impact. Rejecting the argument that EC ex post facto can be granted or should be taken to have been granted, Court said *"EIA 1994 is therefore very clear that if expansion or modernization of any mining activity exceeds the existing pollution load, a prior EC is necessary and as already held by this Court in M. C. Mehta* ***even for the renewal of a mining lease where there is no expansion or modernization of any activity, a prior EC is necessary****. Such importance having been given to an EC, the grant of an ex post facto environmental clearance would be detrimental to the environment and could lead to irreparable degradation of the environment. The* ***concept of an ex post facto or a retrospective EC is completely***

alien to environmental jurisprudence including EIA 1994 and EIA 2006*. We make it clear that an EC will come into force not earlier than the date of its grant."*.

368. An issue was also raised as to what illegal mining is? Mining lease holders argued that mining operations outside the mining area would constitute illegal mining. It was rejected by Court observing that this approach would make illegal mining lease centric and this narrow interpretation given by CEC was not acceptable to Court. Explaining as to what would be illegal mining, Court said *"the holder of a mining lease is required to adhere to the terms of the mining scheme, the mining plan and the mining lease as well as the statutes such as the EPA, the FCA, the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. If* ***any mining operation is conducted in violation of any of these requirements, then that mining operation is illegal or unlawful. Any extraction of a mineral through an illegal or unlawful mining operation would become illegally or unlawfully extracted mineral****"*.

369. Suggestion of Counsel for mining lease holders that only mining operations outside mining leased area would constitute illegal mining was not accepted in the manner it was suggested but Court said that such activity is obviously illegal or unlawful mining but Illegal mining takes within its fold excess extraction of a mineral over the permissible limit even within the mining lease area which is held under lawful authority, if that excess extraction is contrary to the mining scheme, the mining plan, the mining lease or a statutory requirement. Referring to Section 4(1) of MMDR Act 1957, Court said any person carrying out mining operations without a mining lease is indulging in illegal or unlawful mining. This

would also necessarily imply that if a mining lease is granted to a person who carries out mining operations outside the boundaries of the mining lease, the mineral extracted would be the result of illegal or unlawful mining. Court also rejected argument of deviation stating, under the rules only 20% variation is permissible but it does not mean that mining lease for 5 years is given, a mining lease holder can affect 5 years quantity (with a variation of 20%) in one or two years only. The extraction has to be staggered and continued over a period of five years. Court also clarified letter dated 12.12.2011 of Ministry of Mines, Government of India observing that While mining in excess of permissible limits under the mining plan or the EC or FC on leased area may not amount to mining on land occupied without lawful authority, it would certainly amount to illegal or unlawful mining or mining without authority of law. Construing Section 21(5) of MMDR Act, Court said that whenever any person raises without any lawful authority, any mineral from any land, in such a case the **State Government is entitled to recover from such person the minerals so raised or where such mineral has been disposed of the price thereof as compensation**. The words 'any land' are not confined to the mining lease area. As far as the mining lease area is concerned, extraction of a mineral over and above what is permissible under the mining plan or under the EC undoubtedly attracts Section 21(5) of MMDR Act 1957 being extraction without lawful authority. It would also attract Section 21(1) of the said Act. Further Section 21(5) is not only attracted but not limited to a violation committed by a person only outside the mining lease area – it includes a violation committed even within the mining lease area. With regard to the recovery of price of the illegally mined ore, Court said *"In our opinion,* ***there can be no compromise on the quantum of compensation that should be***

recovered from any defaulting lessee – it should be 100%*. If there has been illegal mining, the defaulting lessee must bear the consequences of the illegality and not be benefited by pocketing 70% of the illegally mined ore. It simply does not stand to* ***reason why the State should be compelled to forego what is its due from the exploitation of a natural resource and on the contrary be a party in filling the coffers of defaulting lessees in an ill gotten manner****".* Section 21(5) does not talk of any penalty and is not penal provision. Referring to ***"Karnataka Rare Earth v. Senior Geologist, Department of Mines & Geology (2004) 2 SCC 783"*** and expressing agreement with the law laid down therein, Court said that **recovery of price of mineral is intended to compensate the State for the loss of the mineral owned by it and caused by a person who has been held to be not entitled in law to raise the same.** There is no element of penalty involved and the recovery of price is not a penal action, it is just compensatory. In para 157 of the judgement Court said that the compensation should be payable by lease holders at 100% of the price of the minerals as rationalized by CEC. With regard to FC Act 1980 referring to "***Ambica Quarry Works v. State of Gujarat and Others, (1987)1SCC213, Rural Litigation and Entitlement Kendra v. State of U.P. 1989Supplement1SCC504*** *and* ***"T.N. Godavarman v. Union of India, (1997)2SCC267"*** Court expressed its view that as held therein, in a forest area, no mining is permissible unless Section 2 of FC Act 1980 is complied with and NOC is obtained from Forest Department. In para 180, Court also observed that any mining activity in forest in violation of Section 2 of FC Act 1980 is unauthorized and illegal and the benefit mining leaseholders have derived from such illegal mining would be subject to Section 21(5) of MMDR Act 1957. Court said "*therefore the price of the iron ore and manganese ore*

mined by the mining lease holders from 07.01.1998 is payable until forest clearance under Section 2 of the FC Act is obtained by the mining lease holders." The suggestion that only 70% of the notional value of the ore mined illegally be recovered, was rejected and in para 185, Court said "*We are of the view that Section 21(5) of the MMDR Act 1957 should be given full effect and so* ***we reiterate that the recovery should be to the extent of 100%.****"* In reference to the requirement of EC, in Para 186, Court said *"We make it clear that mineral extracted either without an EC or without an FC or without both would attract the provisions of Section 21(5) of the MMDR Act 1957 and 100% of the price of the illegally or unlawfully mined mineral must be compensated by the mining lease holder. To the extent of the overlap or the common period, obviously only one set of compensation is payable by the mining lease holder to the State of Odisha. We order accordingly. However****, we make it clear that whatever payment has already been made by the mining lease holders towards NPV, additional NPV or penal compensatory afforestation is neither adjustable nor refundable since that falls in a different category altogether****.".*

370. Clarifying an observation in ***T.N. Godavaraman Thirumulpad v. Union of India & Others (2011)15SCC658*** *and* ***(2011)15SCC681,*** where observation was that violation of FCA is condonable on payment of penal compensatory afforestation charges, Court in para 187 of the judgement, said *"We may note that this Court has held in T.N. Godavarman v. Union of India that a* ***violation of the FCA is condonable on payment of penal compensatory afforestation charges. This obviously would not apply to illegal or unlawful mining under Section 21(5) of the MMDR Act,*** *but we make it clear that the*

mining lease holders would be entitled to the benefit of any Temporary Working Permission granted".

371. Making observations that Government of India should revisite National Mineral Policy 2008, Court referred to the principle of Intergenerational equity and said that there are 3 principles which form the basis of Intergenerational equity, the first one is 'conservation of options' second is 'conservation of quality' and third is 'conservation of access'. Accepting argument based on the principle of Intergenerational equity and rampant mining in the State of Orissa, Court found that there should have been some check and therefore new policy should be evolved by the Government of India.

372. In ***State of Madhya Pradesh & others vs. Kallo Bai, (2017)*****14SCC502**, the question was, whether an order of confiscation of vehicle and forest produce could have been passed before conviction, with reference to Section 15-A to 15-D of Madhya Pradesh Van Upaj (Vyapar Viniam) Adhiniyam, 1969 (hereinafter referred to as 'MP Forest Produce Act, 1969'). Court held that the above Act was enacted with an object to regulate trade of certain forest produce in State of Madhya Pradesh, known for abundant biodiversity which generates minor forest produce such as tendu, harra, sal seeds and gum etc. Scheme of the Act shows that legislature intended to empower authorized officers of Forest Department for proper implementation of the provisions of Statute and to enable them to take effective steps for preserving forest produce. The said enabling power includes power of seizure, confiscation and forfeiture. Court held that confiscation proceedings contemplated under Section 15 of M.P. Forest Produce Act, 1969 is a *quasi*-judicial proceeding and not a criminal proceeding. It proceeds on the basis of satisfaction of Authorized

Officer with regard to the commission of forest offence. It was also held that Authorized Officer is empowered to confiscate seized forest produce on being satisfied that an offence under M.P. Forest Produce Act 1969 has been committed, and that being power under special enactment, general power vested in Magistrate for dealing with interim custody/release of seized material under Cr.P.C. would give way. Magistrate while dealing with a case of seizure of forest produce under M.P. Forest Produce Act 1969, should first examine whether power to confiscate seized forest produce is vested in the Authorized Officer under the Act and if he finds so, then he has no power to pass any order dealing with interim custody/release of seized material. Such ouster of jurisdiction would aid in proper implementation of the statute. If in such cases power to grant interim custody/release of seized forest produce is vested in the Magistrate then it will defeat the very scheme of the Act. Such a consequence is to be avoided. Court further said:

> *"The said section makes it clear that section 15-D subjects itself to confiscation proceedings under Section 15, 15-A, 15-B and 15-C of Act. Further Section 15-D speaks of confiscation of all tools, boats, vehicles, ropes, chains or any other articles upon conviction of the offender for such forest offence. This Section is equivalent to Section 55 of the Indian Forest Act as amended by the State of Madhya Pradesh. In this Section the confiscation after the conviction is subjected to separate confiscation proceedings as contemplated under Section 15, 15-A, 15-C. At the cost of repetition, it should be noted that if a confiscation proceeding under Section 15 has commenced and the confiscation has already occurred, then there is no question of confiscation under Section 15-D again. If the confiscation has not taken place under Section 15, then the Court after final conviction can order confiscation under Section 15-D of the Adhiniyam."*

373. Reiterating and further explaining, Court said, broad scheme of Act is to punish those who are in contravention of law at the hand of criminal Court. Confiscation being incidental and ancillary to prosecution, State of Madhya Pradesh separated process of confiscation from the process of prosecution. The purpose of enactment seems to be that the power of

Criminal Ccourt regarding disposal of property is made subject to the jurisdiction of Authorized Officer with regard to that aspect; jurisdiction of Criminal Court in regard to the main prayer remains unaffected. Recording its conclusion, Court said that Section 15 gives independent power to the authority concerned to confiscate articles, even before guilt is completely established. This power can be exercised by officer concerned if he is satisfied that the said objects were utilized during commission of a forest offence. A protection is provided to the owners of the vehicles/articles if they are able to prove that they took all the reasonable care and precaution as envisaged under Section 15(5) of the Act and the said offence was committed without their knowledge or connivance. Criminal prosecution is distinct from confiscation proceedings. Two proceedings are different, each having a distinct purpose. The object of confiscation proceedings is to enable a speedy and effective adjudication with regard to confiscation of the produce and the means used for committing offence while the object of prosecution is to punish the offender. The scheme of Act prescribes an independent procedure for confiscation. The intention of prescribing separate proceedings is to provide deterrent mechanism and to stop further misuse of the vehicle.

374. Issue of use of fire-crackers causing air pollution, whether should be allowed or not in Delhi and NCR area, was considered in ***Arjun Gopal & Others vs. Union of India & Others, (2017)16SCC280*** (Order dated 12.09.2017 in IA No. 52448 of 2017 in WP (C) No. 728/2015). Here Court referred to a decision of National Green Tribunal in ***Vardhaman Kaushik vs. Union of India, (2016) SCC Online NGT 4176***, observing that there are seven major contributors of air pollution in NCR and these are (i) construction activity and carriage of construction material; (ii)

burning of municipal solid waste and other waste; (iii) burning of agriculture residue; (iv) vehicular pollution; (v) dust on the roads; (vi) industrial and power house emission including fly ash and (vii) emissions from hot mix plants and stone crushers. It was further observed that bursting of fireworks is also one of the causes of air pollution. It was, in fact, due to the use of strontium chromite which is harmful and dangerous to human health, as concluded by CPCB. Consequently, Court observed that it has no option but to prohibit use of the said chemical in the manufacture of fireworks. Reiterating earlier observations, Court said that **Right to Breath clean air is a recognized Right under the Constitution**. Right to Health coupled with Right to Breath in clean air leaves no manner of doubt that it is important that air pollution deserves to be eliminated. Consequently, Court issued several directions as noted in para 70 to 72.2.16 in the judgment.

> *"**70.** But, from the material before us, it cannot be said with any great degree of certainty that the extremely poor quality of air in Delhi in November and December 2016 was the result only of bursting fireworks around Diwali. Certainly, there were other causes as well, but even so the contribution of the bursting of fireworks cannot be glossed over. Unfortunately, neither is it possible to give an accurate or relative assessment of the contribution of the other identified factors nor the contribution of bursting fireworks to the poor air quality in Delhi and in the NCR. Consequently, a complete ban on the sale of fireworks would be an extreme step that might not be fully warranted by the facts available to us. There is, therefore, some justification for modifying the interim order passed on 11.11.2016 and lifting the suspension of the permanent licences.*
>
> ***71**. At the same time, it cannot be forgotten that admittedly there is a huge quantity of fireworks in Delhi and in the NCR and the figure has been provided to us by the applicant. Similarly, there can be no doubt that the Delhi Police had issued a large number of temporary licences in 2016 and it would not be unreasonable to assume that around and during Diwali, there would have been some illegal temporary shops set up, whether known or not known to the police. We do not have the figures with regard to the NCR, but we assume that like in Delhi, a large number of temporary licences have been issued for the possession and sale of fireworks. Therefore, there is a need to regulate the availability and sale of fireworks in Delhi and the NCR.*
>
> ***Directions***

72. As mentioned above, the ***health of the people in Delhi and in the NCR must take precedence over any commercial or other interest of the applicant or any of the permanent licensees*** *and, therefore, a graded regulation is necessary which would eventually result in a prohibition. Taking all factors into consideration, we are of the view that the following orders and directions are required to be issued and we do so:*

72.1 *The directions issued by this Court in Sadar Bazar Fire Works (Pucca Shop) shall stand partially modified to the extent that they are not in conformity with the Explosives Rules which shall be implemented in full by the concerned authorities. Safety from fire hazards is one of our concerns in this regard.*

72.2 *Specifically, Rule 15 relating to marking on explosives and packages and Rule 84 relating to temporary shops for possession and sale of fireworks during festivals of the Explosives Rules shall be strictly enforced. This should not be construed to mean that the other Rules need not be enforced – all Rules should be enforced. But if the fireworks do not conform to the requirements of Rules 15 and 84, they cannot be sold in the NCR, including Delhi and this prohibition is absolute.*

72.3 *The directions issued and restrictions imposed in the order passed by this Court on 18-7-2005 in Noise Pollution (5), In re, (2005) 5 SCC 733 shall continue to be in force.*

72.4 *The police authorities and the District Magistrates will ensure that fireworks are not burst in silence zones that is, an area at least 100 meters away from hospitals, nursing homes, primary and district health-care centres, educational institutions, courts, religious places or any other area that may be declared as a silence zone by the authorities concerned."*

72.5 *The Delhi Police is directed to reduce the grant of temporary licences by about 50% of the number of licences granted in 2016. The number of temporary licences should be capped at 500. Similarly, the States in the NCR are restrained from granting more than 50% of the number of temporary licences granted in 2016. The area of distribution of the temporary licences is entirely for the authorities to decide.*

72.6 *The Union of India will ensure strict compliance with the Notification GSR No. 64(E) dated 27-1-1992 regarding the ban on import of fireworks. The Union of India is at liberty to update and revise this notification in view of the passage of time and further knowledge gained over the last 25 years and issue a fresh notification, if necessary.*

375. In ***Wild Life Warden vs. Komarrikkal Elias, (2018)8SCC114***, a question arose, whether illegally obtained/procured elephant tusk is Government property attracting presumption under Section 69 of Kerala

Forest Act, 1961. A vehicle was seized from a workshop by Forest Officials on the complaint that the respondent had unauthorizedly collected and stored Elephant Tusk, an unlicensed gun and other accessories. In the criminal case initiated against the respondent, he was acquitted. Assistant Wildlife Warden directed for confiscation of seized items and Jeep. The order was challenged before District Judge, Wayanad, who held that elephant tusk was not a forest produce and remanded the matter. There against, revision was preferred but High Court held that presumption under Section 69 of Kerala Forest Act, 1961 was not attracted since elephant tusk was not a forest produce. Reliance was placed on the definition of 'forest produce', in Section 2 of Kerala Forest Act, 1961. Supreme Court referred to Section 39(1) of Wildlife Protection Act, 1972 and particularly, clause (c) which was inserted w.e.f. 02.10.1991 to hold that ivory imported in India and an article made from such ivory in respect of which any offence against 1972 Act or rule or order made thereunder, has been committed, shall be deemed to the property of State Government. Further where such animal is hunted in a sanctuary or national park declared by Central Government, such animal or any animal article, trophy, uncured trophy or meat derived from such animal shall be the property of Central Government. In view thereof, Court held that there is a declaration that elephant tusk is a property of Government and in that view of the matter, High Court erred in observing that Section 69 of Kerala Forest Act, 1961 is not attracted. Whether it is a forest produce or not under Section 2(f) of Kerala Forest Act, 1961 is immaterial.

376. In ***Lal Bahadur v. State of UP & Others, (2018)15SCC407***, change of master plan and converting green area into residential one was considered. The issue was, whether such conversion is conducive to

protection of environment or not. In the master plan of 1995 of Lucknow, area in dispute was reserved as green belt. In master plan 2021, the same area, shown earlier as green belt, was converted as residential. This part of master plan 2021 was challenged before Lucknow bench of Allahabad High Court. Writ petition was dismissed. The matter came in appeal before Supreme Court. Court held in para 12 of judgment that change of area from green belt to residential is in violation of Article 21, 48A and 51A(g) of the Constitution. Reliance was placed on ***Bangalore Medical Trust v B.S. Muddappa & Others, (1991)4SCC54***, wherein Court had said that protection of environment, open spaces for recreation and fresh air, playground for children, promenade for the residents and other conveniences or amenities are matters of great public concern and a vital interest to be taken care of in a development scheme. Public interest in the reservation and preservation of open spaces for parks and playgrounds cannot be sacrificed by leasing or selling such sites to private persons for conversion to some other use. Court also relied on an American Supreme Court Judgment ***Agins vs. City of Tiburon, [447 us 255 (1980)]*,** wherein Court said: *'... it is in the public interest to avoid unnecessary conversion of open space land to strictly urban uses, thereby protecting against the resultant adverse impacts, such as ..... pollution, ... destruction of scenic beauty, disturbance of the ecology and the environment, hazards related geology, fire and flood, and other demonstrated consequences of urban sprawl'.*

377. In para 15, Court said that, "*This Court had clearly laid down that* ***such spaces could not be changed from green belt to residential or commercial one.*** *It is not permissible to the State Government to change the parks and playgrounds contrary to legislative intent having constitutional mandate, as that would be an abuse of statutory powers*

vested in the authorities. Court also observed, when master plan was prepared earlier and authorities found importance of such space, it was their bounden duty not to change its very purpose when they knew very well the importance of this place to be kept as open space. Court said,

> *"The **importance of park is of universal recognition**. It was against public interest, protection of the environment and such spaces reduce the ill effects of urbanisation, it was **not permissible to change this area into urban area as the garden/ Greenbelt is essential for fresh air, thereby protecting against the resultant impacts of urbanization, such as pollution etc**. The provision of the Act of 1973 and other enactments relating to environment could not be permitted to become statutory mockery by changing the purpose in the master plan from green belts to residential one. Authorities are enjoined with duty maintain them as such as per doctrine of public trust."*

378. Ultimately, Court quashed Master Plan 2021 changing use of area in question from greenbelt to residential and said that it shall be held in trusteeship only for the purpose of park in future.

379. Heavily striking upon the officials of Statutory Authorities of Government, in ***M.C. Mehta vs UOI & Others (2018)2SCC14***, (I.A. No.93010 and 93007 of 2017 in WP(C) 4677 of 1995), (order dated 15.12.2017); Court said that invaders have pillaged Delhi for 100 of years but for the last couple of decades it is being ravaged by its own citizens and officials governing Capital city. Court gave details of various unauthorized and illegal constructions and misuse of residential premises for industrial and commercial purposes which was allowed by the local bodies/authorities despite several orders passed by Court. Showing its anguish, Court said that it cannot remain spectator when violations of law affect the environment and healthy living of those who abide by law. When time fixed by Court sought to be extended by legislative exercise, Court did not approve the same and in Para 24, referred to its earlier judgment in ***M.C. Mehta vs. Union of India (2006)7SCC456*** wherein Para 20 Court had said '*there cannot be any*

doubt that the ***legislature would lack competence to extend the time granted by this court in the purported law-making power****. That would be virtually exercising judicial function. Such functions do not vest in the legislature.*'

380. In ***State of Uttaranchal vs. Kumaon Stone Crusher, (2018)14SCC537***, issues relating to transaction fee arising from different districts was considered. One of the issues raised was whether coal (and its various varieties) limestone, dolomite, fly ash, clinker, gypsum, veneer and plywood are 'forest produce'. In Para 71 to 78, Court held that coal, hard coke, soft coke and coal briquettes etc. for all forest produce. Similarly, limestone, dolomite and gypsum are also forest produce. However, fly ash clinker and synthetic gypsum are not forest produce. Veneer and waste ply board are also forest produce. With respect to Forest Act, 1927 and Mines and Minerals Development and Regulations Act, 1947, Court held that both operate in different fields and it cannot be said that one repeals other. With regard to the meaning of the term 'forest', Court relied on the judgment in ***T.N. Godavarman Thirumulpad vs Union of India & Others (1997)2SCC267*** and held that definition of forest cannot be read in a restrictive manner. In the conclusions recorded in para 215, Court said that crushing of stones etc., does not result into a new commodity different from forest produce, the crust materials continue to be stone and retain their nature of forest produce. Similar is the position with regard to coal marbles etc.

381. In ***Goa Foundation vs. Sesa Sterlite Limited and & Others (2018)4SCC218,*** Court observed that once a decision was rendered in Goa Foundation, earlier case, ***(2014)6SCC590*** and it was directed that Government shall grant fresh leases, it means that Government could

have not granted fresh lease by way of renewal. It was observed that though renewal of a lease is virtually the same as grant of the fresh lease but a converse direction to grant a minor lease cannot be understood to mean granting a renewal of a minor lease. Obviously, grant of a fresh lease is not the same as a renewal of a lease. When Court in ***Goa Foundation (supra)*** required state to grant a fresh lease, it did not require State to renew existing (expired lease). On the question, how lease should be granted, Court observed that it is not obligatory, constitutionally or otherwise that natural resource (other than spectrum) must be disposed of or alienated or allocated only through an auction or through competitive bidding. Where distribution, allocation, alienation or disposal of a natural resource is to a private party for a commercial pursuit of maximizing profits, then an auction is a more preferable method of such allotment. A decision to not auction a natural resource is liable to challenge and subject to restricted and limited judicial review under Article 14 of the Constitution. A decision to not auction of natural resource and sacrifice maximization of revenue might be justifiable if the decision is taken inter alia for a social good or the public good or the common good. Unless alienation or disposal of a natural resource is for the common good or social or welfare purpose, it cannot be dissipated in favour of a private entrepreneur, virtually free of cost or for a consideration not commensurate with its work without attracting Article 14 and Article 39-B of the Constitution. Court also said that fresh final leases required to be granted, would require fresh environmental clearances. Relying on earlier decisions in ***Ambica Quarry Works & Another vs State of Gujarat & Others (1987)1SCC213***; ***Rural Litigation and Entitlement Kendra vs State of U.P. 1989(supplement)1SCC504*** and ***State of Madhya Pradesh vs.***

Krishna Das Tikka Ram, 1995 (supplement) 1 SCC 587, Court said that renewal of a lease whether under FC Act, 1980 or otherwise cannot be granted without the lease holder complying with the necessary statutory requirements, particularly, since a grant of renewal is a fresh grant and must be consistent with law. On this aspect, Court also referred to the judgment in ***Common Cause vs. UOI & Others (2017)9SCC499***. In Para 150, Court also said that MoEF has no authority to issue an order or notification or memorandum which is contrary to the judgment of Supreme Court in the context of OM dated 21.08.2013, issued by MoEF. Court held that validity period of EC granted under EIA 1994 is only 5 years and a valid EC is necessary for renewal of mining lease.

382. In ***Techi Tagi Tara vs. Rajendra Singh Bhandari (2018)11SCC734***, observations and directions issued by NGT in respect of appointment/nominations, in State Pollution Control Boards/Pollution Control Committees were considered. In view of constitutional provisions, Court observed that it is the fundamental duty of citizen of the Country to protect and improve environment including forest, lakes, rivers and wildlife and to have compassion for living creatures. Despite that society in the last few decades has seen repeated onslaught against environment on different grounds. Composition of State Pollution Control Board in State of Uttarakhand was challenged on the ground that the persons appointed are not properly qualified. The jurisdiction of Tribunal in giving directions to reconsider appointment of Chairperson and Members of State PCB and to lay down guidelines for their appointment was challenged. Supreme Court held that the issue of appointment was not a dispute and that too which can be said to have arisen relating to environment, constituting a substantial question and hence beyond the

scope of Section 14 and 15 of NGT Act, 2010. Court said that proper qualified experts should be appointed and if such appointments are not made, the same can be challenged in High Court by filing Writ of *quo warranto*.

383. In ***Goel Ganga Developers India Private Limited vs. Union of India, (2018)18SCC257***, judgment dated 27.09.2016 passed by NGT in ***Tanaji Balasaheb Gambhire vs. Union of India, 2016 SCC Online NGT 4213*** was challenged. Tribunal held that the builder/proponent has violated conditions of EC and therefore, liable to pay environmental compensation of Rs. 100 crores or 5% of the total cost of project, whichever is less for restoration and restitution of environment damage and degradation. In addition, it shall also pay Rs. 5 crores for contravening mandatory provisions of environmental laws. Tribunal also imposed fine of Rs. 5 Lakhs upon Pune Municipal Corporation and cost of Rs. 1 lakh each upon the said Corporation, Department of Environment, State of Maharashtra and SEIAA, Maharashtra. Two appeals were filed, one by the proponent and another by Pune Municipal Corporation. The factual background is that the Proponent purchased 79,900 sq. meters or 7.91 hectares of land comprised in six survey nos. 35, 36, 37, 38, 39 and 40 in Vad Gaon, Pune. All these survey numbers were amalgamated to become one plot. Proponent applied for sanction of layout and building proposal plan on 12.03.2017 on an area of 15141.70 sq. meters, originally depicted as plot no. 3. Sanctioned FSI was 515313.16 sq. meters. Thereafter, on 05.09.2007, revised layout plan was submitted for an area measuring 28233.23 sq. meters and sanctioned FSI was 39526.54 sq. meters. Proponent also applied for EC vide proposal dated 27.06.2007. He assured that he would be erecting/constructing 12 buildings having 552 flats, 50 shops and 34 offices. 12 buildings were to

have stilts with basements and 11 floors. Total built up area was indicated as 57658.42 sq. meters. EC was granted on 04.04.2008. Defining as to what is the meaning of the term "built up area", Court after referring to EIA Notification, 2006, said in para 16 as under:

> ***16.*** *From a bare perusal of the two hash tags (#) in Column 4 and 5 of Item 8(a), it is apparent that what is shown under Column 5 is actually a continuation of Column 4 and basically it describes or defines "built up area" to mean covered construction and if the facilities are open to the sky, it will be taken to be the activity area. This by itself clearly shows that* ***under the notification of 2006, all constructed area, which is covered and not open to the sky has to be treated as "built up area". There is no exception for non-FSI area****."*

384. It also said that the concept of FSI or non FSI has no consonance or connection with the grant of EC. The same may be relevant for the purpose of Building Plans under Municipal Laws and Regulations but has no linkage or connectivity with the grant of EC. The authority while granting EC is not concerned whether area is to be constructed as FSI area or non FSI area. Both will have an equally deleterious impact on environment. Construction implies usage of lot of material like sand, gravel, steel, glass, marble etc., all of which will impact environment. Merely because under Municipal Laws some of the constructions are excluded while calculating FSI, is no ground to exclude it while granting EC. Therefore, when EC is granted for a particular construction, it includes both FSI and non FSI area. Considering correctness of Notification dated 04.04.2011 and clarification dated 07.07.2017, Court said that such memorandums could not or should not have been issued. EIA 2006 is a statutory Notification and such Notifications cannot be set at naught by a Joint Director by issuing any clarificatory letter. In para 22, Court said, "*we are of the view that since such decision has not been notified in the gazette the statutory notification dated 14-9-2006 and its subsequent clarification dated 4-4-2011 could not have been virtually set*

aside by this office memorandum". It was also held that OM dated 07.07.2017 is not clarificatory since EIA 2006 itself was very clear and considering question, whether Proponent has violated conditions of EC, Court found that construction raised was much more than what was approved and permitted in EC. Against the total built up area sanctioned in EC i.e., 57658.42 sq. meters, Proponent has constructed 100002.25 sq. meters which was patently illegal. Then, Court considered as to what order could have been or ought to have been passed. Considering the probability including justification for demolition, Court found that large number of flats and shops are already occupied by innocent people who have paid money. These people are from middle class having invested from their life's earning in the project. Since these persons are not parties, Supreme Court took the view that the demolition is not proper answer in the peculiar facts and circumstances of the case as that would put innocent people at loss. However, Court added in para 54 by observing that PP cannot be permitted to build any more flats than what was permitted but only to complete construction of 807 flats and 117 shops/offices and cultural center including the club house. Court stopped from constructing two buildings and directed to refund the money with 9% interest. In this regard, Court said in para 54, *"There is no equity in favour of these persons since the plan to raise this construction was submitted only after 2014 when the validity of the earlier EC had already ended. Therefore, though we uphold the order of the NGT dated 27-9-2016 that demolition is not the answer in the peculiar facts of the case, we also make it clear that the project proponent cannot be permitted to build nothing more than 807 flats, 117 shops/offices, cultural centre and club house".*

385. Court did not find any ground to award special damages to original applicant/complainant looking into his conduct. For the assessment of damages, **Court observed that it cannot introduce a new concept of assessing and levying damages unless expert evidence in this behalf is led or there are some well-established principles. No such principles have been accepted or established in that case. No assessment in actual terms can be made, though Court can impose damage or cost on principles which have been well-settled by law**. Referring to some earlier matters, where Court awarded damages as 5% of the project cost and also looking to the fact that the case in hand was where severe violations were found and PP was in transient and unapologetic behavior, it imposes damages of 100 Crores or 10% of project cost whichever is more besides, Rs. 5 Crores as damages in addition to above for contravening mandatory provisions for environmental laws. In this regard, the observations of the Court are as under:

> "***64.*** *Having held so we are definitely of the view that the project proponent who has violated law with impunity cannot be allowed to go scot-free.* ***This Court has in a number of cases awarded 5% of the project cost as damages. This is the general law****. However,* ***in the present case we feel that damages should be higher keeping in view the totally intransigent and unapologetic behaviour of the project proponen****t. He has maneuvered and manipulated officials and authorities. Instead of 12 buildings, he has constructed 18; from 552 flats the number of flats has gone upto 807 and now two more buildings having 454 flats are proposed. The project proponent contends that he has made smaller flats and, therefore, the number of flats has increased. He could not have done this without getting fresh EC. With the increase in the number of flats the number of persons, residing therein is bound to increase. This will impact the amount of water requirement, the amount of parking space, the amount of open area etc. Therefore, in the present case, we are clearly of the view that the project proponent should be and is* ***directed to pay damages of Rs.100 crores or 10% of the project cost whichever is more****. We also make it clear that* ***while calculating the project cost the entire cost of the land based on the circle rate of the area in the year 2014 shall be added. The cost of construction shall be calculated on the basis of the schedule of rates approved by the Public Works Department (PWD) of the State of***

> ***Maharashtra for the year 2014. In case the PWD of Maharashtra has not approved any such rates then the Central Public Works Department rates for similar construction shall be applicable. We have fixed the base year as 2014 since the original EC expired in 2014 and most of the illegal construction took place after 2014.*** *In addition thereto, if the project proponent has taken advantage of Transfer of Development Rights (for short "TDR") with reference to this project or is entitled to any TDR, the benefit of the same shall be forfeited and if he has already taken the benefit then the same shall either be recovered from him or be adjusted against its future projects. The project proponent* ***shall also pay a sum of Rs. 5 crores as damages, in addition to the above for contravening mandatory provisions of environmental laws***."

386. In ***M.C. Mehta (Kant Enclave matters) v. Union of India & Others (2018)18SCC397*** (order dated 11.09.2018 in IA No. 2310/2008 and others in WP No. 4677/1985 & IA No. 2310-11 in WP (C) No. 202/1995), a question was raised, whether land notified under Punjab Land (Preservation) Act, 1900 is forest land or is required to be treated as forest land and if so whether construction carried out by R Kant & Co. on the said land is in contravention of notification dated 18.08.1992 issued under the said Act, FC Act, 1980 and the decisions of the Supreme Court. Court answered both the questions in affirmative. However, considering the fact that there were *bona-fide* purchasers, Court observed that it will not be proper to demolish buildings raised before 18.08.1992. However, subsequent constructions were directed to be demolished. On applying the principle of 'Polluters Pay', Court observed that the builder, Kant & Co. has already spent an amount of Rs. 50 crores, must pay 10% more thereof, for rehabilitation of damaged area.

387. **Goel** ***Ganga Developers India Private Limited vs. Union of India & Others (2019)9SCC288*** is follow up of the judgment reported in ***(2018)18SCC257***. The original matter was decided in *Civil Appeal No.10854 of 2016*. Thereafter, I.A. No. 64665 of 2019 was filed and came to be decided by judgment dated 11.09.2019 reported in 2019. Proponent

filed application stating that three Judges bench judgment in Noida Memorial Complex, i.e., in ***Okhla Bird Sanctuary, In Re: (2011)1SCC744*** has not been considered in recording interpretation of 'built up area' in terms of Item 8 of EIA 2006. The contention advanced on behalf of Proponent was rejected by observing that the main dispute in ***Noida Park (supra)*** was whether project, a building and construction project or a township and area development project. Court answered holding that it is a township and area development project. While answering this, Court felt some ambiguity in Item 8-A and 8-B of Schedule to EIA 2006, but there was no issue raised with regard to the fact about covered area being built up. Court observed that all parties were *ad-idem* in **Noida Park case** that covered construction was built up area and Court also held so. In **Goel Ganga Developers judgment**, Court has held that all covered construction shall be deemed built up area and Municipal Laws regarding Floor Space Index (FSI) or Floor Area Ratio (FAR) have no relevance. Therefore, **Noida Park judgment** has no application as the issue did not arise herein.

388. In ***State of Meghalaya vs. All Dimasa Students Union, Dima-Hasao District Committee & Others (2019)8SCC177***, various appeals arising from judgment of NGT were considered. NGT judgment dated 31.08.2018 in ***O.A. No. 110 of 2012, Threat to life arising out of Coal Mining in South Garo Hill District vs. State of Meghalaya***; judgment dated 10.05.2016 in ***O.A. No. 73 of 2014, All Dimasa Students Union vs. State of Meghalaya***; and judgment dated 25.03.2015 in ***O.A. 73 of 2014 (M.A. No. 92 of 2015), All Dimasa Student Union vs. State of Meghalaya*** and order dated 04.01.2019 in ***O.A. No. 110 of 2012, Threat to life arising out of Coal Mining in South Garo Hill District vs. State of Meghalaya*** came to be considered by Supreme Court and

decided on 03.07.2019 by a two Judges Bench. Court observed that natural resources of country are not meant to be consumed only by present generation of men or women of the region where natural resources are deposited. These features of nature are for all generations to come and for intelligent use of the entire country. Present generation owes a duty to preserve and conserve the natural resources of the nation so that it may be used in the best interest of the coming generations as well as for the country as a whole. The background facts are that Guahati High Court on the basis of a News Item published on 06.07.2012 that 30 coal labourers were trapped inside a coal mine at Nongalbibra in the District of South Garo Hills and 15 of them died inside the coal mine, registered a PIL Suo Moto number (SH) 3 of 2012. By order dated 10.12.2012, Guahati High Court passed order transferring the matter to NGT, where notice was issued on 30.01.2013, registering as *110 (T_{HC}) of 2012*. Another *O.A. 73 of 2014* was filed by All Dimasa Students Union before Tribunal making serious complaints with regard to rat hole mining operations going on in Jaintia Hills in the State of Meghalaya for the last many years without being regulated by law. After hearing the matter, Tribunal on 17.04.2016 passed an order directing Chief Secretary, Meghalaya and Director General of Police, Meghalaya to ensure that rat hole mining/illegal mining is stopped forthwith throughout State of Meghalaya and no illegal transport of coal shall be allowed. Large number of applications, by different Associations and persons carrying interest in the subject matter who have undertaken the above mining, were filed before Tribunal. Both OAs were clubbed together. On 31.08.2018, Tribunal passed order directing that ban on rat hole mining shall continue subject to further order passed by Supreme Court. It also allowed ban on transportation of extracted coal to continue subject to

further orders of the court. For restoration of environment and rehabilitation of victims, Tribunal constituted a Committee headed by Justice B.P. Katakey, former Judge of Guahati High Court with representatives of CPCB, and Indian School of Mines, Dhanbad. The said Committee submitted report dated 02.01.2019, and after considering report, Tribunal passed order dated 04.01.2019 observing that State of Meghalaya had failed to perform its duties to act on the recommendation of the report of Meghalaya State PCB, submitted in 1997 and an interim amount be deposited towards restoration of environment. **Court directed State of Meghalaya to deposit Rs.100 crores** within two months with CPCB. Against the order dated 31.08.2018 & 04.01.2019, appeals were filed. Large number of issues were raised and including that of jurisdiction of Tribunal. The issues raised before Court are formulated in Para 53 as under:

> *"**53.** From the submissions of the parties as noted above and the materials on record in these appeals following points arise for consideration.*
>
> ***53.1** (1) Whether orders passed by the National Green Tribunal are without jurisdiction being beyond the purview of Sections 14, 15 and 16 of the National Green Tribunal Act, 2010?*
>
> ***53.2** (2) Whether provisions of Mines and Minerals Development Regulation Act, 1957 are applicable in Tribal areas within the State of Meghalaya, included in Sixth Schedule of the Constitution?*
>
> ***53.3** (3) Whether for mining the minerals from privately owned/community owned land in hills districts of Meghalaya, obtaining a mining lease is a statutory requirement under the MMDR Act, 1957 and the Mineral Concession Rules, 1960?*
>
> ***53.4** (4) Whether under the MMDR Act, 1957 and Mineral Concession Rules, 1960, it is the State Government, who is to grant lease for mining of minerals in privately owned/community owned land or it is the owner of the minerals, who is to grant lease for carrying out mining operations?*
>
> ***53.5** (5) Whether the State of Meghalaya has any statutory control over the mining of coal from privately owned/community owned land in hills districts of State of Meghalaya?*

53.6 *(6) Whether the power to allot land for mining purposes is vested in Autonomous District Councils?*

53.7 *(7) Whether the order of National Green Tribunal dated 17.04.2014 directing for complete ban on mining is unsustainable?*

53.8 *(8) Whether the complete ban on mining of coal in the State of Meghalaya as directed by NGT deserved to be vacated/modified in the interest of State and Tribals?*

53.9 *(9) Whether NGT had any jurisdiction to constitute committees to submit reports, to implement the orders of NGT, to monitor storage/transportation; of minerals and to prepare action plan for restoration of environment?*

53.10 *(10) Whether the NGT committed error in directing for constitution of fund, namely, Meghalaya Environment Protection and Restoration Fund?*

53.11 *(11) Whether NGT by constituting Committees has delegated essential judicial powers to the Committees and has further encroached the constitutional scheme of administration of Tribal areas under Article 244(2) and Article 275(1) and Schedule VI of the Constitution?*

53.12 *(12) Whether direction to deposit Rs.100 crores by the State of Meghalaya by order dated 04-1-2019 of NGT impugned in C.A.No.2968 of 2019 is sustainable?*

53.13 *(13) Whether NGT's order dated 31-3-2016 that after 15-5-2016 all remaining coal shall vest in the State of Meghalaya is sustainable?*

53.14 *(14) Whether assessed and unassessed coal which has already been extracted and lying-in different Districts of Meghalaya be permitted to be transported and what mechanism be adopted for disposal of such coal?"*

389. Returning question 1, Court observed that in the case there were not mere allegation of environmental degradation by illegal and unregulated coal mining, rather there was material on record including reports of Experts to show degradation of water, air and surface of land. Hence, there was sufficient allegations regarding substantial questions relating to environmental and violation of enactments in Schedule I. Court also distinguished judgment in ***Techi Tagi Tara vs. Rajendra Singh Bhandari (supra)*** and said that the issue raised therein was totally different. It, therefore, answered issue 1 holding that Tribunal

acted within its jurisdiction under Section 14 &15 of NGT Act, 2010. Coming to point two, Court said that it would proceed with the assumption that Tribals are owners of the land. In fact, Court proceeded to examine issue 2 on the premise that in privately owned land or community lands, minerals also vest in the owner that is the private persons. Refering to the provisions of MMDR Act, 1957, Court held that there is nothing in Schedule VI of the Constitution which in any manner excludes applicability of MMDR Act, 1957 in tribal areas of hill Districts of State of Meghalaya and the contentions advanced otherwise are to be rejected. Then question 3 was considered. Court held that District Magistrate had jurisdiction under Mines Act, 1952 to take action and it was also incumbent upon State to ensure compliance of not only MMDR Act 1957 but Mines Act, 1952 and EP Act, 1986. Issue 4 was answered by observing that power to grant mining lease is with owner as per Chapter 5 of Mineral Concession Rules, 1960 and State Government could not have granted mining lease on such private on land. Issue 5 was answered by observing that our country is governed by Constitution of India and all the States are to implement Parliamentary Acts in true spirit. In the present case, State was advised, time and again, by Comptroller and Auditor General and despite of being aware of its statutory obligations, State failed to do so and wrongly contended that there was no requirement of mining lease for winning them minerals. Court said in para 139:

> *"The above stand of the State taken before this Court gives the impression that instead of implementing the Parliamentary enactment and regulatory regime for mineral regulation some vested interests wants to continue the illegal regime of illegal mining to the benefit of the few persons which is unacceptable and condemnable. We, thus, conclude that the State of Meghalaya has jurisdiction and power to ensure that no mining of coal should take place except when a mining lease granted under Mineral Concession Rules, 1960, Chapter V, as discussed above."*

390. Point 6 was answered by holding that District Counsel has no power to make any law with regard to grant of mining lease which have to be governed by MMDR Act 1957 and Rules 1960. Issues 7 and 8 were answered together and Court held that there was no error in the order of Tribunal restraining illegal coal mining but the same would not extend to mining operations undertaken by Tribals or other owners in accordance with MMDR Act 1957 and Rules. Issues 9 and 10 were also answered together with respect to jurisdiction of Tribunal and Court held that under Rule 24, Tribunal has power to issue orders to secure justice and direction to constitute funds is also saved under such power. Court also held that there is no lack of jurisdiction in Tribunal in directing for appointment of Committee or to obtain a report from a Committee in the given facts of the case. Then, point 11 was answered by observing that when a Committee is constituted by Tribunal and Committee over steps its authority, it is always open to Tribunal to take corrective measures and Committee report only for that reason is not to be challenged. Further, it does not amount to delegating essential judicial functions when Tribunal requires Committee to prepare action plan and submit report. It means that Tribunal has kept complete control on all steps which were required to be taken by Committee. Court also held that when Committee examined the matter with regard to environmental degradation and illegal coal mining, it cannot be treated to be an encroachment upon administration of tribal areas by District and Regional Council. Direction of payment of 100 crores as interim compensation was considered in point 12. **Court held that it is neither a penalty nor a fine imposed upon State Government**. The amount was directed to be deposited for carrying out steps regarding restoration of environment. The **direction for payment of 100 crore rupees was**

affirmed, though source of payment was allowed to be taken from environment fund. Issue 13 was in respect of disposal of coal lying in open after being extracted after 15.05.2016. Court held that it will not automatically vest in the State. The owner of the coal or the person who has mined the coal shall have propriety right in the mineral which shall not be lost. Point 4 relates to various IAs which we do not find of relevance for the purpose of issue on merits of law on environment.

391. In ***Tata Power Delhi Distribution Limited vs. Manoj Mishra & Others (2019)10SCC104***, issue of levy of sewerage charges pursuant to order passed by this Tribunal in ***Manoj Mishra vs. Union of India, O.A. No. 06 of 2012*** **decided on 13.01.2015** was considered. In this regard, in an application filed, order was subsequently passed on 11.09.2019 directing Delhi Government, Delhi Jal Board and Delhi Municipal Corporation to introduce **regime of levy of sewerage charges**. Supreme Court disposed of application filed by Electricity Distribution Company by directing that the direction issued on 11.09.2019 shall be implemented.

392. In ***Chander Prakash Budakoti vs. Union of India & Another (2019)10SCC154,*** order of Tribunal dated 05.04.2019, passed in ***O.A. No. 626 of 2016, Chander Prakash Budakoti vs. Union of India*** was challenged. Appellant, a journalist filed application before Tribunal complaining about environmental damage caused by respondents 4 to 8. He alleged that large number of trees were cut illegally and there is usage of forest land for non-forest purpose. After examination, Tribunal found that Khasra No. 512 and 514 were private forest land as recorded in Revenue Records and provisions of FC Act, 1980 were inapplicable. Accordingly, it issued directions to forest authorities to take appropriate action. Supreme Court held that in order to record a finding whether land

in dispute is or not a forest land, reliance can be safely placed on Revenue Records. Refering to an earlier judgment in ***Noida Memorial Complex New Near Okhla Bird Sanctuary, In Re: (2011)1SCC744*****,** Court held that due weight has to be given to Revenue Records especially those pertaining to a period when the dispute regarding land being a forest land did not exist.

393. In ***Kerala State Coastal Zone Management Authority vs. State of Kerala, Maradu Municipality & Others (2019)7SCC248***, judgment of Kerala High Court dated 11.11.2015 passed in *Writ Appeal No.132 of 2013* was challenged. Allegations were made that construction activities were going in critically vulnerable coastal areas notified as CRZ-III; Panchayats had issued permissions in violation of relevant statutory provisions and CRZ Notifications. Vigilance Department of the Government detected violations and directed local bodies to revoke flat building permits whereupon show cause notice was issued under Rule 16 of Kerala Municipality Building Rules, 1999. Writ Petition was also filed in the High Court which was allowed by Single Judge and Division Bench dismissed appeal. Supreme Court constituted a Committee after hearing appeals for sometimes to find out whether area in question is in CRZ Category 3, Category 1 or Category 2. Committee submitted report recording its findings that the area in dispute at the relevant time when objection was raised, was within CRZ III. As per CRZ Notification dated 19.02.1991, in CRZ III area of 200 meters from high tideline is 'No Development Zone' and no construction could have been permitted within this zone except for repairs of authorized structures not exceeding existing FSI. Court finds that in view of the said report, it was impermissible and construction raised within prohibed area was unauthorised. Court referred to its earlier judgments in ***Vaamika Island***

(Green Lagoon Resort) Vs. Union of India & Others (2013)8SCC760 and ***Piedade Filomena Gonsalves vs State of Goa & Others (2004)3SCC445*** *and* held that the direction of High Court for demolition warrants no interference and upheld the same.

394. In ***Pawan Kumar vs. State of H.P. (2019)4SCC182***, in the matter of prosecution under Section 379 IPC, 41 & 42 of Forest Act, 1927, Court held that mere production of seizure memo is not sufficient. Non-production of seized wood and the vehicle, the primary evidence of the offence, renders prosecution case fragile and unsustainable. Mere production of seizure memo does not tantamount to the production of seized wood sent to the lorry. Unless seized wood was produced, mere production of the sample and when there is no material in support to show that the sample was out of the same 22 logs, conviction of accused cannot be sustained.

395. In ***Sarvepalli Ramaiah (Dead) as per legal representatives and others vs. District Collector Chittoor & Others (2019)4SCC500***, the question was whether an area declared as water body can be leased out or not. Supreme Court said that High Court rightly held that a tank (water body) cannot be alienated, no patta can be granted in respect of tanks and water bodies including those that might have dried up or fallen into disuse. In this regard, Court reiterated and followed its earlier decisions and in Para 49 said:

> *"**49.** This Court has time and again emphasized the need to retain and restore water bodies and held that **water bodies are inalienable. Land comprised in water bodies cannot be alienated to any person even if it is dry**. Reference may be made to the judgments of this Court in:*
>
> *(1) Susetha vs. State of Tamil Nadu, (2006)6SCC543;*
> *(2) M.C. Mehta vs. Union of India, (1997)3SCC715, and*
> *(3) Intellectuals Forum v. State of A.P. (2006)3SCC549."*

396. In ***Vasant Chemicals Limited Vs Managing Director Hyderabad Metropolitan Water Supply and Sewerage Board & Others (2019)4SCC562***, Court upheld levy of sewerage cess on industries which were already getting the effluent treated and also held that charges collected from Effluent Treatment Company as well as cess from industries by Board, does not amount to double taxation.

In para 19 of the judgment, court said:

> *"...Proviso to Section 55 of the Act contemplates that the sewerage cess shall not be levied on the occupier of the premises if such premises is stated to be in an area which is not served by the sewerage system of the Board. The proviso implies that the occupier of such premises cannot use the Board sewer by any means whatsoever. Therefore, the contention of the appellant that it is not liable to pay sewerage cess to the Board as it is not directly letting out sewage effluents into the sewage line of the Board and that it is carrying its effluents in the tanker, lorries and letting out in the effluent treatment plant of JETL and thus not connected with the sewage system of the Board, in our view, is wholly untenable. Since the sewage of the appellant is ultimately let into the sewer line of the Board, the appellant cannot contend that it is not covered under Section 55 of the Act and that it is covered under proviso to Section 55 of the Act."*

397. Describing nature of sewerage cess, Court said that **it aims to recover the cost of treating the effluents of strength stronger than domestic sewage and to make the effluents of acceptable quality**. The payment of sewerage surcharges and other charges by JETL cannot take away the statutory liability of sewerage cess levied on the occupier of the premises who consumes water and lets out the sewerage into the Board Sewer System. The payment of sewerage surcharge and other charges by JETL to respondent-Board will not amount to double levy.

398. In ***Hanuman Laxman Aroskar vs. UOI & Others (2019)1SCC401***, issue of grant of EC for development of Greenfield International Airport at Mopa in Goa was considered. Provisions of EIA Notification, 2006 and the process thereunder were considered in detail.

It was an appeal taken to Supreme Court, from a judgment/order dated 21.08.2018 passed by this Tribunal in ***Appeal No. 5/2018*** (earlier *Appeal No. 61/2015/WZ),* ***Federation of Rainbow Warriors vs. Union of India & Others*** and ***Appeal No. 6/2018, Hanuman Laxman Aroskar vs. Union of India,*** wherein grant of EC for development of green field International Airport at Mopa, Goa, was challenged. Project was in category 'A' hence as per EIA 2006 'Prior EC' was to be granted by MoEF. EC was granted on 28.10.2015. It was challenged by M/s. Federation of Rainbow Warriors in Appeal No. 61/2015 at Tribunal's Western Zonal Bench, Pune. Another Appeal No. 1/2016 was filed by Hanuman Laxman Aroskar at NGT, Western Zonal Bench, Pune. Both these appeals were transferred to Principal Bench at New Delhi and numbered as Appeal No. 5 and 6 of 2018 respectively. One of the issues raised before Supreme Court was; PP did not give complete information in Form 1 submitted to the Competent Authority for grant of EC; PP is duty bound to make a proper disclosure and highest level of transparency is required; and there was concealment of certain facts by leaving certain columns blank or by not giving required details. It was contended that for these reasons, application for EC ought to have been rejected. Supreme Court also referred and approved two judgments of this Tribunal in ***Save Mon Region Federation vs. Union of India, 2013 (1) All India NGT Reporter 1*** and ***Shreeranganathan K P vs. Union of India 2014 SCC online NGT 15*** wherein, on the basis of information furnished in Form 1, the deficiencies in EIA Report, process of appraisal etc., were considered in detail to find out whether EC was granted in accordance with law or not. Court distinguished an earlier judgment in ***Lafarge Umiam Mining Private Limited vs. Union of India 2011(7)SCC338*** observing that it was the case under EIA 1994 when provisions of EIA 2006 were not

applicable. Court said that decision was based on facts of that case, summarized by Court in ***Hanuman Laxman Aroskar (supra)*** in para 138 of judgment. It was also held that, relevant material, if has been excluded for consideration or extraneous circumstances were brought in mind, there was a failure to observe binding norms under EIA 2006 and consequential serious flaw in the decision-making process, would amount to an illegal exercise and failure of statutory duty, so as to vitiate EC. In para 157 of judgment, importance of the correct and complete disclosure of information by PP in his application, Form 1 and Form 1A, and further consideration by Competent Authority has been discussed, as under:

> *"The 2006 Notification must hence be construed as a significant link in India's quest to pursue the SDGs. Many of those goals, besides being accepted by the international community of which India is a part, constitute a basic expression of our own constitutional value system. Our interface with the norms which the international community has adopted in the sphere of environmental governance is hence as much a reflection of our own responsibility in a context which travels beyond our borders as much as it is a reflection of the aspirations of our own Constitution.* ***The fundamental principle which emerges from our interpretation of the 2006 Notification is that in the area of environmental governance, the means are as significant as the ends. The processes of decision are as crucial as the ultimate decision. The basic postulate of the 2006 Notification is that the path which is prescribed for disclosures, studies, gathering data, consultation and appraisal is designed in a manner that would secure decision making which is transparent, responsive and inclusive."***
>
> (Emphasis Added)

399. Further, in para 158 of the judgment, in ***Hanuman Laxman Aroskar (supra),*** Court observed:

> *"Repeatedly, it has been urged on behalf of the State of Goa, MoEFCC and the concessionaire that the* ***need for a new airport*** *is paramount with an increasing volume of passengers and* ***consequently the flaws in the EIA process should be disregarded.*** *The need for setting up a new airport is a matter of policy. The role of the decision-makers entrusted with authority over the EIA process is to ensure that every important facet of the environment is adequately studied and that the impact of the proposed activity is carefully assessed.* ***This assessment is integral to the project design because it is on that basis that a considered decision can be arrived at as to whether***

necessary steps to mitigate adverse consequences to the environment can be strengthened.”

(Emphasis Added)

400. Illegal mining by M/s. Sharda Mines Private Limited, and action to be taken there against, was considered by Supreme Court in ***Common Cause vs. Union of India & Others (2019)11SCC674*** (Order dated 12.11.2018 in I.A. 40 & 42 of 2015 etc. in WP (C) No. 114 of 2014). The judgment is a follow up action of the earlier issue decided in ***Pawan Kumar vs. Union of India (2017)9SCC499***. Court examined only validity of EC granted to Sharda Mines Private Limited and production of iron ore without/in excess of EC. In particular, the issue relates to mining lease granted to above Proponent over 947.046 hectare of land for 20 years from 14.08.2001 to 13.08.2021 at Thakurani Mines, Block B village Soyabali, District Keonjhar, State of Odisha. The background facts are that the company was granted permission on 13.07.1999 to extract 1,40,000 MT iron ore per annum. Company did not act upon the said permission till 13.08.2001/14.08.2001. On 22.09.2004, EC for extraction of iron ore (lump) was granted. It allowed extraction of 1.5 lakh ton per annum to 4 million tons per annum. There was a progressive gradation in the production capacity. Court observed that the permission granted on 13.07.1999 was for production of iron ore and not iron ore (lump). EC granting permission to iron ore (lump) introduced something alien to the permission granted on 13.07.1999. Court also found that EC was granted only to the expansion of production of iron ore from 1.5 LTPA to 4.0 MTPA. It was not disputed before Court that EC will not have retrospective effect and would be operational from the date it is granted. In view of the law laid down in ***Common Cause vs. Union of India (2017)9SCC499,*** Court held that to the extent there is mining beyond the permission in EC, it is illegal and the incumbent must be penalized in

terms of judgment in **Common Cause (*supra*).** Differentiating between iron ore and iron ore (lump), Court found that lumps are a by-product of extraction of iron ore. Thereafter, Court permitted Central Empowered Committee to rework quantum of excessive or illegal mining and consequent penalty.

401. **Arjun *Gopal & Others vs U0I & Others (2019)13SCC523*** is a follow up of earlier decision in respect of firecrackers i.e. ***(2017)14SCC488***. I.A. No.6 & 8 of 2016 and others were filed by manufactures of firecrackers as well as some other parties. The arguments were raised that there was no sufficient study as to what extent burning of crackers is contributing towards air and noise pollution and whether it was so serious so as to warrant ban. Second argument was raised with reference to the fact that bursting of crackers during Diwali is a religious factor and therefore, protected under Article 25. In Para 32, Court observed that "*it is an accepted fact that bursting of firecrackers during Diwali is not only the only reason for deterioration of air quality. There are other factors as well. It calls for necessity to tackle the other contributory factors for air pollution and making the air quality as "very poor" and even "poor". Unregulated construction activity which generates lot of dust and crop burning in the neighbouring States are the two other major reasons, apart from certain other reasons, including vehicular pollution etc.*". Dealing with Article 25 Court said that "***Article 25 is subject to Article 21*** *and* ***if a particular religious practice is threatening the health and lives of people, such practice is not entitled to protection under Article 25***."

402. The issue of economic hardship and unemployment was considered and answered in Para 44 and Court observed as under:

> *"...First aspect is that the argument of economic hardship is pitched against right to health and life.* ***When the Court is called upon to protect the right to life, economic effect of a particular measure for the protection of such right to health will have to give way to this fundamental righ****t. Second factor, which is equally important, is that the economic loss to the State is pitched against the economic loss in the form of cost of treatment for treating the ailments with which people suffer as a result of burning of these crackers. Health hazards in the form of various diseases that are the direct result of burning of crackers have already been noted above. It leads to asthma, coughing, bronchitis, retarded nervous system breakdown and even cognitive impairment. Some of the diseases continue on a prolonged basis. Some of these which are caused because of high level of* $PM_{2.5}$ *are even irreversible. In such cases, patients may have to continue to get the medical treatment for much longer period and even for life.* ***Though there are no statistics as to what would be the cost for treating such diseases which are as a direct consequence of fireworks on these occasions like Diwali, it can safely be said that this may also be substantial****. It may be more than the revenue which is generated from the manufacturers of the crackers. However, we say no more for want of precise statistical data in this behalf."*

403. Further Court held that there is no complete ban in as much as there is no ban on green crackers.

404. In ***Municipal Corporation of Greater Mumbai & Ors. Vs. Hiraman Sitaram Deorukhar & Others (2019)14SCC411***, the issue of conversion of a property reserved for garden and development plan prepared earlier for other commercial residential purposes, whether permissible was considered. Relying on the earlier decision in ***Bangalore Medical Trust vs. B.S. Muddappa (1991)4SCC54***, Court said that it cannot be done. It referred to the following observations made in **Bangalore Medical Trust Case (supra**):

> *"23. The scheme is meant for the reasonable accomplishment of the statutory object which is to promote the orderly development of the City of Bangalore and adjoining areas and to preserve open spaces by reserving public parks and play grounds with a view to protecting the residents from the ill-effects of urbanisation. It meant for the development of the city in a way that maximum space is provided for the benefit of the public at large for recreation, enjoyment, "ventilation" and fresh air. This is clear from the Act itself as it originally stood. The amendments inserting Sections 16 (1) (d), 38A and other provisions are clarificatory of this object. The very purpose of the BDA, as a statutory authority, is to promote the*

healthy growth and development of the City of Bangalore and the area adjacent thereto. ***The legislative intent has always been the promotion and enhancement of the quality of life by preservation of the character and desirable aesthetic features of the city. The subsequent amendments are not a deviation from or alteration of the original legislative intent, but only an elucidation or affirmation of the same.***

24. Protection of the environment, open spaces for recreation and fresh air, play grounds for children, promenade for the residents, and other conveniences or amenities are matters of great public concern and of vital interest to be taken care of in a development scheme. It is that public interest which is sought to be promoted by the Act by establishing the BDA. ***The public interest in the reservation and preservation of open spaces for parks and play grounds cannot be sacrificed by leasing or selling such sites to private persons for conversion to some other user****. Any such act would be contrary to the legislative intent and inconsistent with the statutory requirements. Furthermore, it would be in direct conflict with the constitutional mandate to ensure that any State action is inspired by the basic values of individual freedom and dignity and addressed to the attainment of a quality of life which makes the guaranteed rights a reality for all the citizens.*

25. Reservation of open spaces for parks and play grounds is universally recognised as a legitimate exercise of statutory power rationally related to the protection of the residents of the locality from the ill-effects of urbanisation."

405. Thereafter, in Para 7, 8, 9 & 10 of the judgment, Court said:

*"****7.*** *This Court has laid down that public interest requires some areas to be preserved by means of open spaces of parks and play grounds, and that there cannot be any change or action contrary to legislative intent, as that would be an abuse of statutory powers vested in the authorities.* ***Once the area had been reserved, authorities are bound to take steps to preserve it in that method and manner only****. These spaces are meant for the common man, and there is a duty cast upon the authorities to preserve such spaces. Such matters are of great public concern and vital interest to be taken care of in the development scheme.* ***The public interest requires not only reservation but also preservation of such parks and open spaces. In our opinion, such spaces cannot be permitted, by an action or inaction or otherwise, to be converted for some other purpose, and no development contrary to plan can be permitted****.*

8. *The importance of open spaces for parks and play grounds is of universal recognition, and reservation for such places in development scheme is a legitimate exercise of statutory power, with the rationale of protection of the environment and of reducing ill effects of urbanisation. It is in the public interest to avoid unnecessary conversion of 'open spaces land' to strictly urban uses, for gardens provide fresh air, thereby protecting against the resultant impacts of urbanization, such as pollution etc. Once such a scheme had been*

prepared in accordance with the provisions of the MRTP Act, by inaction legislative intent could not be permitted to become a statutory mockery. Government authorities and officers were bound to preserve it and to take all steps envisaged for protection.

9. *It could be legitimately expected of the authority to take timely steps in which they have failed. Their inaction tantamount to wrongful deprivation of open spaces/garden to public. This Court in Animal and Environment Legal Defence Fund v. Union of India & Ors., (1997) 3 SCC 549 has laid down that* ***there is duty to preserve the ecology of the forest area****. This Court has enunciated the doctrine of the public trust based on ancient theory of Roman Empire. Idea of this theory was that certain common property such as lands, waters and airs were held by the Government in trusteeship for smooth and unimpaired use of public. Air, sea, waters and the forests have such a great importance to the people that it would be wholly unjustified to make them a subject of private ownership. The American courts in recent cases expanded the concept of this doctrine. The doctrine enjoins upon the Government to protect the natural resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial purposes. The aforesaid concept laid down by this Court in M.C. Mehta v. Kamal Nath & Ors. (1997) 1 SCC 388 and this Court held that the State Government has committed patent breach of public trust by leasing the ecologically fragile land to the Motel management.*

10. *This Court in Vellore Citizens Welfare Forum v. Union of India & Ors., AIR 1996 SC 2715 had laid down that protection of environment is one of the legal duties. While setting up the industries which is essential for the economic development but measures should be taken to reduce the risk for community by taking all necessary steps for protection of environment. In M.C. Mehta v. Union of India (1987) Supp. SCC 131, certain directions were issued by this Court regarding hazardous chemicals. Relying partly on Article 21, it was observed that life, public health and ecology are priority and cannot be lost sight of over employment and loss of revenue. This Court in Subhash Kumar v. State of Bihar & Ors. (1991) 1 SCC 598 has held that right to pollution-free air falls within Article 21. In M.C. Mehta v. Kamal Nath (2000) 6 SCC 213, it was held that any disturbance to the basic environment, air or water and soil which are necessary for life, would be hazardous to life within the meaning of Article 21 of the Constitution. Precautionary principle had been developed by this Court in M.C. Mehta v. Union of India & Ors. (1997) 3 SCC 715 which requires the State to anticipate, prevent and attack the causes of environmental degradation."*

406. Fundamental principles culled out from the above binding precedents, can be summarized as under:

"i. Protection and preservation of environment part of fundamental right to life under Article 21 of the Constitution. It includes right to information and community participation for protection of environment and human health, right to shelter which encompasses adequate living space, safe and decent structure, clean and decent

surroundings, sufficient light, pure air and water, electricity, sanitation, civil amenities like road etc.

ii. *Preservation of environment and maintenance of ecological balance is a social obligation of every person and also a fundamental duty under Article 51A(g) of the Constitution.*

iii. *Enjoyment of life and its attainment including right to life with human dignity encompasses within its ambit protection and preservation of environment, ecological balance, pollution free air and water, sanitation, land etc.*

iv. *A balance and harmony have to be maintained in development and environment. Hence principle of sustainable development is the determining factor. Universal human dependence on use of environmental resources for the most basic needs render it impossible to refrain from altering the environment. As a natural corollary, environmental conflicts are ineradicable and environmental protection is always a matter of degree, inescapably requiring choices as to the appropriate level of environment protection and the risk which are to be regulated. This aspect is recognized by the concept of 'sustainable development'.*

v. *Principle of sustainable development has certain salient features/subsidiary principles namely use and conservation of natural resources; Precautionary principle; Polluter Pay principle; intergenerational equity; new burden of proof; obligation to assist and cooperate, eradication of poverty and financial assistance to the developing countries; doctrine of public trust etc.*

vi. *Natural resources including forest, water bodies, rivers, seashores, etc. are held by State as a trustee on behalf of people and specially the future generation. These constitutes common properties and people are entitled to uninterrupted use thereof.*

vii. *Sustainable development is that which meets the needs of the present without compromising the ability of future generations to meet their own needs. It is the duty of the State under Constitution to devise and implement a coherent and coordinated programme its obligation of sustainable development based on intergenerational equity.*

viii. *Environment is a matter directly under Constitution. Absence of law will not preclude Court from examining issue of environment. If Court perceives any project or activity as harmful or injurious to environment, it would under obligation to step in.*

ix. *Precautionary principle is a fundamental tool to promote sustainable development. It provides for action to avert risks of serious or irreversible harm to the environment or human health in the absence of scientific certainty.*

x. *State government and statutory authorities must anticipate, prevent and attack the causes of environmental pollution. Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.*

xi. *The onus of proof is on the actor or developer or industrialist to show the actions are environmentally benign.*

xii. *Polluter Pays principle means absolute liability for harm to environment extends to compensate victim of pollution and cost of restoration of environmental degradation. It cannot be restricted to cost of item/subject/material and/or natural resources like water, minerals, etc.*

xiii. Whenever there is violation of environmental norms and environment is degraded, violators must be saddled with liability of payment of environmental compensation besides undergo other proceedings including prosecution."

407. The law discussed above made it clear that degradation of environment has to be seen as a serious violation of law and applying Pollutors Pay Principle, violators must pay, not only for damage to environment but also for remediation/restoration of environment, and loss caused or likely to be suffered by flora and fona and also for breach of statutory obligations. The assessment made by expert's Committee is not to be examined with mathematical precision. The violators can not dispute liability by asserting that despite their act of causing pollution, and breach of law, no liability can be fastened unless with scientific precision quantum of actul damage to environment is assessed. This submission is contrary to what has already been settled by Apex Court in catena of authorities, we have referred above. Court has repeatedly said that principle should be simple and straight like cost of project, annual turnover, sale price of the commodity obtained by causing pollution, damaging environment and flouting statutory obligations and sanctions, etc. However, capacity of pollutors is also to be seen. In the case in hand, discharge of polluted effluent and damage to environment is evident from record. Hence Pollutors are bound to pay compensation. The question of factors to be considered in computation of compensation, we shall discuss in detail later, while dealing direct issue involving this aspect. In view of above discussion, **above objection relating to actual quatum of damage is rejected**.

408. **SAMPLES NOT PROPERLY TAKEN**: A general and common objection taken by all respondents Proponents is regarding the manner of collection of samples by officials of MPCB or the Committee. We find from

documents relating to collection of samples, (some are placed on record alongwith objections by Proponents), that inspections were carried out and samples were collected in the presence of senior officials or representatives of concerned Proponents. In no case any ojection was raised by proponents' representatives regarding the place or point of collection of samples or the manner of collection, at the time of inspection or collection of samples. All the memos of inspections or samples collection, placed before us, contain signatures of such representatives without mentioning any objection. Further, immediately after such inspections, no complaints were made to higher authorities about the manner of collection of samples. Broadly, after issue of closure notice, such plea has been taken either in the reply submitted to officials of MPCB or in the memo of appeals preferred before Chairman or Member Secretary, MPCB. If there was any such complaint regarding Committee appointed by Tribunal, such issue could have been raised before Tribunal by filing an application but that was also not done. Only when reports were submitted, such objections have been taken. Clearly these objections are after thought and not genuine. Moreover, in most cases it has been said that faults found in inspections have been later rectictified which is an admission of the irregularities found in inspections. Later rectification can not condone earlier act of violation. Subsequent improvements or rectifications or remediations by polluting industries/proponents would not nullify or set at naught the pollution already caused and the pollutors would be liable to bear consequences of their act of pollution, damage to environment and sufferance by common people who suffered due to illegal act of pollutors who have given priority to their commercial interests over purity of environment. Hence this objection is **rejected.**

409. **IDENTIFICATION OF ONLY 103 INDUSTRIES; VIOLATIONS CONSIDERED SINCE 2011 AND SOME FACTUAL ERRORS**: The next objection is identification of only 103 units for the purpose of computing compensation/damages on the ground that only those units were taken to task whose record was found available with MPCB showing non-compliance with environmental norms and those whose record were not available have been left and this amounts to arbitrary and selective penalization of a small number of industries comparing to the large number of industries connected with CETP. The previous violations prior to filing of application and also prior to inspections, considered by Committee is illegal and amounts to double penalization. There is another part of objection regarding factual inaccuracy in respect of even 103 selected industries where upon compensation has been determined.

410. So far as factual inaccuracies are concerned, the same have been taken care, not only by Committee in revised report dated 12.08.2021 but by us also wherever such error has been found after perusal of relevant record. Other objections have no merit.

411. Admittedly Member Industries are discharging their effluents in CETP. It is admitted by TEPS, the operator of CETP, that quantity of total discharge was much more than the sanctioned capacity of CETP i.e., between 35 to 40 MLD comparing to 25 MLD capacity of the CETP. This shows an excess discharge to the extend of 45 to 70 %, over and above the capacity of CETP.

412. In various inspection reports and sample surveys it has been found that COD and BOD in CETP outlet was much in excess to the prescribed standards. Reports said that it exceeded more than three, ten and two times to the prescribed standard since long i.e., 2011 to 2019. Pollution

in TIA MIDC and in vicinity, due to violations of environmental laws by respondents' proponents, was continuing even much prior to 2011 but in view of limitation prescribed in Section 15 of NGT Act 2010, Committee has confined itself to, within 5 years from date of O.A. On this approach, learned Senior Counsels and others, appearing on behalf of TEPS, TIMA and individual industries who have filed filed objections before us and contesting the matter, could not point out any infirmity.

413. In para 8.1.1.1 Chapter 8 of the report, Committee has also clarified that earlier period of violation of prescribed standards in respect of COD and BOD has been referred only to show consistency and frequency of violation and not for any other purpose since it was well aware of the period of limitation prescribed in Section 15 (3) of NGT Act 2010 and for the purpose of computation of compensation, it has taken into account the said period of limitation. This is also evident from Chapter 5, Recommendation No. 4 dealing with period of violation with reference to Section 15(3) of NGT Act 2010.

414. Committee has decided to limit period of violation from the date of inspection till the effective date of closure of the unit. In regard of violation of norms, Committee has reported that COD concentration in CETP inlet was not complying continuously to the desired norms. BOD was also intermediately found flouting since 2011. Average exceedances of COD and BOD was found more than two times of the desired norms. Sampling analysis carried by CPCB and MPCB on various occasions show that CETP did not meet discharge standard as under:

> *"(i) The concentration of* ***COD, BOD, Ammonical Nitrogen, Phenols, TSS and TDS in CETP outlet exceed the outlet standard prescribed under the Consent to Operate in all the 02 samples****. The same exceed more than 4 to 15 times, 5 to 47 times, 1 to 8 times, 1.4 to 20 times, 1.28 to 20 times and 40.5 to 100.8 times respectively to the said standards.*

(ii) In the inlet effluent also, Ammonical Nitrogen exceeded the inlet standard prescribed under the Consent to Operate in all the inlet samples except in one sample. The same exceed more than 2 to 7 times the inlet standard. COD and BOD also exceeded 1.5 times and 1.3 times respectively in one of the samples."

415. This is also evident from the table 3.4 wherein non-compliances, with prescribed standards and various inspection jointly made by CPCB and MPCB between 2007 to 2013 and January, 2018 have been demonstrated. We reproduce the said table as under:

"Table 3.4: Analysis result of waste water samples from inlet and outlet

Sampling Locations	**Date of monitoring**	**Parameter(s)**									
		pH	**TSS**	**TDS**	**BOD**	**COD**	**O& G**	**Phenols**	**CN-**	**NH3-N**	**S-2**
Design/Inlet Norms		**5.5-9.0**	**--**	**--**	**1500***	**3500$**	**20**	**5**	**0.2**	**50**	**--**
Inlet to CETP	02.03.2007	5.3	224	2463	696	**3780**	--	--	--	**70**	--
	24.01.2008	2.41	329	2324	883	1877	--	0.54	--	28	--
	12.01.2011	7.1	1021	4122	1263	3147	**--**	5.76	0.26	**123**	--
	29.09.2011	6.27	562	4458	1239	2718	**--**	17.33	--	**281**	--
	28.12.2011	2.37	310	5997	974	2323	62.1	18.6	0.28	**136**	--
	28.12.2011	2.76	452	5781	959	2709	**--**	9.02	0.26	**225**	--
	04.05.2012	4.98	915	3597	956	2914	**--**	4.64	--	**102**	--
	25.09.2012	6.51	436	3972	1000	2082	50.9	10.33	--	40.3	--
	17.04.2013	6.52	604	3551	1052	2460	--	11.8	--	**156**	--
	17.01.2018	5.38	600	9259	**2000**	**5388**	--	63.1	--	**354.5**	--
Design/Outlet Norms		5.5 - 9	100	100	30 (100$)	250	10	5	0.2	50	--
Outlet of CETP	02.03.2007	6.9	**176**	**4419**	**550**	**1554**	2.3	0.59	0.04	**151**	--
	24.01.2008	8.15	**610**	**5434**	**585**	**2229**	--	2.9	**1.08**	**168**	--
	12.01.2011	7.4	**128**	**4031**	**513**	**1036**	11	**7.02**	0.09	**90**	--
	17.02.2018	6.8	**2073**	**10080**	**1410**	**3960**		**100.3**	0.065	**402.7**	52.54

Note: Except pH, all other results are expressed in mg/L.
** The Consent stipulates CETP Inlet norms for SSI industries (discharge up to 25 m^3/day) i.e. Industries' Outlet norms- BOD: 1500 mg/l, COD: 3500 mg/l. The SSI (more than 25 m^3/day), MSI and LSI units, are required to discharge effluent to CETP within stipulated standards in their individual consent (i.e. COD: 250mg/l; BOD 100 mg/l and other parameters & limits specified therein)."*

416. Observations of Committee on the analysis result, reproduced in the table are:

> *"The **analysis results reveal that the CETP did not meet discharge standards**. Concentration of COD, BOD, Ammonical Nitrogen, TSS and TDS in CETP outlet exceed the outlet standard prescribed under the Consent to Operate in all the 04 samples. **The same exceed more than 4 to 15 times, 5 to 47 times, 1 to 8 times, 1 to 20 times and 40 to 100 times respectively to the said standards. Phenols also exceeded 1.4 to 20 times the outlet standard in two of the samples and Cyanide exceed 5.4 times in one of the samples.** In the inlet effluent also, Ammonical Nitrogen exceeded the inlet standard prescribed under the Consent to Operate in all the inlet samples except in two samples. The same exceed to more than 1.4 to 7 times the inlet standard. COD also exceeded (1.08 to 1.5 times) in two of the samples and BOD (1.3 times) in one of the samples."*

417. Committee report also shows that it visited the site on 13.11.2019 and found certain serious illegalities/irregularities/violations which apparently caused pollution. Para 8.1.1.4 of report reads as under:

> *"(a) The **tertiary treatment** (comprising Pressure Sand and Activated Carbon Filter) was **observed to be defunct since long time.***
> *(b) The inlet design norms of CETP are BOD: 1500 mg/l & COD: 3500 mg/l. However, with the **present way of functioning of CETP comprising primary, secondary and defunct tertiary treatment (Sand & carbon Filtration), meeting of outlet standards (BOD: 30 mg/l, COD: 250 mg/l) prescribed by MPCB is not** possible.*
> *(c) There were **leakages from pipes & pumps and overflow of effluent** from some units (equalization tanks/aeration tanks). There was **heavy smell of SVOCs/VOCs (solvents/chemicals) near the inlet sumps. Inlet of CETP (with BOD: 3150 mg/l & COD: 5680 mg/l) indicating that member industries discharging their untreated/partially treated effluent to CETP without conforming the inlet design norms of CETP**. There is no separate arrangement for high COD and high TDS effluent. Also, no arrangement for treating the refractory COD. Thus, the **operation of CETP is not efficient to meet the prescribed norms.***

CETP is not designed for such high strength effluent. CETP has no proper mechanism in place for routine monitoring of individual defaulter member units.

*(d) The **flow meters and Online Continuously Monitoring System are not functioning consistently**. The inlet flow meter has been provided after equalization tanks which may not take into account of overflow from or before of the equalization tanks.*

*(e) **Significant quantity of sludge is deposited** (approx.-2400 MT) in the MIDC Sump-2 (10.56 Million Liters- capacity) where treated effluent is collected and thereafter conveyed to the sea shore through BPTs. **Overflow/leakages were also observed from this sump to nearby natural drain which meets with Navapur Dandi Creek and further to the Arabian Sea**. CETP operator informed that the operation of this Sump is under MIDC and responsibility lies with MIDC for proper maintenance and removal of sludge from sump.*

(f) Inlet effluent quality standards are yet to be prescribed by MPCB for BOD & COD in the Consent of CETP as per MoEF&CC Notification dated 01.01.2016. The Consent stipulates that "Only for SSI units (having less than 25 CMD discharge effluent) BOD: 1500 mg/l and COD: 3500 mg/l is allowed and for rest of the industries, treated effluent as per their respective consents standards i.e. COD: 250 mg/l are allowed".

*(g) MPCB has **authorized 07 Metric Ton/Day as CETP Sludge in the Authorization dated 29/11/2019 under Hazardous Waste (M, H & TM) Rules, 2008** for treatment and disposal of Hazardous Waste. The **quantum of sludge generation in the CETP is more than such specified quantity**.*

(h) The stock of sludge about 750 MT stored in the premises shows storage of the same beyond the prescribed storage duration stipulated under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. The same require to be disposed immediately to the CHWTSDF.

(i) CETP needs thorough up-gradation/revamping of its units/processes in terms of capacity, retention time, automatic chemicals dosing, scraping mechanism, aeration tanks, aeration capacity, de-sludging, transfer pumps & pipelines, removal of corrosion affected equipment/materials, decanters and its capacity, sludge drying beds, etc. Moreover, persons at CETP need to be more sensitized through constant follow up and training."

418. These facts have not been challenged or disputed or controverted by placing any material, by respondents Proponents in the objections under considerations. Nothing has been placed on record to demonstrate or show that the above facts and observations made by Committee are incorrect.

419. Thus, violation of environmental norms in operating CEPT by TEPS and respondents Member Industries of respondent 9 is well established.

They all are directly responsible, individually as well as collectively. Principle of absolute liability to pay for compensation by application of Principle of Polluters Pay is clearly attracted and onus shifted upon them to show that they have not violated environmental norms and laws which has not even been attempted by the Respondents Proponents in the observations under consideration. Further, it is also admitted by the all the respondents that discharge from CETP goes to drains of MIDC which ultimately leads to Navapur creeks and Arabian Sea causing pollution thereat.

420. Committee has gone ahead and examined even damage to water bodies in Chapter 8 Para 8.2 and has recorded findings which demonstrate contamination of ground water, natural storm drains and surface water impacting creeks and seashores. Water in drains, in and around Tarapur MIDC, was found contaminated with elevated levels of TDS, BOD, COD, TSS, Fluorides and Phenols, besides acidic water in one or more drains. Odour and colour was also observed in drain water. Dissolved oxygen was found absent in four out of nine monitored drains. Ph near M/s Everest Kanto was found highly acidic (PH value was 2.34 at surface and 2.52 at the depth of 30 CM from bed surface) which indicate discharge of acidic effluent. Ph of storm drain near Auro Lab was slightly basic having 8.48 value indicating discharge of basic effluent in the storm drains from industries. Ground water in and around Tarapur MIDC was tested. High TDS and presence of BOD and COD in all monitor samples and presence of colour, odour, Chlorides, Fluorides, Sulphites, Total Ammonical Nitrogen, Metals (Lead, Copper, Iron and Manganese) in one or more samples of ground water, were found. This indicated contamination of ground water due to trade effluent by industrial units in

and around Tarapur MIDC. In respect of Creeks and Seashores around TIA MIDC, report says:

> ***"8.2.1.3 Creeks around Tarapur MIDC***
>
> *The* ***two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek flowing North and South of Tarapur MIDC respectively) receiving polluted effluent from the drains of MIDC Tapaur were found having impact of discharges from such drains****.*
>
> *Elevated levels of COD and TDS at different stretches (where interference of water from Tarapur MIDC area begins). There was no DO in Creeks near Dumping ground (upstream of Navapur Dandi Creek) and Dandi Creek (downstream of Navapur Dandi Creek). Colour and odour were observed at different locations of the both the Creeks. Further, Phenols at downstream location of both the Creeks viz. Dandi Creek (downstream of Navapur Dandi Creek) and Murbe Creek (downstream of Kharekuran Murbe Creek) have been observed higher than other sampling locations of the Creeks and streams though the same are within the aforesaid standards.*
>
> ***8.2.1.4 Seashores around Tarapur MIDC***
>
> *With regard to the seashores i.e. Navapur CETP outfall and Nandgaon, where the two creeks confluence into the sea, the results though do not reveal trend of elevated concentration of measured parameters near to Navapur CETP outfall beach and Nandgaon beach, however,* ***presence of Phenols in both the beaches indicate impact of discharge from Tarapur MIDC****."*

421. In these facts and circumstances, when violation of environmental norms causing pollution in water bodies is evident and proved and nothing has been brought on record by the polluters to discredit the said findings of Committee, it cannot be said that the individual industries who have been found violating environmental norms on the basis of record could not have been settled with liability of environmental compensation by application of Polluters Pay Principle. The mere fact that some other industries have not been included cannot be a ground to absolve the industries who have been found committing the said default. A defaulter cannot seek exemption on the ground that there are some more violators and unless they are also held, the identified defaulter cannot be held liable. Every violator/offender/defaulter is responsible for

his own nefarious activities and is bound to bear all consequences. His liability can not be mitigated, if some others are not identified or proceeded against. It is not a case where someone is identified and despite availability of relevant material against him, no action has been taken against him. All similarly situated are being dealt with in similar manner. Hence plea of discrimination has no substance.

422. One has to keep in mind that in the matter of protection and preservation of environment, it is the principle of absolute liability applicable to all individuals for their own acts and omissions. The contention therefore that identification of only 103 units, leaving others, is arbitrary, is misconceived and has to be rejected. It is something like that the crime is being committed by several others and since all have not been convicted and punished those who are admittedly found guilty could not be punished. This submission is absurd, misconceived and shows a total lack of basic knowledge with regard to application of environmental law. Laws relating to Environmental protection are different and can not be tested by applying principles of criminal jurisprudence. Once violation of environmental norms is there, by application of principle of Pollutors Pay, Absolute liability, and precautionary principle, violators are bound to pay **compensation/damages** for damage to environment, its remediation, breach of conditions of statutory consent, clearance, approvals and NOCs etc. Onus is upon Polluter to show that he had not violated environmental norms which has not been done in the case in hand. **Thus, the above objections are rejected**.

423. **FORMULA FOR COMPUTATION OF COMPENSATION**: The next objection is with regard to application of principle/formula for computation of compensation. This objection has been given real thrust

by Respondent 3 and 9 in as much as substantive part of their objections is contributed to this aspect. Same objection has been raised in different ways by construction of sentences. Even during oral arguments this ground was argued at length.

424. Before coming to merits of this objection, we may place on record that during course of arguments we pointed out to Sri Nadkarni, Senior Advocate that one of the principles applied by Supreme Court is annual turnover of Proponent and we may examine applicability of this principle in present case but unfortunately facts giving details of annual turnover of concerned Proponents are not on record. At this stage learned Senior Counsel assured us to supply requisite details of annual turnover of all concerned industries alongwith his written arguments which request we accepted and allowed. However, no such information has been supplied either by him or proponents represented by him. No application has been filed giving any reason for such withholding of information.

425. We, however, tried to find out probable reason from information available in public domain. **Bombay Rayon Fashion Ltd.** C-6,7, TIA MIDC is one of the industries, recommended for imposing compensation of Rs. 73.557 lacs by Committee, vide revised report dated 12.08.2021. It is a large scale, red category unit. The information in public domain shows that it claims to be the largest single roof processing unit in India at Tarapur with 400000 (4 lacs) meters per day capacity. Its authorized share capital is 200 cr. As on 31.3.2018 (F.Y.2017-18), its total Revenue Receipt was Rs. 3108.59 crores. As on 31.3.2019 (F.Y.2018-19), total Revenue was Rs. 983.34 crores. As per Annual Report 2018-19, drastic reduction was for some exceptional reasons. Without entering into reasons for change in Revenue Receipts, if we take the above figures, and

compute compensation at the rate of just 5% of turnover, it would come to Rs. 155.4245 crores for F.Y. 2017-18 and Rs. 49.167 crores for F.Y. 2018-19. Committee has recommended only Rs.73.557 lacs i.e., just about 0.73557crores which is not even one crore. Similarly, in the case of **SIYARAM SILK MILLS**, Committee has recommended compensation of Rs.208.612 lacs (2.08612 crores). Its annual Revenue Receipts for F.Y.s 2017-18 and 2018-19 are 1729.63 and 1811.32 crores, respectively. That will bring compensation at 5% of turnover to Rs. 86.4815 and 90.566 crores, respectively. These are only illustrations and also show that even 1% of turnover, in most cases would be many times more than what is recommended by Committee.

426. Thus, reason for not providing above information is very obvious. It is not necessary to go into details of all concerned proponents particularly when they, despite statement given by learned Senior Counsel, appearing on their behalf, have chosen to withhold such information. Now it is open for us to draw inference as is justified in the facts of this case. The challenge on the formula adopted by Committee is under various sub heads which we have already reproduced in deatail, above, hence not repeating and proceed to deal with the same on merits hereat.

427. The entire objection is founded on application of relevant formula/criteria for computation of environmental compensation. The **issue in effect is, what should be the appropriate methodology for determining environmental compensation**.

428. This objection, in our view needs consideration at some length. On this aspect we also find reply given by Committee itself, in its reply dated 13.04.2021, as under:

"1 The submissions made by M/s TIMA about the application of Market Exchange Rate (MER) and Purchasing Power Parity (PPP) to estimate environmental damage cost has been noted by the CommittEee. ***The Committee examined the various methods used for environmental damages cost assessment and it is safe to say that each of the methods have their own merits and limitations [1,2].*** *The peer-reviewed literature (https:// www. sciencedirect. com/science /article /pii /S0959652620345650# appsec1) describes the approaches used for environmental damages cost assessment in detail and a copy of the same is given in Appendix- A.*

2. *The* ***guiding principle to be deployed for the choice of the appropriate transfer-cost multiplier (PPP or others) depends on the basis of assessment of commensurate value of damages in the target location vis-a-vis a source location where the estimate was originally conducted*** *[3,4]. Given above, the Committee re-examined and worked out the estimates based on the available data and limitations therein. As an additional measure, the Committee also made an attempt to find direct costs [Cost of Treatment (CoT)*] which would have incurred (other than what has been incurred by M/s TEPS) in treatment of effluent by the CETP operator – M/s TEPS in achieving the prescribed CETP outlet effluent norms during the reported period under reference viz. 2011-12 to 2019-20. The estimates using varied techniques are shown below:*

- *Using MER (As submitted in the original report filed by the Committee) = Rs. 85.042 Crores*
- *Using PPP = Rs. 27.04 Crores*
- *Using CoT* = Rs. 88.6 Crores*

3. *It is to be noted here that* ***damage cost is a function of environmental pollution, its magnitude and intensity and affect generated thereof****. With a view to provide avenues of improvement of environmental infrastructure in Tarapur region, funds can/may be used out of these estimates given above."*

429. Committee in support of its reply, has also made reference to the following:

"1. Hon'ble NGT decision on VOC case of Mahul area of Mumbai: https://www.livelaw.in/pdf_upload/pdf_upload-380054.pdf

2. *PWC, valuing corporate environmental impacts PwC methodology document. https://www.pwc.co.uk/sustainability-climate change/assets/pdf/pwc-environmental-valuation-methodologies.pdf*
3. *Hernández-Sancho, F., Molinos-Senante, M., & Sala-Garrido, R. (2010). Economic valuation of environmental benefits from wastewater treatment processes: An empirical approach for Spain, Science of The Total Environment, Volume 408, Issue 4, 953-957.*
4. *A Study on the Economic Valuation of Environmental Externalities from Landfill Disposal and Incineration of Waste;*

European Commission, DG Environment. https://ec.europa.eu/environment/pdf/waste/studies/econ_eva_landfill_a nnex.pdf"

430. On the question of application of formula and apportionment of liability, Committee has replied as under:

"1.That averments made about formula adopted by the Committee in assessing the individual unit's liability, formulating principles in apportionment of individual unit's liability, etc. resulting into erroneous liability, it is submitted that, as mentioned under Chapter 7 of the Committee's report, ***the methodology recommended in "Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund" has been used by the Committee with addition of some additional features to meet objective of distributing the cost of 160.042 Crore INR among the 103 polluting units. The said methodology adopted is also part of Environmental compensation regime fixed for industrial units which has been accepted by the Hon'ble Tribunal*** *and has also been directed to be acted upon as an interim measure vide order dated 28.08.2019 of the Hon'ble Principal Bench of the Tribunal in the matter of Original Application No. 593/2017 titled Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors.* ***The adopted methodology takes into account the pollution index depending on pollution hazard, scale of operation, load factor based on the population located around the industrial unit and the number of days for which violation took place for respective polluting unit****.*

2. *The derived* ***Damage Recovery cost for a polluting unit (in lakh INR) = DRC factor x 160.042 Crore x 100,*** *as derived at page 82 under para 7.1 of Chapter 7 of the Committee's report,* ***gives distributed accountability of each of the identified 103 polluting units in recovering the estimated environmental damage cost*** *and restoration cost of 160.042 Crore INR in terms of their respective pollution index depending on pollution hazard, scale of operation, load factor based on the population located around the industrial unit, number of days for which violation took place and also considering deterrence for repeat/habitual violators.*
3. *As mentioned in the report of the Committee (Page 59 - 64 of the report), it is submitted that in compliance of aforesaid order of the Hon'ble Tribunal,* ***MPCB submitted list of 221 polluting units who were individually heard by the Committee during Nov-30, Dec-03, 2019 during which MPCB presented nature and period of violations, etc. to each of the units' representative. The representative of the respective unit was also given opportunity to submit records against such violations presented by MPCB****.*

The Committee, however, observed during the hearing that:

(a) In cases where violations were informed about samples collected from their storm water drain, outlet of ETP having

zero liquid discharge facility, etc., the unit denied citing the following arguments:

(i) Samples collected from their storm water drain are not being discharged but channelized to collection tank of their ETP;

(ii) Seepage/rainwater run-off from others premises actually enters into their premises due to undulating land terrain and find place in their storm water drain;

(iii) Effluent collection sump is at higher elevation than that of unit's ETP treated storage tank and as a result effluent from the collection sump enters into their ETP treated storage tank;

(iv) In cases of units having zero liquid discharge facility, outlet of ETP (prior to RO/MEE) exceeding the prescribed discharge limits may not be considered as violations since there is no discharge line and the outlet of ETP is further subjected to RO/MEEs, and;

(v) Communication informing the exceedance of prescribed norms in samples collected by Joint Vigilance Survey (JVS) or show-cause notice/interim direction has not been received by the units in some of the cases.

(b) The SSI units represented that though in their Consent to Operate issued under the Water (Prevention & Control of Pollution) Act, 1974, MPCB has prescribed discharge effluent standard stringent to the design/standard of the CETP but incidences, where effluent from their unit have found within the inlet design/standard of the CETP should not be considered as violation for imposing environmental compensation/damage.

***In order to rationalize the criteria for identification of polluting units and their nature & period of violation under given varied scenarios, the Committee made the following recommendations to MPCB after detailed discussions**:*

(1) In view of (a) above and other similar cases, MPCB may furnish the list of only those polluting units for the purpose of environmental compensation/restoration cost for which due records are available for the violations noticed by MPCB.

(2) Incidences of SSI units, where they have discharged into CETP exceeding their prescribed norms but within design/prescribed inlet standards of CETP, may not be included in the list of polluting units for the purpose of environmental compensation/restoration cost recovery. For if SSI units are required to meet its outlet effluent standard to that of outlet effluent discharge standard of CETP then there remains no role of CETP which has primarily been facilitated for smaller units. However, MPCB may examine the matter and take appropriate decision in exempting such exceedance cases in case of SSI units.

(3) The violations which are not directly related to effluent discharge in to CETP or not causing damage to soil/ surface water/ground water, may not be taken in the list of polluting units for the purpose of environmental compensation in this matter under

reference. However, MPCB may take appropriate actions for such defaults.

(4) Limiting period of violations
Taking reference from section 15(3) of the National Green Tribunal Act, 2010, and to limit a period since when default is to be considered for assessing environmental damage cost and cost of restoration, the period of default has been taken into account since five years prior to the day Original Application No. 64/2016 (WZ) was made before the Hon'ble Tribunal (i.e. 28/4/2016) and till the date of order of the Hon'ble Tribunal (i.e.26/09/2019) viz. 28/4/2011 to 26/9/2019.

(5) Number of days (N) of violations:
(i) In cases where closure direction has been issued, the period of default (N in days) may be taken as date of inspection till the effective date of closure of the unit.
(ii) For other cases including where conditional restart order or show-cause notice/proposed direction/interim direction issued under the Water (Prevention & Control of Pollution) Act, 1974/ Environment(Protection) Act, 1986, have been issued, the period of default may be taken as number of days(N) for which violation took place. It may be the period between the day of violation observed/ due date of compliance of directions and the day as on which the compliance was verified by MPCB.

4. *MPCB was requested by the Committee to re-examine considering the above and provide revised list of polluting units along with nature and period of defaults to the Committee.*

5. *MPCB re-examined and identified 83 of the said 221 units as polluting units and another 20 units considering observations and recommendations of the Committee for the purpose of imposing environmental damage cost/damage restoration cost. MPCB informed that the following recommendations of the Committee were considered by MPCB in arriving units as the polluting units:*
   (i) Inclusion of only those units for which due records are available for establishing the violations;
   (ii) Exempting SSI units (having effluent discharge less than 25 KLD) who were found discharging effluent to CETP meeting CETP inlet consent norms of COD-3500 mg/l and BOD 1500 mg/l;
   (iii) Non-inclusion of violations which are not directly related to effluent discharge in to CETP or not causing damage to soil/ surface water/ground water;
   (iv) Considering the period of default of five years since the date of making Original Application No. 64/2016 (WZ) i.e. 28/4/2011 to 26/9/2019 taking reference from section 15(3) of the National Green Tribunal Act, 2010, with regard to consideration of default for assessing environmental compensation and cost of restoration;

6. *It was also informed that **period of violations** for the aforesaid 103 identified polluting units for the purpose of imposing environmental damage cost/damage restoration cost were also revised as per recommendations of the Committee that in cases where closure direction have been issued, the period of **default (N in days) has been taken as date of inspection till the***

effective date of closure of the unit. For other cases including where conditional restart issued under W (P&CP) Act, 1974/ EP Act, 1986, the period of default has been taken as no of days (N) for which violation took place. Such N has been taken as the period between the day of violation observed/ due date of compliance of directions and the day as on which the compliance was verified. The period between effective closure of the unit till the date of restart order issued by MPCB has not been considered as violation period.

7. *The aforesaid additional 20 units were also given opportunity of hearing by the Committee on 27/1/2020 and the 103 polluting units were also served with notices by MPCB giving them another opportunity of submitting additional details/records against the said violations, if any.*
8. ***The identified units have thus been given due consideration and the Committee rationalized the criteria for identification of polluting units and their nature & period of violation with best possible logic under given varied scenarios for distributing accountability of CETP and polluting industrial units towards cost of restoration of the environment***.

431. The issue with regard to methodology for computation of environmental compensation has been considered, time and again since no single methodology can be appropriately made applicable without considering the nature of industry, the nature of pollution and other relevant factors. In this regard it will be useful to refer some relevant statutory and precedential law as also other relevant factors which may provide a guideline as to how environmental compensation should be determined.

Environmental Compensation-Assessment/Methodology

432. The question of **assessment of environmental compensation** includes the principles/factors/aspects, necessary to be considered for computing/assessing/determining environmental compensation. Besides judicial precedents, we find little assistance from Statute. Section 15 of NGT Act 2010 talks of relief of compensation and restitution. It confers wide powers on this Tribunal to grant relief by awarding compensation for

the loss suffered by individual(s) and/or for damage caused to environment. Section 15 reads as under:

> *"**15. Relief, compensation and restitution**-(1) The Tribunal may, by an order, provide:*
> *a) **relief and compensation** to the victims of pollution and **other environmental damage arising under the enactments** specified in the Schedule I (including accident occurring while handling any hazardous substance);*
> ***b)** for **restitution of property damaged;***
> *c) **for restitution of the environment** for such area or areas, as the Tribunal may think fit.*
>
> *(2) The relief and Compensation and restitution of property and environment referred to in clauses (a), (6) and (c) of sub-section of (1) shall be in addition to the relief paid or payable under the Public Liability Insurance Act, 1991 (6 of 1991).*
>
> *(3) No application for grant of any compensation or relief or restitution of property or environment under this section shall be entertained by the Tribunal unless it is made within a period of five years from the date on which the cause for such compensation or relief first arose:*
>
> *Provided that the Tribunal may, if it is satisfied that the' applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding sixty days.*
>
> *(4) The Tribunal may, **having regard to the damage** to public **health, property and environment**, divide the compensation or relief payable under separate heads specified in Schedule II so as to provide compensation or relief to the claimants and for restitution of the damaged property or environment, as it may think fit.*
>
> *(5) Every claimant of the compensation or relief under this Act shall intimate to the Tribunal about the application filed to, or, as the case may, be, compensation or relief received from, any other Court or authority.*

433. Sub-section 1 enables Tribunal to make an order providing relief and compensation to (i) the victims of pollution, (ii) other environmental damage arising under the enactments specified in the Schedule I. Tribunal is also conferred power to pass an order providing relief for restitution of property damaged. Section 15(1)(c) enables Tribunal to pass an order providing relief for restitution of the environment for such area or areas, as Tribunal may think fit. Section 15 sub-section 4 says that Tribunal may divide compensation or relief payable under separate heads

specified in Schedules II, having regard to the damage to public health, property and environment so as to provide compensation or relief, (i) to the claimants and (ii) for restitution of the damaged property or environment, as it may think fit.

434. Schedule II of NGT Act, 2010 gives a list of heads under which compensation or relief for damage may be granted. It has 14 heads in total out of which item (a) to (f), (l), (m) and (n) relates to loss, damage etc. sustained to the person or individual or their property. Item (i) to (k) relates to harm, damage, destruction etc. of environment or environmental system including soil, air, water, land, and eco-system. Items (i) to (k) of Schedule II of NGT Act 2010 are as under:

> *"(i) Claims on account of any harm, damage or destruction to the fauna including milch and draught animals and aquatic fauna;*
>
> *(j) Claims on account of any harm, damage or destruction to flora including aquatic flora, crops, vegetables, trees and orchards;*
>
> *(k) Claims including cost of restoration on account of any harm or damage to environment including pollution of soil, air, water, land and eco-systems;"*

435. Items (g) and (h) relate to expense and cost incurred by State in providing relief to affected person; and loss caused in connection with activity causing damage. The damage to environment covers a very wide variety of nature as is evident from definition of environment under section 2 (c) which is inclusive and says; 'environment includes water, air, and land and the interrelationship, which exists among and between water, air and land and human beings, other living creatures, plants, micro-organism and property'.

436. Section 20 of NGT Act, 2010 requires Tribunal to apply principles of sustainable development, the precautionary principle and the polluter pays principle.

437. Thus, broad principles of environmental laws are given but the methodology for assessing/determining compensation is not provided in the statute. Even Rules framed under NGT Act, 2010 are silent on this aspect. Issue of determination of EC is significant in the sense that it should be proportionate to or bears a reasonable nexus with the environmental damage and its remediation/restoration. Similarly in case of compensation to be determined for a victim, it needs to co-relate to injury caused or damage suffered by such person as also cost incurred for treatment/remediation.

438. Taking into consideration multifarious situations relating to violation of environmental laws *vis-a-vis* different proponents, nature of cases involving violation of environmental laws can be categorized as under:

(i) Where Project/Activities are carried out without obtaining requisite statutory permissions/consents/clearances/NOC etc., affecting environment and ecology. For example, EC under EIA 2006; Consent under Water Act 1974 and Air Act 1981; Authorisation under Solid Waste Management Rules 2016 and other Rules; and NOC for extraction and use of ground water, wherever applicable, and similar requirements under other statutes.

(ii) Where proponents have violated conditions imposed under statutory Permissions, Consents, Clearances, NOC etc. affecting environment and ecology.

(iii) Where Proponents have carried out their activities causing damage to environment and ecology by not following

standards/norms regarding cleanliness/pollution of air, water etc.

439. The above categories are further sub-divided, i.e., where the polluters/violators are corporate bodies/organisations/associations and group of the people, in contradistinction, to individuals; and another category, the individuals themselves responsible for such pollution.

440. Further category among above classification is, where, besides pollution of environment, proponents/violators action also affect the community at large regarding its source of livelihood, health etc.

441. The next relevant aspect is, whether damage to environment is irreversible, permanent or is capable of wholly or partially restoration/remediation.

442. Determination/computation/assessment of environmental compensation must, not only conform the requirement of restoration/remediation but should also take care of damage caused to the environment, to the community, if any, and should also be preventive, deterrent and to some extent, must have an element of "being punitive". The idea is not only for restoration/remediation or to mitigate damage/loss to environment, but also to discourage people/proponents from indulging in the activities or carrying out their affairs in such a manner so as to cause damage/loss to environment.

443. To impose appropriate 'environmental compensation' for causing harm to environment, besides other relevant factors as pointed out, one has to understand the kind and nature of 'Harmness cost'. This includes risk assessment. The concept of risk assessment will include human-health risk assessment and ecological risk assessment. U.S.

Environmental Protection Agency has provided a guideline to understand harm caused to environment as well as people. For the purpose of human-health risk assessment, it comprised of three broad steps, namely, planning and problem formulation; effects and exposure assessment and risk categorization. The first part involves participation of stakeholders and others to get input; in the second aspect health effect of hazardous substances as well as likelihood and level of exposure to the pollutant are examined and the third step involves integration of effects and exposure assessment to determine risk.

444. Similarly, ecological risk assessment is an approach to determine risk of environmental harm by human activities. Here also we can find answer following three major steps, i.e., problem codification; analysis of exposure and risk characterization. First part encompasses identification of risk and what needs to be protected. Second step insists upon crystallization of factors that are exposed, degree to exposure and whether exposure is likely or not to cause adverse ecological effects. Third step is comprised of two components, i.e., risk assessment and risk description.

445. In totality, problem is multi-fold and multi-angular. Solution is not straight but involves various shades and nuances and vary from case to case. Even Internationally, there is no thumb-rule to make assessment of damage and loss caused to environment due to activities carried out individually or collectively by the people, and for remediation/restoration. Different considerations are applicable and have been applied.

446. In India, where commercial activities were carried out without obtaining statutory permissions/consents/clearance/NOC, Courts have determined, in some matters, compensation by fixing certain percentage

of cost of project. In some cases, volume of business transactions, turnover, magnitude of establishment of proponent have also been considered as guiding factors to determine environmental compensation.

447. Nature is extremely precious. It is difficult to price elements of nature like light, oxygen (air), water in different forms like rain, snow, vapour etc. When nature is exploited beyond its' carrying capacity, results are harmful and dangerous. People do not understand the value of what nature has given free. Recently in Covid-19 wave II, scarcity of oxygen proved its worth. In dreadful second phase of the above pandemic, any amount offered, in some cases, could not save life for want of oxygen. Further, damage to environment, sometimes do not reflect in individuals immediately and may take time but injury is there. In such cases, process of determination of compensation may be different.

448. In an article, '*the cost of pollution-Environmental Economics*' by Linas Cekanavicius, 2011, it has been suggested, where commercial activities have been carried out without consent etc., and pollution standards have been violated, Total Pollution Cost (hereinafter referred to as '**TPC**') can be applied. It combines the cost of abatement of environment pollution and cost of pollution induced environmental damage. The formula comes to **TPC(z)=AC(z)+ED(z)**, where **z** denotes the pollution level. Further, clean-up cost/remediation cost of pollution estimated to be incurred by authorities can also be used to determine environmental compensation.

449. When there is collective violation, sometimes the issue arose about apportionment of cost. Where more than one violator is indulged, apportionment may not be equal since user's respective capacity to produce waste, contribution of different categories to overall costs etc.

would be relevant. The element of economic benefit to company resulting from violation is also an important aspect to be considered, otherwise observations of Supreme Court that the amount of environmental compensation must be deterrent, will become obliterated. Article 14 of the Constitution says that unequal cannot be treated equally, and it has also to be taken care. Determination/assessment/computation of environmental compensation cannot be arbitrary. It must be founded on some objective and intelligible considerations and criteria. Simultaneously, Supreme Court also said that its calculations must be based on a principle which is simple and can be applied easily. In other words, it can be said that wherever Court finds it appropriate, expert's assessment can be sought but sometimes experts also go by their own convictions and belief and fail to take into account judicial precedents which have advanced cause of environment by applying the principles of 'sustainable development', 'precautionary approach' and 'polluter pays', etc.

450. Clean-up cost or TPC, may be a relevant factor to evaluate damage, but in the diverse conditions as available in this Country, no single factor or formula may serve the purpose. Determination should be a quantitative estimation; the amount must be deterrent to polluter/violator and though there is some element of subjectivity but broadly assessment/computation must be founded on objective considerations. Appropriate compensation must be determined to cover not only the aspect of violation of law on the part of polluter/violator but also damage to the environment, its remediation/restoration, loss to the community at large and other relevant factors like deterrence, element of penalty etc.

451. **CPCB Guidelines**: CPCB has suggested in a report methodology for assessment of environmental compensation which may be levied or imposed upon industrial establishments who are guilty of violation of environmental laws and have caused damage/degradation/loss to environment. It does not encompass individuals, statutory institutions and Government etc. Report is titled as "*Report of the CPCB In-house Committee on Methodology for Assessing Environmental compensation and Action Plan to Utilize the Fund*" which was finalized in the meeting held on 27.03.2019. It shortlisted the incidents requiring an occasion for determining environmental compensation. Six such incidents, shortlisted, are:

> *"**Cases considered for levying Environmental Compensation (EC):***
>
> *a) Discharges in violation of consent conditions, mainly prescribed standards/consent limits.*
> *b) Not complying with the directions issued, such as direction for closure due to non-installation of OCEMS, non-adherence to the action plans submitted etc.*
> *c) Intentional avoidance of data submission or data manipulation by tampering the Online Continuous Emission / Effluent Monitoring systems.*
> *d) Accidental discharges lasting for short durations resulting into damage to the environment.*
> *e) Intentional discharges to the environment -- land, water and air resulting into acute injury or damage to the environment.*
> *f) Injection of treated/partially treated/ untreated effluents to ground water."*

452. For the instances at item (a), (b) and (c), report says that 'Pollution Index' (hereinafter referred to as '**PI'**) would be used as a basis to levy environmental compensation. CPCB had already published Guidelines categorizing industries into Red, Orange, Green and White, based on the concept of **PI**. The **PI** is arrived after considering quantity and quality of emissions/effluents generated, types of hazardous waste generated and consumption of resources. **PI** of an industrial sector is a numerical number in the range of 0 to 100 and is represented as follows:

PI=f (Water Pollution Score, Air Pollution Score and HW Generation Score).

453. Since range of PI is 0 to 100, increase in value of PI denotes increasing degree of pollution hazard from industrial sector. Accordingly, report says, for determining environmental compensation in respect of cases covered by item (a), (b) and (c), it will apply following formula:

> *"EC = PI × N × R × S × LF*
> *Where,*
> *EC is Environmental Compensation in ₹*
> *PI = **Pollution Index of industrial sector***
> *N = Number of days of violation took place*
> *R = A factor in Rupees (₹) for EC*
> *S = Factor for scale of operation*
> *LF = Location factor"*

454. The formula incorporates anticipated severity of environmental pollution in terms of PI, duration of violation in terms of number of days, scale of operation in terms of micro and small/medium/large industry and location in terms of proximity to the large habitations. A note is also given under the aforesaid formula and it reads as under:

> *"Note:*
>
> a. *The **industrial sectors** have been categorized into Red, Orange and Green, based on their Pollution Index in the range of 60 to 100, 41 to 59 and 21 to 40, respectively. It was suggested that the average pollution index of 80, 50 and 30 may be taken for calculating the Environmental Compensation for Red, Orange and Green categories of industries, respectively.*
> b. *N, number of days for which violation took place is the period between the day of violation observed/due date of direction's compliance and the day of compliance verified by CPCB/SPCB/PCC.*
> c. *R is a factor in Rupees, which may be a minimum of 100 and maximum of 500. It is suggested to consider R as 250, as the Environmental Compensation in cases of violation.*
> d. *S could be based on small/medium/large industry categorization, which may be 0.5 for micro or small, 1.0 for medium and 1.5 for large units.*
> e. *LF, could be based on population of the city/town and location of the industrial unit. For the industrial unit located within municipal boundary or up to 10 km distance from the municipal boundary of the city/town, following factors (LF) may be used:*
>
> ***Table No. 1.1: Location Factor Values***

S. No	Population* (million)	Location Factor# (LF)
1	1 to <5	1.25
2	5 to <10	1.5
3	10 and above	2.0

*Population of the city/town as per the latest Census of India
#LF will be 1.0 in case unit is located >10km from municipal boundary
LF is presumed as 1 for city/town having population less than one million.

For notified Ecologically Sensitive areas, for beginning, LF may be assumed as 2.0. **However, for critically Polluted Areas, LF may be explored in future.**

f. In any case, minimum Environmental Compensation shall be ₹ 5000/day.
g. In order to include deterrent effect for repeated violations, EC may be increased on exponential basis, i.e. by 2 times on 1st repetition, 4 times on 2nd repetition and 8 times on further repetitions.
h. If the operations of the industry are inevitable and violator continues its operations beyond 3 months then for deterrent compensation, EC may be increased by 2, 4 and 8 times for 2nd, 3rd and 4th quarter, respectively. Even if the operations are inevitable beyond 12 months, violator will not be allowed to operate.
i. Besides EC, industry may be prosecuted or closure directions may be issued, whenever required.

A sample calculation for Environmental Compensation (without deterrent factor) is given at Table No. 1.2. It can be noticed that for all instances, EC for Red, Orange, and Green category of industries varies from 3,750 to 60,000 ₹/day.

Table No. 1.2: A sample calculation for Environmental Compensation

Industrial Category	Red	Orange	Green
Pollution Index (PI)	60-100	41-59	21-40
Average PI	80	**50**	**30**
R-Factor	250		
S-Factor	0.5-1.5		
L-Factor	1.00-2.00		
Environmental Compensation (₹/day)	**10,000-60,000**	**6,250-37,500**	**5,000-22,500**

455. We find that **R** which is a factor in Rupees (₹) is taken to be 100 minimum and 500 maximum. It has suggested that R value be taken as average i.e., Rs. 250/-. On what basis this minimum and maximum has been determined and why average is suggested, beyond any comprehension. We do not find any material in the above report which may throw light for taking value of R as above. Similarly, for determining

value of S i.e. Factor for Scale of Operation from 0.5 to 1.5, we find no Guidelines as to on what basis, it has been determined and only on the size of the industry, divided in small, medium and large, the said factor has been prescribed. The note further says that minimum environmental compensation would be Rs. 5000/- per day. From table 1.2, we find that in the highest case i.e., large industry, depending on the level of PI, maximum environmental compensation would be Rs. 60,000/- per day and minimum Rs. 10,000/- per day. The above determination excludes the actual loss to the environment and cost of remediation including damage to *flora-fauna* and human beings. Moreover, classification of industries for industrial policy, or for some licensing purpose, banking purpose etc. would be wholly irrelevant for environment. A small industry may be capable of causing much more pollution than medium or even large industry. For example, pollution caused by a brick kiln using coal as fuel may be much more than many medium category industries.

456. In respect of items (d), (e) and (f), report says that for determining environmental compensation, one has to consider the matters in two parts, one for providing immediate relief and another long-term relief, such as remediation. In such cases, detailed investigations are required from Expert Institutions or Organizations, based on which environmental compensation will be decided. Second part of report is with regard to utilization of environmental compensation fund. For this purpose, report says that CPCB will finalize a scheme for utilization of fund for protection of environment. Certain schemes identified by CPCB for utilization of the said fund are mentioned in para 1.4.1, as under:

> *"a. Industrial Inspections for compliance verification*
> *a. Installation of Continuous water quality monitoring stations/Continuous ambient air quality monitoring stations for strengthening of existing monitoring network*

b. *Preparation of Comprehensive Industry Documents on Industrial Sectors/clean technology*
c. *Investigations of environmental damages, preparation of DPRs*
d. *Remediation of contaminated sites*
e. *Infrastructure augmentation of Urban Local Bodies (ULBs)/capacity building of SPCBs/PCCs."*

457. All the above, except item (e), relate to establishment/infrastructure for monitoring/prevention of pollution which in fact is the statutory duty and function of officials of State PCB and CPCB. It appears that CPCB has attempted to utilize environment fund to meet expenses which is the responsibility of Government.

458. Chapter II of report deals with determination of environment compensation for violations of **Graded Response Action Plan** (GRAP) in NCR. Here, a fixed amount of environmental compensation has been recommended in table 2.1, as under:

"Table No. 2.1: Environmental Compensation to be levied on all violations of Graded Response Action Plan (GRAP) in Delhi-NCR.

Activity	***State Of Air Quality***	***Environmental Compensation***
Industrial Emissions	*Severe +/Emergency*	*Rs 1.0 Crore*
	Severe	*Rs 50 Lakh*
	Very Poor	*Rs 25 Lakh*
	Moderate to Poor	*Rs 10 Lakh*
Vapour Recovery System (VRS) at Outlets of Oil Companies		
i. Not installed	*Target Date*	*Rs 1.0 Crore*
ii. Non-functional	*Very poor to Severe +*	*Rs 50.0 Lakh*
	Moderate to Poor	*Rs 25.0 Lakh*
Construction sites (Offending plot more than 20,000 Sq.m.)	*Severe +/Emergency*	*Rs 1.0 Crore*
	Severe	*Rs 50 Lakh*
	Very Poor	*Rs 25 Lakh*
	Moderate to Poor	*Rs 10 Lakh*
Solid waste/ garbage dumping in Industrial Estates	*Very poor to Severe +*	*Rs 25.0 Lakh*
	Moderate to Poo	*Rs 10.0 Lakh*
Failure to water sprinkling on unpaved roads		
a) Hot-spots	*Very poor to Severe +*	*Rs 25.0 Lakh*
b) Other than Hot-spots	*Very poor to Severe +*	*Rs 10.0 Lakh*

"

459. Chapter III considers determination of environmental compensation where a proponent has discharged pollutants in water bodies or failed to

prevent discharge of pollutants in water bodies and also failed to implement Waste Management Rules. Laying down Guidelines for determination of environmental compensation in this category, report has referred to Tribunal's order dated 06.12.2018 in ***OA No. 125/2017 and MA No. 1337/2018, Court on its own motion vs. State of Karnataka***, stating as under:

> *"Since failure of preventing the pollutants being discharged in water bodies (including lakes) and failure to implement solid and other waste management rules are too frequent and widespread, the* ***CPCB must lay down specific guidelines to deal with the same, throughout India, including the scale of compensation*** *to be recovered from different individuals/authorities, in addition to or as alternative to prosecution.* ***The scale may have slabs, depending on extent of pollution caused, economic viability, etc. Deterrent effect for repeated wrongs may also be provided****."*

460. It is suggested that determination of environmental compensation in this category would have two components, (i) Cost saved/benefits achieved by the concerned individual/authority by not having proper waste/sewage managing system; and (ii) Cost to the environment (environmental externality) due to untreated/partially treated waste/sewage because insufficient capacity of waste/sewage management facility. It further says that Cost saved/benefits achieved would also include interest on capital cost of waste/sewage management facility, daily operation and maintenance (O & M) cost associated with the facility. The determination of environmental compensation, therefore, is suggested, applying following formula:

> *"Therefore, generalized formula for Environmental Compensation may be described as:*
> ***EC= Capital Cost Factor × Marginal Average Capital Cost for Establishment of Waste or Sewage Management or Treatment Facility × (Waste or Sewage Management or Treatment Capacity Gap) + O&M Cost Factor × Marginal Average O&M Cost × (Waste or Sewage Management or Treatment Capacity Gap) × No. of Days for which facility was not available + Environmental Externality****"*

461. Environmental externality has been placed in two categories (i) untreated/partially treated sewage discharge and (ii) improper municipal solid waste management and detailed in table 3.1 and 3.2, as under:

"Table No. 3.1: Environmental externality for untreated/partially treated sewage discharge

Sewage Treatment Capacity Gap (MLD)	***Marginal Cost of Environmental Externality (Rs. per MLD/day)***	***Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. Per Day)***
Up to 200	*75*	*Min. 0.05, Max. 0.10*
201-500	*85*	*Min. 0.25, Max. 0.35*
501 and above	*90*	*Min. 0.60, Max. 0.80*

Table No. 3.2: Environmental externality for improper municipal solid waste management

Municipal Solid Waste Management Capacity Gap (TPD)	***Marginal Cost of Environmental Externality (Rs. per ton per day)***	***Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. Per Day)***
Up to 200	*15*	*Min. 0.01, Max. 0.05*
201-500	*30*	*Min. 0.10, Max. 0.15*
501-1000	*35*	*Min. 0.25, Max. 0.3*
1001-2000	*40*	*Min. 0.50, Max. 0.60*
Above 2000	*Max. 0.80*	

"

462. CPCB has further recommend a fixed cap for minimum and maximum cost for capital and O & M component for environmental compensation in table 3.3 and 3.4, as under:

"Table No. 3.3: Minimum and Maximum EC to be levied for untreated/partially treated sewage discharge

Class of the City/Town	***Mega-City***	***Million-plus City***	***Class-I City/Town and others***
Minimum and Maximum values of EC (Total Capital Cost Component) recommended by the Committee (Lacs Rs.)	*Min. 2000 Max. 20000*	*Min. 1000 Max. 10000*	*Min. 100 Max. 1000*
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lacs Rs./day)	*Min. 2 Max. 20*	*Min. 1 Max. 10*	*Min. 0.5 Max. 5*

Table No. 3.4: Minimum and Maximum EC to be levied for improper municipal solid waste management

Class of the City/Town	***Mega-City***	***Million-plus City***	***Class-I City/Town and others***
Minimum and Maximum values of EC (Capital Cost Component) recommended by the Committee (Lacs Rs.)	*Min. 1000 Max. 10000*	*Min. 500 Max. 5000*	*Min. 100 Max. 1000*
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lacs Rs./day)	*Min. 1.0 Max. 10.0*	*Min. 0.5 Max. 5.0*	*Min. 0.1 Max. 1.0*

"

463. Para 3.3 deals with the method of determining environmental compensation for damage by untreated/partially treated sewage by concerned individual/authority. Under this head, CPCB has considered that for population above 1 lakh, requirement of water supply, would be minimum 150 to 200 lpcd and 85% whereof would result in sewage generation. It takes capital cost for 1 MLD STP ranges from 0.63 crores to 3 crores and O & M cost around Rs. 30,000 per month. Consequently, it suggested to assume capital cost for STPs as Rs. 1.75 crores/MLD (marginal average cost). Expected cost for conveyance system is assumed as Rs. 5.55 crore/MLD and annual O& M as 10% of combined capital coast. Based on the above assumptions, Committee has recommended/suggested environmental compensation, to be levied on urban local bodies, by applying anyone of the two formulae which are as under:

> ***"EC= Capital Cost Factor × [Marginal Average Capital Cost for Treatment Facility × (Total* Generation-Installed Capacity) + Marginal Average *Capital Cost for Conveyance Facility × (Total Generation -Operational Capacity)] + O&M Cost Factor x Marginal Average O&M Cost × (Total Generation-Operational Capacity) × No. of Days for which facility was not available + Environmental Externality × No. of Days for which facility was not available***
>
> *Alternatively;*

EC (Lacs Rs.) = [17.5(Total Sewage Generation – Installed Treatment Capacity) + 55.5(Total Sewage Generation-Operational Capacity)] + 0.2(Sewage Generation-Operational Capacity) × N + Marginal Cost of Environmental Externality × (Total Sewage Generation-Operational Capacity) × N

Where; N= Number of days from the date of direction of CPCB/SPCB/PCC till the required capacity systems are provided by the concerned authority

Quantity of Sewage is in MLD"

464. Para 3.4 deals with the method of environmental compensation to be levied on concerned individual/authority for improper solid waste management, chargeable from urban local body. The recommended formula is as under:

"EC = Capital Cost Factor x Marginal Average Cost for Waste Management × (Per day waste generation-Per day waste disposed as per the Rules) + O&M Cost Factor × Marginal Average O&M Cost × (Per day waste generation-Per day waste disposed as per the Rules) × Number of days violation took place + Environmental Externality × N
Where;
Waste Quantity in tons per day (TPD)

N= Number of days from the date of direction of CPCB/SPCB/PCC till the required capacity systems are provided by the concerned authority
Simplifying;
EC (Lacs Rs.) = 2.4(Waste Generation - Waste Disposed as per the Rules) +0.02 (Waste Generation - Waste Disposed as per the Rules) × N + Marginal Cost of Environmental Externality × (Waste Generation-Waste Disposed as per the Rules) × N"

465. Here also certain assumed figures have been taken by CPCB. Report says that municipal solid waste generation is approximately 1.5 lakh MT/day in India as per MoHUA Report-2016. As per principles of Solid Waste Management Rules, 2016 and PWM Rules, 2016, total cost of municipal solid waste management in city/town includes cost for door-to-door collection, cost of segregation at source, cost for transportation in segregated manner, cost for processing of municipal solid waste and disposal through facility like composting bio-methanation, recycling, co-

processing in cement kilns etc. It is estimated that total cost of processing and treatment of municipal solid waste for a city of population of 1 lakh and generating approximately 50 tons/day of municipal solid waste is Rs. 15.5 Crores which includes capital cost (one time) and Operational and Management cost for one year. Expenditure for subsequent years would be only 3.5 Crores/annum. For arriving per day waste generation, CPCB has referred to a survey conducted by Environment Protection Training Research Institute (EPTRI) which estimated that solid waste generated in small, medium and large cities and towns is about 0.1 kg (Class-III), 0.3-0.4 kg (Class-II) and 0.5 kg (Class-I) per capita per day respectively. The Committee opined that 0.6 kg/day, 0.5 kg/day and 0.4 kg/day per capita waste generation may be assumed for mega-cities, million-plus UAs/towns and Class-I UA/Towns respectively for calculation of environmental compensation purposes.

466. Sample calculation of environmental compensation to be levied for improper management of municipal solid waste has been provided in table 3.6 which reads as under:

"Table No. 3.6: Sample calculation for EC to be levied for improper management of Municipal Solid Waste

City	***Delhi***	***Agra***	***Gurugram***	***Ambala***
Population (2011)	*1,63,49,831*	*17,60,285*	*8,76,969*	*5,00,774*
Class	*Mega-City*	*Million-plus City*	*Class-I Town*	*Class-I Town*
Waste Generation (kg. per person per day)	*0.6*	*0.5*	*0.4*	*0.4*
Waste Generation (TPD)	*9809.90*	*880.14*	*350.79*	*200.31*
Waste Disposal as per Rules (TPD) *(assumed as 25% of waste generation for sample calculation)*	*2452.47*	*220.04*	*87.70*	*50.08*
Waste Management Capacity Gap (TPD)	*7357.42*	*660.11*	*263.09*	*150.23*
Calculated EC (capital cost component) in Lacs. Rs.	*17657.82*	*1584.26*	*631.42*	*360.56*

Minimum and Maximum values of EC (Capital Cost Component) recommended by the Committee (Lacs Rs.)	*Min. 1000 Max. 10000*	*Min. 500 Max. 5000*	*Min. 100 Max. 1000*	*Min. 100 Max. 1000*
Final EC (capital cost component) in Lacs. Rs.	*10000.00*	*1584.26*	*631.42*	*360.56*
Calculated EC (O&M Component) in Lacs. Rs./Day	*147.15*	*13.20*	*5.26*	*3.00*
Minimum and Maximum values of EC (O&M Cost Component) recommended by the Committee (Lacs Rs./Day)	*Min. 1.0 Max. 10.0*	*Min. 0.5 Max. 5.0*	*Min. 0.1 Max. 1.0*	*Min. 0.1 Max. 1.0*
Final EC (O&M Component) in Lacs. Rs./Day	*10.00*	*5.00*	*1.00*	*1.00*
Calculated Environmental Externality (Lacs Rs. Per Day)	*2.58*	*0.18*	*0.03*	*0.02*
Minimum and Maximum value of Environmental Externality recommended by the Committee (Lacs Rs. per day)	*Max. 0.80*	*Min. 0.25 Max. 0.35*	*Min. 0.01 Max. 0.05*	*Min. 0.01 Max. 0.05*
Final Environmental Externality (Lacs Rs. per day)	*0.80*	*0.25*	*0.03*	*0.02*

"

467. Chapter IV deals with determination/computation of environmental compensation in case of "illegal extraction of ground water" and for this purpose report has referred to Tribunal's order dated 03.01.2019 passed in ***OA No. 327/2018, Shailesh Singh vs. Central Ground Water Board & Ors***. The relevant extract of the order, quoted in para 4.1 of the report, is as under:

> *"CPCB may constitute a mechanism to deal with individual cases of violation of norms, as existed prior to Notification of 12/12/2018, to determine the environment compensation to be recovered or other coercive measures to be taken, including prosecution, for past illegal extraction of ground water, as per law."*

468. Here, broadly, determination of environmental compensation refers to two major aspects i.e., illegal extraction of water as one aspect and illegal use of ground water as second aspect. For determination of environmental compensation for illegal extraction of ground water, formula suggested by Committee is:

> ***"EC_{GW} =Water Consumption per Day x No. of Days x Environmental Compensation Rate for illegal extraction of ground water (ECR_{GW})***
>
> *Where water Consumption is in m^3/day and ECRGW in Rs./m^3*
>
> *Yield of the pump varies based on the capacity/power of pump, water head etc. For reference purpose, yield of the pump may be assumed as given in* ***Annexure-VI.***
>
> *Time duration will be the period from which pump is operated illegally.*
>
> *In case of illegal extraction of ground water, quantity of discharge as per the meter reading or as calculated with assumptions of yield and time may be used for calculation of EC_{GW}."*

469. Depending on the category of the area for the purpose of ground water i.e., safe, semi-critical, critical and over-exploited and also the purpose for which ground water is used, determination of environmental compensation for illegal use of ground water, has been suggested differently for different purpose/use i.e., for drinking and domestic use; for packaged drinking water units/for mining infrastructure and dewatering projects and for industrial units. Hence all these aspects are separately given in paragraph 4.6.1, 4.6.2, 4.6.3 and 4.6.4 as under:

> ***"4.6.1 ECRGW for Drinking and Domestic use:***
> *Drinking and Domestic use means uses of ground water in households, institutional activity, hospitals, commercial complexes, townships etc.*

Sl. No	*Area Category*	*Water Consumption (m^3/day)*			
		<2	*2 to <5*	*5 to <25*	*25 & above*
		Environmental Compensation Rate (ECR_{GW}) in Rs./m^3			
1	*Safe*	*4*	*6*	*8*	*10*
2	*Semi Critical*	*12*	*14*	*16*	*20*
3.	*Critical*	*22*	*24*	*26*	*30*
4	*Over-Exploited*	*32*	*34*	*36*	*40*

Minimum EC_{GW}=Rs 10,000/- (for households) and Rs. 50,000 (for institutional activity, commercial complexes, townships etc.)

4.6.2 ECRGW for Packaged drinking water units:

Sl. No	*Area Category*	*Water Consumption (m^3 /day)*			
		<200	*200 to <1000*	*1000 to <5000*	*5000 & above*
		Environmental Compensation Rate (ECR_{GW}) in Rs./m^3			
1	*Safe*	*12*	*18*	*24*	*30*
2	*Semi Critical*	*24*	*36*	*48*	*60*
3.	*Critical*	*36*	*48*	*66*	*90*
4	*Over-Exploited*	*48*	*72*	*96*	*120*
Minimum ECGW=Rs 1,00,000/-					

4.6.3 ECRGW for Mining, Infrastructure and Dewatering Projects:

Sl. No	*Area Category*	*Water Consumption (m^3 /day)*			
		<200	*200 to <1000*	*1000 to <5000*	*5000 & above*
		Environmental Compensation Rate (ECR_{GW}) in Rs./m^3			
1	*Safe*	*15*	*21*	*30*	*40*
2	*Semi Critical*	*30*	*45*	*60*	*75*
3.	*Critical*	*45*	*60*	*85*	*115*
4	*Over-Exploited*	*60*	*90*	*120*	*150*
Minimum EC_{GW}=Rs 1,00,000/					

4.6.4 ECRGW for Industrial Units:

Sl. No	*Area Category*	*Water Consumption (m^3 /day)*			
		<200	*200 to <1000*	*1000 to <5000*	*5000 & above*
		Environmental Compensation Rate (ECR_{GW}) in Rs./m^3			
1	*Safe*	*20*	*30*	*40*	*50*
2	*Semi Critical*	*40*	*60*	*80*	*100*
3.	*Critical*	*60*	*80*	*110*	*150*
4	*Over-Exploited*	*80*	*120*	*160*	*200*
Minimum ECGW=Rs 1,00,000/-					

"

470. It is also recommended that minimum environmental compensation for illegal extraction of ground water would be Rs. 10,000/- if it is for domestic purposes, but in other matters, it would be Rs. 50,000/-.

471. These recommendations by CPCB have not been given in the form of a binding statutory provision. Even otherwise, we find that these are only broad suggestions, ignore several relevant aspects which have to be

considered while determining environment compensation in a given case and, therefore, there cannot be taken as readymade application to all situations for determining of environment compensation. Moreover, on some aspects there is no suggestion, but it is deferred.

472. We also find that some crucial relevant aspects requiring application of 'Polluters Pay', have not been considered in the above suggestions. CPCB has failed to consider that the purpose of determination/ computation/ assessment of environmental compensation and levy thereof, involve various factors like (i) cost of damage to environment, (ii) cost needed for restoration/remediation of damage caused to environment, (iii) element of deterrent/provincial, (iv) liability arising for violation of statuary mandatory law relating to environment namely requirement of consent, EC and NOC etc. It is not mere cost of item or subject but computation of something which situation has arisen by an act of PPs due to violation of environmental law causing damage to environment. The loss and its remedy involve complex of components.

473. Nature is precious. The elements of nature like air, water, light and soil in materialistic manner may not be priced appropriately and adequately. Most of the time, whenever price is determined, it may be extremely low or highly exorbitant meaning thereby disproportionate. Still, since some of the assets of nature are marketable, on that basis price may be determined but when such elements are damaged or degraded, restoration thereof, in effect is priceless. Many a times, it may be almost impracticable and improbable to recover and remediate damaged environment to its position as it was. Moreover, its cost might be very high. It also cannot be doubted that once there is a pollution or

damage to environment, it would affect adversely not only the environment but also inhabitants and all biological organisms. Damage is there, only degree may differ whether to the environment or to the inhabitants and other organisms. To find out simultaneously degree of damage and to ascertain the same in many cases may not be possible or practicable. For example, a polluted air causes respiratory diseases but the people do not get infected and starts reflection of the disease immediately but it takes some time. The time taken in reflection of injury on the person or body also differs from person to person depending upon his immunity and other health conditions. In some cases, damage to environment i.e., air pollution may be fatal to a person who already has respiratory problem. For some a minor inconvenience, minor injury to others, and some may not suffer to the extent of showing symptoms of any diseases at all. When we talk of environmental compensation for causing degradation to environment and for its restoration or remediation, it is not a formal or casual or symbolic amount which is required to be levied upon the violator. It is substantive and adequate amount which must be levied for restoration of environment. CPCB in determining values of fixed quotients and rupees etc., has been very lenient as if only symbolically violator is to be held liable and it must pay a petty amount.

474. Statutory Regulators must realize that the amount is needed for remediation and restoration of damaged environment; enough to be deterrent, to provide adequate compensation where inhabitants are affected adversely and where violator has proceeded in violation of Environmental Laws relating to consents, clearances, permissions etc., to penalize him for such violation to prove to be a deterrent to him and others. Unfortunately, the above guidelines laid down by CPCB have not

considered all these aspects and it appears that the same have been prepared in a very casual and formal manner.

475. In respect of computation of compensation for illegal extraction of ground water, CPCB has referred to Tribunal's order in ***Court on its own motion vs. State of Karnataka (supra)*** directing it to lay down guidelines to deal with the scale of compensation but has failed to consider that Tribunal has also observed that its scale may have slabs depending on extent of pollution caused, economic viability etc. and deterrent effect.

476. Statutory Regulators have also failed to consider that environmental compensation is not a kind of fee which may result in profiteering to violators and after adjusting a nominal amount of environmental compensation, a violator may find it profitable to continue with such violations. The objective of environmental compensation is that not only the loss and damage already caused, is made to recover and restore but also in future, the said violator may not repeat the kind of violation already committed and others also have a fear of not doing the same else similar liability may be enforced upon them. Unless amount of compensation is more than maximum permissible profit arising from violation, the purpose of environmental compensation would always stand defeated.

477. Loss caused to surroundings of the environment, may also include *flora-fauna* and human beings. It is in this backdrop that in various matters when the issues were considered by Courts and Tribunal and found necessary to impose environmental compensation upon Proponent/Violator of environmental laws, they have followed different mechanisms. Sometimes, Committee's reports confirming violations have

been referred but for quantum of compensation, directions have been issued in different ways. In some cases, CPCB guidelines have been applied while in many other, project cost has been made basis.

478. CPCB Guidelines have taken care of industries and municipal bodies. Its application in all cases irrespective of other relevant consideration may prove to be disastrous. Individuals, charitable, social or religious bodies, public sector and government establishments etc., may, in given circumstances justify a different approach. Further, there may be cases attracting aggravating factors or mitigating factors, for example in national emergency some activity got performed violating environmental norms or a proponent is resilient to any advice to adhere law to protect environment and so on. In fact, quantum of EC should have nexus with State's efforts for protection and preservation of environment and control of pollution. Compensation regime must be a deterrent to violators and incentivize eco-friendly proponents. No one should get profited by violating environmental laws and community should also not suffer for violation of environmental norms by defaulting proponents. There is no reason, if beside the aspects noticed above, the computation process also incorporates the elements of inflation, quality of life, and economic prosperity.

479. In the context of "violation of disposal of Bio-Medical Waste" and "Non-compliance of Bio-Medical Waste Management Rules, 2016" and determination of environmental compensation for such violations, Tribunal in ***OA No. 710/2017, Shailesh Singh vs. Sheela Hospital & Trauma Centre, Shahjahanpur & Others*** and other connected matters, vide order dated 15.07.2019, accepted report of CPCB, and said:

> *"10. The compensation regime suggested by the CPCB may be adopted. It will be open to the State PCBs/PCCs to adopt a higher*

scale of compensation, having regard to the problems faced in such States/UTs.

11. It is made clear that if even after two months the States/UTs are found to be non-compliant, the compensation will be liable to be recovered from the said States/UTs at the rate of Rs. 1 Croreper month till the non-compliance continues."

480. The above recommendations i.e., in para 10, Tribunal said "*compensation regime suggested by the CPCB may be adopted. It will be* ***open to the State PCBs/PCCs to adopt a higher scale of compensation, having regard to the problems faced in such States/UTs***". It further says that if State Governments and UTs still remain non-complying for two months, compensation will be recovered at the rate of Rs. 1 crore per month till non-compliance continues.

481. In respect of solid waste, sewage effluent, ground water extraction etc., Tribunal in ***OA No. 593/2017, Paryavaran Suraksha Samiti and another vs. Union of India and others***, vide order dated 28.08.2019 has said in para 16, that as regards environmental compensation regime fixed vide CPCB guidelines for industrial units, GRAP, solid waste, sewage and ground water is accepted as an interim measure. Tribunal further observed that recovery of compensation on 'Polluter Pays' principle is a part of enforcement strategy but not a substitute for compliance. It directed all States/UTs to enforce compensation regime latest w.e.f. 01.04.2020 and made it clear that it is not condoning any past violations. Tribunal directed to enforce recovery of compensation from 01.04.2020 from the defaulting local bodies failing which the concerned States/UTs themselves must pay the requisite amount of compensation.

482. In the matter of illegal mining causing damage to environment, methodology for determining environmental compensation was examined in ***OA No. 360/2015, National Green Tribunal Bar Association vs.***

Virender Singh (State of Gujarat) and other connected matters decided on 26.02.2021. Here a report was submitted by CPCB on 30.01.2020, placing on record recommendations made by Committee comprising:

i.) Dr Purnamita Dasgupta, Professor, IEG, Delhi,

ii.) Dr K.S. Kavi Kumar, Professor, MSE, Chennai,

iii.) Dr. Yogesh Dubey, Associate Professor, IIFM, Bhopal,

iv.) Shri Sundeep, Director, MoEF&CC, Delhi and

v.) Shri A. Sudhakar, Additional Director, CPCB, Delhi

483. Report was considered by Tribunal vide order dated 17.08.2020. Report said:

> *"8. The Committee considered two approaches:*
> ***(I) Approach 1: Direct Compensation based on the market value of extraction, adjusted for ecological damages.***
> ***(II) Approach 2: Computing a Simplified NPV for ecological damages.***
>
> *9. In the first approach, the criteria adopted is:*
>
> - *Exceedance Factor (EF).*
> - *Risk Factor (RF).*
> - *Deterrence Factor (DF).*
>
> *10. Approach 1 is demonstrated by Table 1 as follows:*

Table No. 01: Approach 1				
Permitted Quantity (in MT or m^3)	*Total Extraction (in MT or m^3)*	*Excess Extraction (in MT or m^3)*	*Exceedance in Extraction:*	*Compensation Charge (in Rs.)*
X	*Y*	*Z=Y-X*	*Z/X*	*D* (1+RF+DF) Where D=Z x Market Value of the material per MT-or-m^3*
				DF = 0.3 if Z/X = 0.11 to 0.40 DF = 0.6 if Z/X = 0.41 to 0.70 DF = 1 if Z/X >= 0.71
				RF = 0.25, 0.50. 0.75, 1.00 (as per table 2)

11. Approach 2 is demonstrated by following formula:
"Total Benefits (B)=Market Value of illegal extraction: D(refer Table 1)

*Total Ecological Costs (C) = Market Value adjusted for risk factor: D * RF (refer Table 1)."*

12. Final recommendation is as follows:

"Thus, it is recommended that the annual net present value (NPV) of the amount arrived at after taking the difference between the costs and the benefits through the use of the above approach, maybe calculated for a period of 5 years at a discount rate of 5% for mining which is in a severe ecological damage risk zone. ***The rationale for levying this NPV is based on expert opinion that reversal and/or restoration of the ecological damages is usually not possible within a short period of time and rarely is it feasible to achieve 100% restoration, even if the sand deposition in the river basin is restored through flooding in subsequent years****. The negative externalities of the mining activity are therefore to be accounted for in this manner. Ideally, the worth of all such damages, including costs of those which can be restored should be charged.* ***However, till data on site-specific assessments becomes available, this approach may be adopted in the interim.*** *In situations where the risk categorization charged. However, till data on site-specific assessments becomes available, this approach may be adopted in the interim. In situations where the risk categorisation is unavailable or pending calculation, the following Discount Rates may be considered:*

Severity	*Mild*	*Moderate*	*Significant*	*Severe*
Risk Level	*1*	*2*	*3*	*4*
Risk Factor	*0.25*	*0.50*	*0.75*	*1.0*
Discount Rate	*8%*	*7%*	*6%*	*5%*

Here, in both the approaches, element of illegality committed by PP in carrying on mining was not considered at all. For example, if EC and/or consent is not obtained. Similarly cost of remediation/restoration was also not taken into consideration**.**

484. Counsel for applicant gave certain suggestions, which are mentioned in para 13 of order dated 17.08.2020. Tribunal directed Committee to re-examine the matter. Thereafter, further report was submitted on 12.10.2020 wherein earlier report was reiterated. Tribunal in para 12 of judgment dated 26.02.2021 said "**we propose to accept approach-2 in the report**". Further in para 25, Tribunal said:

> *"25. In the light of discussion in para 12 above, having regard to the totality of the situation, we accept the report of the CPCB and direct that the scale of compensation calculated with reference to approach II be adopted by all the States/UTs**. Though compensation assessment for damage to the environment is a dynamic concept, depending on variables, floor level formula can be worked out to avoid arbitrariness inherent in unguided discretion**. **CPCB may issue an appropriate statutory direction for the facility of monitoring and compliance to the Environment Secretaries of all the States/UTs who may forthwith evolve an appropriate mechanism for assessment and recovery of compensation in all Districts of the State**. The recovered compensation may be kept in a separate account and utilized for restoration of environment by preparing an appropriate action plan under the directions of the Environment Secretary with the assistance of such individual/ institutions as may be considered necessary."*

485. Though Tribunal said that determination of environment compensation is a dynamic concept and depends on variables, and also directed CPCB to issue statutory directions to all States/UT so that they may evolve appropriate mechanism for assessment, but nothing has been done in this regard till date. Some States have found it convenient to follow CPCB guidelines. State of Tamil Nadu vide order dated 03.01.2020 and State of Haryana vide order dated 29.04.2019 have adopted CPCB Guidelines.

486. In some cases, compensation has been awarded by Tribunal on lump sum basis without referring to any methodology. For example: (i) *in* ***Ajay Kumar Negi vs Union of India, OA No. 183/2013***, Rs. 5 cr. was imposed. (ii) In ***Naim Shariff vs M/s Das Offshore Application no. 15(THC) of 2016***, Rs.25 cr. was imposed (iii) ***Hazira Macchimar Samiti vs. Union of India***, Rs 25 cr. was imposed.

487. In ***Goa Foundation vs. Union of India & Others (2014)6SCC590***, Supreme Court relied on ***Samaj Parivartana Samudaya & Others vs. State of Karnataka & Others (2013)8SCC209*** and held that **ten per cent of the sale price** of iron ore

during e-auction should be taken as compensation. To arrive at the above view, Court observed that this was an appropriate compensation given that mining could not completely stopped due to its contribution towards employment and revenue generation for the State. Further, Court directed to create a special purpose vehicle, i.e., "Goan Iron Ore Permanent Fund" for depositing above directed compensation and utilization of above fund for remediation of damage to environment.

488. In ***Mantri Techzone Private Limited vs. Forward Foundation & Others, (2019)18SCC494***, Supreme Court affirmed imposition of environmental compensation by Tribunal, considering cost of the project, where there was violation regarding EC/consent and proponent proceeded with construction activities violating provisions relating to EC/Consent. Tribunal determined environmental compensation at 5% and 3% of project cost of two builders. 5% of project cost was imposed where PP had raised illegal constructions while 3% was imposed where actual construction activity was not undertaken by PP and only preparatory steps were taken including excavation and deposition of huge earth by creating a hillock. Besides, Tribunal also directed for demolition and removal of debris from natural drain at the cost of PP.

489. In ***Goel Ganga Developers vs Union of India and Others, (2018)18SCC257***, Tribunal imposed 195 cr. compensation since project was executed without EC. Supreme Court reduced it to **100 cr. or 10% of project cost whichever is higher**. Supreme Court also upheld Rs.5 cr. imposed by Tribunal vide order dated 27.09.2016. **Thus, total amount exceeded even 10% of project cost.**

490. Learned Sr. Counsels appearing for Respondents Proponents have argued that the formula adopted by Committee suggested by Spanish

author, cannot be applied mechanically in India where conditions are totally different. Similar textured arguments were raised in objection under consideration.

491. We find that to some extent the argument that the conditions applicable in European or other Countries are different from India has force and substance. The level of pollution and nature of pollution is much different in India comparing to European Countries and particularly Developed Countries. The problem of dust, air and water pollution and degree of pollution in India is incomparable with European Countries and in particular Developed Countries. Degree of such pollution in India is extremely severe**. As per IQ Air Quality Index of 2020, on the basis of level P.M. 2.5, India is third most polluted country in the world with 51.90 while at top is Bangladesh and second is Pakistan**. This position has been continuing at least since 2018 and onward, though level of pollution, overall, has been shown lesser. In the said list, Spain is shown in green category with 10.40 and is at Sr. No. 80. Obviously, therefore, the standards which are applicable or can be made applicable to Spain and similar other European Countries, are inapplicable for India where much stricter and heavy liability standards and norms have to applied. To this extent, in fact, Committee has dealt with the matter very leniently which has helped Respondents Proponents in limiting liability of compensation to very moderate level which otherwise would have been much higher. Moreover, Respondents Proponents have said in their objections that Spanish formula was designed to meet cases of prevention of degradation of environment which means that all relevant aspects have not been accounted for otherwise quantum of compensation would have been multifold high. Element of damage caused, cost of remediation, element of distress necessary to

prevent persistent violation, cost of recovery of health suffered by people in the area, element of penalty for breach of statutory provisions relating to environment, etc., in true perspective and spirit, stood omitted when above Spanish formula is applied mechanically. The obvious result would be that amount of compensation liable to be determined, in this matter, must be several times high.

492. Here we also find it appropriate to place on record that fortunately on the issue of carbon dioxide emission, position of India is much different and as per United Nations Inter Governmental Panel on Climate Change, in the 10 top most polluting Countries, Spain is at Sr. No. 8 with 6.09 per capita figures. Position of India is much better. Be that as it may, for the purpose of kind of pollution, we are concerned in this matter, i.e., water pollution, we have no manner of doubt that Committee has made an attempt to compute compensation taking into consideration interest of Industrial Units also and it has been very considerate to ensure that compensation may not be very heavy to Industrial Units. Unfortunately, in the above process, Committee has omitted to include certain very relevant factors resulting in assessment of inadequate and insufficient amount which would not serve the purpose appropriately for which the compensation is assessed. In fact, the recommendations of Committee are more in the interest of industries than remediation of degraded environment.

493. On the one hand Committee has undergone a very onerous and burdensome job of taking into consideration different aspects to determine compensation and apportion it, and we place on record our appreciation for this tough task, but on the other hand, simultaneously, we cannot appreciate that law of land relevant for determination of

compensation, laid down by Supreme Court, binding on all, pointing out relevant aspects which must have been accounted for, while determining compensation, have been ignored in fact, though reminded in words in the report of Committee. This is a major flaw and can not be maintained but needs remedial and curative approach on the part of Tribunal.

494. If we follow the simple and straight method based on turnover of Polluters Unit which has been applied time and again by Supreme Court as well as by this Tribunal, situation would have been much different and liability of many member industries of Respondent 9 would have come to several times more than what has been computed and determined by Committee. Moreover, in a case where pollution is continuous, violations of environmental laws and norms are consistent and Industries for their own benefit are carrying on their commercial activities without showing any legal, social and ethical obligations, responsibilities and duties toward society, i.e.,preservation, protection and maintainance of purity of environment, they cannot be allowed to raise any technical plea to take advantage of their own wrong or own practical problems for the reason that the factum of causing pollution by violating environmental norms is sufficient to attract Principle of Polluters Pay and since violation is for commercial interest of industries, they must be required to pay in terms of their volume of business which has been suggested by Supreme Court also as we have already discussed above.

495. Additional and not the least important consideration is that violation of Environmental norms continued for years cannot justify imposition of Environmental Compensation only for a small period of violation. Polluters must account for such liability consistently, persistently and throughout for entire period of industrial activities.

Nothing has been placed on record that till the date of submission of report by Committee, pollution found by Committee had stopped. In fact, computation of pollution ought to have been for the entire period, at least the period which is within limitation under section 15 (3) of NGT Act, 2010 i.e., 5 years earlier from the date of filing Original Application and entire period when the matter has remained pending before this Tribunal. One must appreciate that discharge of polluted effluent may be for certain period but its consequences due to pollution are long term and process of damage may also continue for much longer time. If somebody drops a little amount of sulfuric or hydrochloric acid on a wooden plank, acid continue to burn wooden plank for a long time.

496. The matter can be examined from another angle. It is an accepted fact that any development is bound to affect environment adversely, degree may differ, depending on the nature of industries, kind of effluents or emissions released, ecological conditions in the area etc. Recognising this fact, legislation has provided standards/limits of contents of industrial effluents and emissions. Industries and others are permitted to cause pollution to that extent. This is part of concept of 'sustainable development' where a balance has been attempted to be maintained by Statutes. Whenever statute permits discharge of polluted effluent or emission upto certain level, that means pollution is there but law does not treat it offensive. Pollution within standards/limits is tolerable. Society, to that extent, has agreed to suffer. In other words, pollution within limits may not affect flora and fona noticeably. Any crossing of limits means release of polluting contents beyond toleration causing impermissible damage to environment and ultimately to society. Here, Respondents Proponents have been crossing limits/standards and releasing polluted effluents just for their commercial interests and

thereby compromising ecological sustenance and health of society. Determination of compensation, thus must corelate level of industrial/commercial activities of such Pollutors i.e., volume of business. As we have already said, resondents Proponents were permitted to bring on record information about their annual turnover but they have refrained from giving such iformation.

497. The discussions made above show that objections raised by respondents industries about method adoped by Committee are not justified. Amount of compensation determined by Committee is neither excessive, nor exorbitant nor unreasonable in terms as suggested by Proponents nor arbitrary. On the other hand, Committee, in its wisdom, has followed a principle which is also referred in a publication of Ministry of Environment and Forest, Government of India titled as 'National Program for Rehabilitation of Polluted Sites in India- Guidance document for assessment and remediation of contaminated sites in India', 1st edition, March 2015. Committee was comprised of very senior professionals and experts, i.e., a Professor from Indian Institute of Management, Ahmedabad; another Professor from Indian Institute of Technology, Ghandhinagar; a Scientist from National Environmental Engineering Research Institute, Nagpur; Regional Director, CPCB, Pune; and Regional Director, MPCB. Out of five members, three are from Institute of very high repute. One member is from Central Statutory Regulator. No complaint or allegation of bias has been made against these four members. In textured objections, presence of MPCB official has been objected but during oral arguments before us this issue has not been raised. Even otherwise, official of MPCB is only one out of five members and it can not be believed that he could have influenced all other senior Academicians of repute and a senior official of Central Statutory

Regulator. Moreover, Committee's job is confined to collect facts, examine and submit report to Tribunal. Committee is not empowered to take a final decision in the matter. It is ultimately order of this Tribunal which will adjudicate rights of the parties. If Tribunal accept report, it would become part of order of Tribunal, but on its own, reports of Committee would not impact rights of the parties. This aspect has already been answered by Supreme Court in **State of Meghalaya vs. All Dimasa Students Union (Supra)** while answering issue 11. Court held that despite constitution of Committee entire control remains with Tribunal and any recommendation of Committee is always subject to affirmation by Tribunal and would be enforceable only thereafter. The objection regarding constitution of Committee has no substance and appears to have been raised in desperation.

498. In view of the above, contention advanced on behalf of Respondents Proponents on the methodology adopted by Committee for computation of compenation has no merit and rejected. However, it does not lead to inference that compensation determined by Committee as such stands approved. We still have to examine its adequacy in the light of various components, already pointed out above. In fact, we were inclined to follow the basis of commercial activities undertaken by Proponents by violation of environmental laws and norms and to make computation on the basis of some percent i.e., 5% or around it, of annual turnover of concerned Proponents, but we find that amount environmental compensation would increase multifold, industries had some problems in last one and half years due to pandemic and number of industries in TIA MIDC as a whole has also gone down considerably, hence for the health of industries and their survival, much higher liability may not be conducive. Thus taking a pragmatic view in the matter, consistent with the principle of "sustainable

development", attempting to maintain a balance between the task of preservation and protection of environment and sustained development, we are of the view that **quantum of compensation determined by Committee vide revised report dated 12.08.2021 be enhanced twice where Proponents have been found with single violation, thrice where two violations and tetra (four times) where violations are more than two. The above direction will not apply to TEPS**. This approach will meet the ends of justice, in the peculiar facts of this case. The amount of compensation, determined above shall be utilized for remediation/restoration of environment as also for the benefit of affected people in the area. If any deficiency is found ultimately in the funds while carrying out above directions, shortfall shall be made good by State Government of Maharashtra since these industries are contributing to public exchequer by paying huge amount of taxes etc. **The issue relating to methodology adopted by Committee for determination of compensation is answered accordingly**.

499. With regard to the inaccuracies/errors on certain factual aspects Committee has itself suggested that if there is any error in the information supplied by MPCB, individual industries may point out the same to MPCB and it is open to MPCB to re-examine the quantum of environment compensation. We modify the above direction to the extent that MPCB shall follow process of computation in the light of directions given above.

500. **SUPER FUND AND FISCAL DISCOUNTIND**: On this aspect lot of ojections have been raised. It is said that unless remediation plan is prepared no such fund can be created and the direction for super fund itself is illegal since such fund is alien to environmental laws. It is also

said that remedial measures adopted by Proponents including TEPS have not been given any weightage though such steps taken should have resulted in appropriate discounting in the amount of compensation.

501. On the aspect of superfund and fiscal discounting Committee has submitted its response dated 13.05.2021 and it would be useful to refer relevant extract thereof:

> *"That regarding averment made by TIMA about proposal of the concept of super fund for the pollution which has not even been established or quantified, it is submitted that the CETP Tarapur has been found violating effluent discharge standards as well as CETP inlet design/inlet standards during the reported period of 28/4/2011 to 30/11/2019, as concluded at page 83 of the Committee under the Chapter 8 read with Chapter 3. The report also outlines that the CETP is not adequate to treat the effluent currently being received. Besides, it also operated at beyond its hydraulic load capacity of 25 MLD and resulting into the overflow from the CETP during such duration and such overflow effluent is being discharged into to drains leading to other water bodies (creeks, sea and ground water). Details of exceedance of parameters in inlet and outlet effluent of CETP and hydraulic load exceedance during the said reported period have also been presented in the report.*
>
> 1. *As submitted above under para (1) to (3) (a) - (h) above, it is obvious that illegal discharges of non-complying effluent from the CETP since long time, as above, may have impact on the environment. However, in order to ascertain the impact, if any, the Committee did field sampling & analysis of various surface water bodies (drains passing through MIDC Tarapur and receiving water bodies Creeks and Sea water) and ground water in and around the MIDC area. Based on analysis results of monitoring of the said water bodies, the* ***Committee has arrived at affirmative contamination of - groundwater and drains in and around Tarapur MIDC area due to industrial discharge of untreated effluent/solvent/chemicals, and; impact on Creeks and Seashores around Tarapur MIDC thereto (paras 8.2.1, 8.2.1.1 to 8.2.1.4 at page 91-92 under Chapter 8 read with para 4.2 to 4.5 at page 44-57 under Chapter 8 of the Committee's report may be referred in this regard).***
> 2. *Therefore,* ***contamination due to illegal discharges of non-complying effluent from the CETP and industries and affirmative contamination/impact thereof on water bodies have been established****, as above.* ***Once established, quantification of pollution including delineation of the contaminated areas and areas needing remediation; detailed site investigation & characterization; risk assessment studies & identification of remediation goals/objectives and preparation of remediation plans thereof; selection of remediation criteria; outlining***

remediation options and preparation of detailed technical document with specifications for the selected remediation option; are subsequent steps in scientifically management of contaminated sites*. As part of restoration measures, the Committee has recommended Phase-I work which includes the said activities by preparing Detailed Project Report (DPR) followed by execution of the selected remediation plan as Phase-II work. Preparation of the said DPR and remediation thereto have been recommended by the Committee in line with "Guidance document for assessment and remediation of contaminated sites in India" prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India (para 8.2.2; page 92-93 of Chapter-8 of the Committee report may be referred in this regard).*

Reply to TIMA's objection w.r.t. concept of "Super Fund" is alien

1. *That regarding averments made by TIMA that concept of "Super Fund" is alien to the Indian environmental regulation statutory regime and seems to have been adopted from the Comprehensive Environmental Response and Liability Act (CERCLA) enacted by the United States Congress, the Committee, in addition to comments submitted under para (i) of Para (3) (i) above, submits that the terminology of "Super Fund" has been used by the* ***Committee merely to allocate certain amount of fund to meet the future studies to carry out as the aforesaid Phase-I activities comprising of delineation of the contaminated areas and areas needing remediation; detailed site investigation & characterization; risk assessment studies & identification of remediation goals/objectives and preparation of remediation plans thereof; selection of remediation criteria; outlining remediation options and preparation of detailed technical document with specifications for the selected remediation option, and preparation of DPR on the same as given ; followed by execution of the remediation plan as per the said DPR as Phase-II activities****. Methodologies on the same are also indicated in Annexure-VI of the Committee's report which has been recommended to be implemented by MPCB.*

2. *Without prejudice to regulation of "Super Fund" in United States or other countries or its merits/demerits or its applicability in the country, the Committee has just used the term "Super Fund" so as to meet the aforesaid future expenses in remediating the contaminated sites in and around the Tarapur due to industrial activities and money to the said Super Fund would be deposited based on precautionary principal and polluter pay principal and the aforesaid 103 identified polluting units are the identified polluters who have been identified with systematic and rational approach in compliance with order dated 26-09-2019 of the Hon'ble NGT by the Committee.*

3. *It is also submitted that:*

i. *in the absence of delineation of the contaminated areas and areas needing remediation (which require detailed hydrology, geology, etc. studies and detailed sampling & analysis) and remediation technique required thereof, which will be outlined in the DPR as recommended under Phase-I activities followed by field remediation work as recommended under Phase-II activities in the Committee's report, and;*

ii. *considering that ground water and drains in and around the Tarapur MIDC have been found contaminated;*

the Committee has suggested initial amount for the Super Fund as 75 Crores INR to meet the cost to be incurred in the aforesaid activities of Phase-I and Phase-II in remediation. However, the Committee has also suggested (please refer para 8.2.2.2; page 94 and of Chapter 8 and page 77 of chapter 6 of the Committee's report) that depending upon the selected remediation options, the cost of remediation may increase or decrease to that of Rs. 75 Crores. In such case, the amount may be collected or refunded to each of the said 103 polluting units, as the case may be, in the same proportion as the damage recovery cost has been recommended to be paid using the equation (4) as given at page 82-83 under Chapter 7 of the Committee report.

4. *The Committee, therefore, submits that the proposed 'Super Fund' of INR 75 Crs. is indeed a novel concept for the Indian environmental statutory regime and yet in spirit fully upholds the precautionary principle and the polluter pays principles that are the cornerstones of the Indian environmental jurisprudence.*
5. *Further the expert Committee has taken cognizance of the fact that long procedural delays and direction in remedial/restoration of the environment, especially in critically polluted areas where the carrying capacity of the natural environment is severely tested, exacerbates the degradation of the local ecology. Worse in such cases, the underlying non-linearities of the complex ecosystem may even push the local biosphere beyond a point of no return.*
6. *The concept of 'Super Fund' is proposed in all earnest to endow the regulatory bodies and local governments with sufficient financial resources to expeditiously engage in restoration and remediation action and prevent irreversible damages to the environment.*
7. *It is submitted that the Committee was directed by the Hon'ble NGT to assess the extent of damage and cost of restoration of the environment and individual accountability of CETP and polluting industrial units. The Committee complied with the said directions by performing various activities diligently including field sampling/monitoring and scientific & technical analysis of the various information/data/analysis results which have been presented along with conclusions and recommendations in its report submitted to the Hon'ble NGT.*
8. *It is denied that the Committee erred in imposing Rs. 75 crores under the heading 'Super Fund' upon TIMA members and TEPS, the Committee disagrees such error in recommending creation of Super Fund of Rs. 75 crores and recommends such Super Fund considering immediate remedial measures*

required for remediation of environmental pollution. The comments submitted by the Committee under para (i) to (iii) of the para 3(i) above may be referred in this regard.

Reply to TIMA's objection w.r.t. consideration of fiscal discounting

1. *That averments made by M/s TIMA about fiscal discounting referring self-cleansing ability of water bodies, sewage and human waste attributed by five different villages surrounding the MIDC area, etc., it is submitted that analysis results of all the samples collected from the monitored drains passing through the MIDC Tarapur, the two creeks in which the said drains confluence and 01 location of each of the two streams before confluence of the said drains, and; sea water and sand near to Navapur CETP outfall, Nandgaon beach and the other at Edvan beach about 85 kms from the said Navapur CETP outfall, and; ground water samples from 06 different bore-wells in and around MIDC area; attribute to presence of one or more parameters such as odour, colour, pH, TDS, COD, TSS, Fluorides, Phenols, Total Ammonical Nitrogen, Metals (Lead, Copper, Iron and Manganese), etc. which are signatures of industrial discharges sourced from industrial activities of Tarapur MIDC (please refer analysis results given at Table 4.5 to 4.11, paras 42. To 4.5 at pages 42-58 under Chapter 4 of the Committee's report). Presence of such parameters and elevated concentration of parameters in water bodies to that of as recommended in the "Guidance document for assessment and remediation of contaminated sites in India" prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India, indicate contamination/impact on such water bodies resulting into environmental damage which has obviously occurred after exceeding the self-cleansing ability of the water bodies.*
2. *It is further submitted that the discounting can be defined as the technique used to compare costs and benefits that occur at different points in time. Its main motive is to express in present values the flow of costs and benefits that arise across the full lifetime of a scenario or project. Discounting can be used whenever long-term impacts need to be assessed, and when discount rates can be identified to reflect the opportunity cost of being able to make use of benefits now or defer costs until later. Moreover, immediate impacts of a policy or other intervention are often considered to be valued more highly than the same impacts at some future date and hence it is designed to adjust the value of future impacts to present values, in order to allow cost and benefits to be aggregated and compared in a consistent form.*
3. *The objection regarding fiscal discounting states that the Committee ought to have considered some extent of fiscal discounting in costs based on the following grounds that sea and creek can be considered as public undepletable externality and it has a system of self-cleansing process of a period of time. However self-cleansing property requires time and repeated effluent discharges aggravates the pollution and hence the objection statement "Pollutants like BOD, COD, TSS have the capacity to disintegrate over a period of time so much so that they do not remain harmful" is irrelevant and in ignorance assumes the notion of the sea and natural water bodies as infinite sinks capable of assimilating pollutants for an indefinite period of time. However, the environmental damage cost assessment done by the expert Committee is based on the background of present*

scenario damages (Assessment period) caused due to the pollution and hence the concept of fiscal discounting is not applicable"

502. We entilely agree with the view expressed by Committee. In fact, Proponents or learned Senior Counsels representing them could not advance any substantive argument to support their objections. Moreover, Tribunal' similar direction for creation of a fund to be utilized in future has been upheld in ***State of Meghalaya vs All Dimasa Students Union (supra)***. There, Tribunal required State Government to deposit 100 crores and keep it in a separate fund, i.e., Meghalaya Environment Protection and Restoration Fund and this direction was upheld by Supreme Court. The title or lable will not be a determining factor but substance and objective which matters.

503. Subsequent remedial steps would not condone earlier violations and compensation is determined for what has been done. The concept of fiscal discounting is inapplicable in the process of determination of environmental compensation. The steps taken to prevent pollution in future does not amount restoration or remediation of damage or degradation already caused to environment. The objection regarding fiscal discounting, therefore, is misconceived. **We, therefore, reject both objections regarding Super Fund and fiscal discounting**.

504. **EARLIER PENALTIES, FORFEITURE OF BANK GUARANTEES**: The objection with regard to non-consideration of earlier penalties and forfeiture of bank guarantees etc. is misconceived. Objectives of the said actions were different. Same cannot be clubbed. While considering question of computation of environmental compensation, different penalties/fines/damages etc. relatable to different aspects cannot be clubbed together. Neither any law requires such clubbing nor any

precedent has been shown to us on such aspect. **Therefore, we find no reason to accept the same**.

505. The other objections are more repetitive and in fact covered by what we have discussed above. In fact, during the course of arguments, only two aspects were emphasised by Learned Senior Counsels appearing on behalf of Proponents i.e., selection of only 103 units leaving others for payment of compensation and application of formula for computation of Environmental Compensation. We have already discussed these aspects in detail, above.

Individual objections filed as part B in MA 02/2021 dated 29.12.2020/07.01.2021:

506. Respondent 9 has filed collectively individual objections of member industries, as part B to M.A.02/2021. The affidavit in support has been sworn by Shri Dhanaji Laxman Kakade, Vice President who claims to be authorized representative of M/s. Aarti Drugs Ltd, Plot no. G-60, MIDC Tarapur and also member of TIMA. **These are 85 objections** and we are dealing with the same individually as under:

(i) Objection by M/s. Aarti Drugs Ltd., Plot no. G-60, MIDC Tarapur (at item no. 1 in the list of 103 industries submitted by Committee (in short referred to as 'List-103 of Committee'):

507. This is an LSI scale red category unit, established on 01.10.1994, and manufacture bulk drugs according to consent renewal application dated 21.10.2013 (placed on record on page 149 of MA). Total water consumption for deterrent uses is shown as 802 m^3/day i.e. 552m^3/day for industrial cooling etc., 35 m^3/day for domestic purpose and 135 m^3/day and 40m^3/day for processing whereby water gets polluted and the pollutants are easily bio-degradable. The quantity of waste water generated disposed is 20 m^3/day from domestic, 116 m^3/day from industrial process and 3m^3/day from boiler blowdown. It claims to

discharge treated effluent to CETP for further treatment, disclosing total quantity as 119m^3/day. In the category of fuel consumption, it has disclosed consumption for coal as 12 to 15 MT/day and Brickuette 30MT/day. An inspection was made on 05.09.2013 by MPCB officials pursuant whereto, notice dated 15.10.2013 was issued showing following major and minor non-compliances:-

> *"**Major Non compliances:***
> 1. *Discharge of untreated acidic effluent having pH 3-4 with strong solvent smell and blackish in color into MIDC effluent conveyance system to CETP drain (By pass) and poor O & M of ETP, thereby hampering CETP operation which is confirmed by exceeding JVS results.*
> 2. *Fuel changed from LDO/FO to coal/Briquette without prior permission from Board, thereby leading to excess emission load environment at inadequate height.*
>
> ***Minor Non-Compliance:***
> 3. *Flow & pH meter is not provided, thereby making it difficult to verify the quantity of effluent discharge to CETP."*

508. Proponent replied notice stating as under:

> *"1) Out treated effluent sent to CETP is always within the prescribed limits (as can seen from various JVS reports of last six months).* ***There is possibility of some effluent from MIDC chamber bank mixed in our treated effluent as there is no sufficient gradient to the pipe line connected to MIDC chamber. That may be the reason for acidic effluent found during this visit.***
>
> *2)* ***We will take permission for change over from F.O. to briquette/ coal immediately****.*
>
> *3) Flow meter is already provided in the treated effluent discharge line to CETP.* ***We will also install Ph meter as asked by you."***

509. Reply above shows that broadly, non-compliances reported by MPCB, were not challenged. The closure notice was issued on 15.10.2013 by MPCB. A reply was again submitted by proponent on 18.10.2013 and a conditional restart order was issued on 31.10.2013. Till this date, proponent has not got the change of fuel permitted. Admittedly, application for seeking permission of change of fuel was submitted for the first time on 31.10.2013. Certain relevant conditions mentioned in the restart order dated 31.10.2013 are:

"a) You shall ensure that your production shall be restricted to the generation of effluent as promised by you to the TEPS-CETP by reducing total daily generation of TEPS-CETP effluent from the list of its members submitted with voluntary closure in a staggered manner in the month of November, 2013 for one day of each week and two days of each week in the month of December, 2013 in a week, so as to restrict total generation of TEPS-CETP in a time bound manner to 25 MLD each day, which shall further be continued after December, 2013 also bank guarantee of Rs 2.5 lakhs shall be charges for adhering to staggered schedule and which shall be valid for a period upto the validity of the consent/one year whichever is later, to be submitted within 15 days time from the date of receipt of these directions in favour of Regional Officer, MPCB, Thane.

b) You shall not carry out any excess production or produce new products without consent of the Board and without an Environment Clearance wherever it requires, for which, you shall furnish an irrevocable bank guarantee of Rs. 2.5 lakhs, which shall be valid for a period upto the validity of the consent/one year whichever is later, to be submitted within 15 days time from the date of receipt of these directions in favour of Regional Officer, MPCB, Thane.

c) You shall operate and maintain existing ETP effectively and remove all the bypasses, whereby the mode of disposal prescribed in the consent order is not followed, for which you shall furnish an irrevocable bank guarantee of Rs. 2.5 lakhs, which shall be valid for a period upto the validity of the consent/one year whichever is later, to be submitted within 15 days time from the date of receipt of these directions in favour of Regional Officer, MPCB, Thane.

d) You shall not discharge any effluent in any other source other than the CETP sewerage drain for further treatment and disposal for which you shall furnish an irrevocable bank guarantee of Rs. 5 lakhs, which shall be valid for a period upto the validity of the consent/one year whichever is later, to be submitted within 15 days time from the date of receipt of these directions in favour of Regional Officer, MPCB, Thane.

e) You shall make provision for online flow meter and pH meter, separate energy meter to pollution control devices within 3 months i.e. on or before 31/01/2014, for which you shall furnish an irrevocable bank guarantee of Rs. 1 lakhs, which shall be valid for a period upto the validity of the consent/one year whichever is later, to be submitted within 15 days time from the date of receipt of these directions in favour of Regional Officer, MPCB, Thane.

f) You shall make an application & obtain the amendment in consent for fuel change within two months, for which you shall furnish an irrevocable bank guarantee of Rs. 1 lakhs, which shall be valid for a period upto the validity of the consent/one year whichever is later, to be submitted within 15 days time from the date of receipt of these directions in favour of Regional Officer, MPCB, Thane.

g) You shall properly collect, transport & regularly dispose of the hazardous waste to CHWTSDF, in compliance of the Hazardous Wastes (Management, Handling & Transboundary Movement) Rules,

2006 and keep proper manifest thereof, for which you shall furnish an irrevocable bank guarantee of Rs. 1 lakhs, which shall be valid for a period upto the validity of the consent/ one year whichever is later, to be submitted within 15 days time from the date of receipt of these directions in favour of Regional Officer, MPCB, Thane.

h) You shall provide lock & key arrangement for treated industrial effluent on or before 30/11/2013, you shall furnish an irrevocable bank guarantee of Rs. 1 lakhs, which shall be valid for a period upto the validity of the consent/ one year whichever is later, to be submitted within 15 days time from the date of receipt of these directions in favour of Regional Officer, MPCB, Thane."

510. In the backdrop of above facts, amount of compensation has been objected by Proponent broadly on the ground of number of days of violation. According to proponent, it should be only 67 days and not 241 days for which compensation was determined. Proponent has stated that after earlier inspection of 05.09.2013, further inspection was made on 02.01.2014, 03.03.2014 and 07.04.2014. It claims that the number of days of violations should have been computed as under:

"Bifurcation of our calculation of correct number of days is given below:

X + Y = [7 + 60] = 67 days

***X–** [Period between Date of reported violation + actual days taken by MPCB for issuing Closure Notice/ JVS Report OR 7 days (<u>whichever lower</u>)] + number of days taken by industry after receiving closure notice till actual closure*

***Y –** Number of days between date of Conditional Restart Order and Date of Intimation by industry/ unit to MPCB about the compliance made and conditions fulfilled. (Note – In absence of proof of Intimation – actual date of Verification of compliance, is considered)"*

511. In the revised report dated 12.08.2021, amount of compensation has been revised and reduced to Rs. 40.517 lakhs in place of Rs. 45.786 lakhs. The number of days of violation has been reduced to 241 to 168. After revision of compensation, no objection to Committee report has been filed. In any case, we do not find anything on record to show that non-compliances found in the inspection report dated 12.08.2021, have been removed by applicant at any earlier point of time. Proponent has

claimed in the objection in question that it complied as communicated vide letter dated 30.12.2013, copy whereof is at page 180, and reads as under:

> *"The conditions you have given in the restart order have been completed. As such we are submitting the compliance report of your conditions.*
>
> *a) We had staggered our manufacturing activities on 04/11/13, 05/11/13, 27/11/13 and 28/11/13 in the month of November and on 07/12/13, 08/12/13, 14/12/13, 15/12/13, 21/12/13, 22/12/13, 28/12/13, 29/12/13 in the month of December to reduce the effluent load of 25MLD CETP.*
>
> *b) We are not carrying out any excess production or produce new product without consent of the M.P.C. Board. Production capacities are as per mentioned in consent.*
>
> *c) We are operating and maintaining existing ETP effectively and have removed all the bypasses.*
>
> *d) We are discharging the effluent in 25MLD CETP and not in any other sources.*
>
> *e) We have installed flow meter and on line pH meter to the final effluent discharge line and have also installed separate energy meter to all pollution control devices.*
>
> *f) We are running the steam boiler with the fuel i.e. LDO/FO which is given in the MPCB Consent. We have applied to the SRO, MPCB Officer, Tarapur for LDO/FO/Briquette amendment in the MPCB Consent.*
>
> *g) We have properly collected, transported and regularly disposed off the hazardous waste to CHWTSDF and we have kept properly entry in the Hazardous Waste Manifest (FORM-13).*
>
> *h) We have provided lock and key arrangement for the treated industrial effluent discharge pump's electrical ON/OFF switch on 04/11/13 and we have handed the key to the authorized person."*

512. The Proponent for the first time claimed compliance vide letter dated 31.12.2013. It shows violations on his part as reported in inspection. So long as claim of Proponent about verification of compliance is verified, it is not the case of Proponent that MPCB officials deliberately delayed verification. Reasonable time has to be allowed to Regulators for visit to verify whether there is compliance. Proponent can not blame officials who have their own limitation of infrastructure, manpower etc. In

any case this situation was created by Proponent. Subsequently Proponent cannot expect the official's availability at his volition. Hence view taken by Committee with regard to computation of days of violations cannot be said to be illogical or unreasonable or contrary to any settled legal principle. Objection thus rejected.

(ii) Objection by M/s. Aarti Drugs Ltd., N-198, 199, TIA MIDC (item 2-List 103 of Committee):

513. This is also a bulk drug manufacturing, Red category, LSI scale industry. It was established on 01.04.1994. Facts stated in the objections show that on 4 occasions, closure orders were issued to this Proponent for violation of environmental norms. First inspection was made on 12.04.2012. Permitted quantity of discharge of effluent was 63.1m^3/day. Sample collected in the above inspection shows violation of prescribed standards permissible by more than 100%. It means that Proponent's ETP was not properly functioning and it was discharging sub-standard effluent to CETP. Closure order was issued on 16.05.2012. Proponent submitted letter dated 29.05.2012 in which alleged violation was not disputed. On the contrary, Proponent said that now it will not discharge sub-standard effluent to CETP. Reply dated 29.05.2012 submitted by Proponent with reference to closure order dated 16.05.2012, reads as under:

> *"**We hereby assure that we will operate out ETP so as to not exceed the prescribed standard of treated effluent**. We also assure you that we will not discharge substandard effluent to CETP so as to maintain its performance. All necessary precautionary measures related to ETP shall be taken from our side.*
>
> *We also enclosed herewith Bank Guarantee of Rs. 2,00,000. Therefore kindly give consideration to us and withdraw order of voluntary closure and allow us to continue manufacturing activities."*

514. Considering reply and subsequent compliance report dated 13.06.2012, restart order was passed on 19.06.2012 (page/217). Again,

officials of MPCB visited unit on 05.09.2013 wherein 3 major non-compliances and 1 minor non-compliance were found:

> *"**Major Non-Compliance***
> *1) Untreated effluent having yellow color & strong solvent smell found discharging to nalla back side of ETP (Bypass) thereby you are causing grave injury to environment which is also confirmed by exceeding JVS results.*
> *2) Changed fuel from FO to coal without prior permission of the Board thereby leading to excess emission load to environment at inadequate height.*
> *(**Third non compliance is not legible**)*
> ***Minor Non-Compliance***
> *4) Flow meter is not provided, thereby making it difficult to verify the quantity of effluent discharged to CETP."*

515. Show cause notice dated 15.10.2013 was issued with a direction for closure which was replied by Proponent on 22.10.2013. Thereafter, restart order was issued on 13.11.2013 with a number of conditions mentioned therein. Proponent was permitted manufacturing activities except manufacturing of 2-mithyl1,4,5 nitro Immidazole. Proponent submitted letter dated 30.12.2013 stating that it has complied with the conditions mentioned in restart order dated 13.11.2013. Proponent claimed that thereafter, inspection was made by MPCB officials on 21.01.2014 and they found compliance with restart order. Third inspection was made by MPCB officials on 23.11.2016 and sample was collected. As per analysis report dated 24.11.2016, pH was 7.1 and COD was 1520mg/l. This result shows that pollutants exceeded permissible limit. Closure cum show cause notice was issued on 03.12.2016. Relevant extract thereof is as under:

> *"The **analysis reports show values of pH- 7.1 & COD – 1520 mg/l which is exceeding to the inlet designed parameters of CETP thereby up setting CETP performance**. It is found from vigilance sampling drawn during odd hours that **you are discharging highly polluted stream/chemical load to the CETP and degree to exceedance to COD compared to consented norms is 508%.** The above fact clearly indicates that you have adopted these practices of discharging of high COD steam and your tendency towards not to abide environment norms. The high polluting/ COD steam hamper functioning of CETP operations thereby*

discharging substandard quality effluent in Navapur sea and creating adverse impact on nearby environment. After perusing the results, degree of exceedane and tendency of discharge of untreated effluent I am of the opinion that you are willfully/intentionally discharging highly polluting effluent stream thereby violating consent norms and causing severe damage to the environment which needs to be stopped immediately to protect such damage of environment."

516. Proponent submitted reply dated 07.12.2016 in which high COD value from ETP outlet was admitted and it said that in future it will take care but further try to justify that total inlet parameter of CETP is 3300mg/l COD and, therefore, COD value of 1520mg/l found in the sample of proponent was within the said parameters. Proponent could not have justified its own violation by relying to limits of CETP which are separately sanctioned/approved by MPCB in the consent granted to CEPT.

517. Proponent submitted an appeal dated 09.12.2016 to Member Secretary, MPCB for withdrawal of closure order dated 03.12.2016 wherein also while admitting higher COD found in the sample mentioned above, Proponent assured that in future it shall maintain proper standard. Again, same defense with reference to inlet parameter of CETP was taken. Appeal also shows that despite closure order dated 03.12.2016, received by proponent on 06.12.2016, on the date of filing of appeal, i.e, 09.12.2016, unit was not closed. This is evident from the following averments made in the appeal:

"We will close down the direct discharge of emulsified stream which may have high COD, which is the only polluting activity of our production line, by 9th December 2016 as per your direction, by taking necessary safety measures. We are requesting you to issue necessary directions to MIDC and MSDCL for not disconnecting the Water & Power supply, so that we can carry out maintenance and other works as per your directions. Water and power supply is also required for the workers and safety."

518. Another letter dated 24.12.2016 was submitted by Proponent to Sub Regional Officer, MPCB, MIDC Tarapur wherein, it submitted a proposal for treatment of high COD and high TDS effluent streams. Proponent said that it will install multiple effect evaporator for high COD and high TDS effluent streams which will take about 4 to 5 months. Restart order was issued on 03.07.2017 (page 313).

519. There is fourth closure order dated 25.04.2017 pursuant to the results of inspection made on 22.04.2017. Analysis report of sample collected on 22.04.2017 shows pH 5.1, COD 28000mg/l and Suspended Solids 800mg/l. Again, a team visited site on 23.04.2017 at 02:05 AM and recorded its observations as under:

> *"Industry is found in operation at the time of visit.*
> ***Storm water drain was found to be flown with acidic effluent (1-2) which further collected in collection tank.***
> ***Industry was by-passing effluents into MIDC chamber; which was brought to the notice of industry representative****. JVS of by-pass effluent is collected."*

520. Closure cum show cause notice was issued on 25.04,2017. Proponent submitted appeal dated 28.04.2017. Though it has said that it was not byepassing effluent into MIDC cahmber but nothing has been said as to why no such objection was taken when inspection was made in presence of Sri Anant Ikke and Dhanraj Rane, representatives of Proponent who also signed inspection report. Thus, violation of environmental norms on the part of proponent is duly proved. The defence taken by Proponent was that parameters of CETP were more than the discharge of the effluent with high COD by proponent. This defence is misconceived. CETP was catering to all the member industries and proponent could not have claimed benefit for itself alone ignoring entitlement of other member industries to discharge effluent within their

own permissible quantity of effluent. Restart order was issued on 18.05.2017.

521. Further objection raised is about number of days of violation for which compensation has been determined by Committee. Committee had computed compensation of Rs. 1042.241 lakhs taking 482 days of violation in respect of first closure order, 1150 days in respect to second closure order, 58 days in respect of third closure order and 309 days in respect of fourth closure order. The proponent in his representation has said that correct number of days of violation should have been only 235 and not 1999 (i.e. 12 for first closure, 58 for second closure, 25 for third closure and 140 for fourth closure).

522. As we have already noted that it is a case of repeated non-compliances on the part of proponent. **Committee has already revisited and amount of compensation is reduced to Rs. 368.749 lakhs vide revised report dated 12.08.2021**. The Proponent's objection on number of days of violations is on same grounds as we have already discussed above, and following same reasons, we reject objection with regard to number of days of violations. In the result entire ojections of this Proponent are rejected.

(iii) Objections by M/s. Aarti Drugs Ltd., E-1, E-21,22, MIDC Tarapur (item 3-List 103 of industries):

523. This industry was established on 01.04.1994, engaged in manufacturing of bulk drugs, an LSI unit, Red category. For a total period of 555 for first closure and 134 for second closure (total 689 days) of non-compliance, pursuant to results of the inspection dated 12.04.2012 and 05.09.2013, Committee imposed compensation of Rs. 156.355 lakhs. Here also objection of proponent is basically for number

of days of violations. According to proponent, it ought to be only 65 days instead of 555.

524. In the inspection dated 12.04.2012, samples were collected and analysis report show pH 7.6, BOD 2550mg/l and COD 7440mg/l. Consequently, closure order/show cause notice dated 16.05.2012 was issued stating that analysis show discharge of effluent exceeding prescribed standard by more than 100%. Proponent submitted reply dated 29.05.2012 with assurance that it will abide by the standards, rrelevant extract whereof is as under:

> *"This is in reference to your letter No. MPCB/ROT/1066 Date 16th May 2012.*
>
> ***We hereby assure that we will operate our ETP so as to not exceed the prescribed standard of treated effluent. We also assure you that we will discharge substandard effluent to CETP so as to maintain its performance. All necessary precautionary measures related to ETP shall be taken from our side.***
>
> *We also enclosed herewith Bank Guarantee of Rs. 2,00,000/. Therefore, kindly given consideration to us to withdraw order of voluntary closer and allow us to continue manufacturing activities."*

525. Proponent submitted letter dated 02.06.2012 requesting for permitting restart wherein explaining reason for violation of norms it said as under:

> ***"Last month the agitator of primary clarifier got damaged & hence performance of the ETP was slightly affected****. We immediately took corrective steps & ordered new agitator also which will fitted at the earliest."*

526. The permission for restart was granted by MPCB by order dated 19.06.2012 with the condition that proponent shall maintain and operate existing ETP on record so as to bring all parameters within prescribed standards.

527. Another inspection was made by the officials of sub-Committee constituted by MPCB on 05.09.2013 and following major and minor non-compliances were noticed:

> ***"Major Non-Compliance***
> *1) Water consumption is more than consented quantity, which shows excess load discharged to CETP thereby hampering operation of CETP you are using Bore well water for domestic purpose.*
> *2) Primary Settling tank & Secondary Settling Tank not in operation and also tertiary treatment is by passed, thereby leading to sub standard discharge of effluent to CETP.*
> *3) Fuel changed from FO to Briquette and now coal from Jan 2012 without prior permission of the Board, thereby leading to excess emission load to environment at inadequate height.*
> ***Minor non-Compliance:***
> *4) Domestic Effluent- 40 m^3/Day for which STP is not provided causing injury to environment."*

528. A closure order/show cause notice was issued on 15.10.2013. Proponent submitted reply dated 21.10.2013 wherein findings recorded by MPCB were not disputed. Instead, proponent stated that it has decided to reduce effluent load to around 55m^3/day. Proponent claimed to have closed operations on 21.10.2013 but requested for release of restart order vide letter dated 06.11.2013.

529. Detailed reasons explaining violation given by Proponent are as under:

> "1. **Water consumption is more than consented quantity, which shows excess load discharged to CETP thereby hampering operation to CETP. You are using Bore well water for domestic purpose**.
>
> *i) Internal audit for water consumption has been conducted. In this audit it has been observed that although the water consumption is high, our effluent load remains controlled & does not exceed the sanctioned effluent load of 70 m^3/Day for trade effluent & 40 m^3/Day for domestic effluent. The reason for higher water consumption is that water quantity for industrial cooling & boiler was mistakenly reported at the time of consent application from our side. The water quantity for industrial cooling & boiler required is around 210 m^3/Day while the quantity reported in consent is only 80 corrections (Reference: please refer copy of application submitted to your office). In mean time we assure you that we shall strictly observe the present consent norms for water consumption by reducing our production quantity significantly.*

ii) We have already disconnected & demolished bore well water. We also like to bring to your notice that we were using bore water as a standby arrangement only for domestic purpose only. (which have now been totally stopped).

2. Primarily settling tank & secondary settling tank not in operation & also tertiary treatment is by passed, thereby leading to substandard discharge of effluent to CETP.

Clarification:

We want to bring to your notice that we never bypass tertiary treatment & also keep both primary settling tank & secondary settling tank in operation. ***At the time of visit of your officers, our operating staff mistakenly provided incorrect information****.*

We hereby assure you that we shall operate ETP properly & continuously with all three treatments (primary, secondary & Tertiary*).*

3. Fuel changed from FO to briquettes & now coal from Jan 2012 without prior permission of the board, thereby leading to excess emission load to environment at inadequate height.

Clarification:

We have already made application to your office for replacing FO boiler by Briquette/ coal fire Biole*r.*

4. Domestic Effluent 40 M3/D for which STP is not provided causing injury to environment.

Clarification;

We shall make arrangement for appropriate treatment of domestic effluent eight by providing STP or using the present spare capacity of ETP (since present effluent load is 65 M3/Day against total capacity 110 M3/Day of ETP) after taking expert advice*.*

we hereby make our strong commitment for controlling the water consumption by all means. This shall be achieved by taking following corrective & preventive measures:

1. *Recycling of water washing.*
2. *Reducing production quantities significantly.*
3. *Minimizing the equipment cleaning activities by proper planning."*

530. The above explaination does not dispute correctness of facts noticed in inspection report showing that Proponent was apparently violating conditions of consent and environmental norms.

531. MPCB issued conditional restart order dated 21.11.2013 with number of conditions which Proponent claimed to have complied.

532. Here also we find that in revised report dated 12.08.2021, Committee has reduced compensation to Rs. 97.191 lakhs by taking days

of violation as 47 in respect of first closure and 178 in respect of second closure. Proponent has claimed however that it ought to be 16 days for first closure and 65 days for second closure. We find no reason to accept the manner in which the proponent has sought to compute number of days of violation and as much as when violation is there, it is the responsibility of Proponent to demonstrate that it was not violating environmental norms prior to inspection or even thereafter. In the matter of environment, principle of absolute liability is attracted and once it is found that the proponent is causing pollution, responsibility lies upon it to show that it was not doing so. Similarly, onus lie upon Proponent to show that there was no pollution on certain particular days which have been taken into account for computation of compensation. Further grounds taken on this aspect are same which we have already considered and rejected. The said reasons and conlusion are reiterated hereat also.

(iv) Objection by Aarti Industries Ltd., plot no. E-50, MIDC Tarapur (item 4-list 103 of Committee):

533. It is also a bulk drugs manufacturing unit in Red category and scale LSI. Consented discharge quantity of effluent is 119. Compensation was assessed at 45.406 lakhs treating 239 days of violation vide Committee's report dated 18.06.2020.

534. Basic objection is with regard to number of days. As per proponent, it ought to be 83 instead of 239. Record filed along with objection show that inspection was made by MPCB team on 05.09.2013. Total water consumption was 160 m^3/day. Following major and minor non-compliances were noticed:

> *"**Major Non compliance**:*
>
> *1. Water consumption is more than consented quantity, which shows excess load discharge to CETP thereby hampering operation to CETP.*

2. High TDS and Low TDS effluent stream is not segregated as per consent condition there by affecting the treatment. Also you have not provided secondary & tertiary treatment system for weak stream.

3. The layer of solvent in the collection tank of ETP indicates non recovery of solvents thereby implying non operation/inadequate capacity of solvent recovery system.

***Minor Non-Compliance**:*

4. Hazardous Waste disposal is less as compare with consented quantity, indicates non operation of effluent treatment system regularly.

5. The Hazardous Waste viz filters, cartridges, neon filters is being disposed of unscientifically, also not included in the consent."

535. MPCB issued Closure/show cause notice dated 15.10.2013. Proponent submitted reply dated 18.10.2013 in which excess water consumption was admitted but said that it has not discharged excess quantity of water into CETP. In respect of second and third major non-compliances, reply was as under:

For second violation

"Reply: We have double effect evaporator system: the system is design such way that the neutralilzed High TDS and Low TDS mixed trade effluent is treated completely and recycle this is for the gardening and utility purpose. The residue remaining after double effect evaporator is then incinerated in our in-house incinerator."

For third violation

"Reply: we have carrying out the solvent Recovery in a Reactor which is provided with double condenser to get maximum solvent recovery."

536. In respect of minor non-compliance, reply was as under:

"Reply: As the production is carried is less than consented qty & is produced on campaign basis so hazardous waste generation is less. We have also incinerated some water in our in-house incinerator.

Reply: we are not using cartridge, neon filters & other filters. As per your direction if require very soon we will apply for consent amendment."

537. Reply was considered by MPCB in its restart order dated 31.10.2013 and it held that there was excess discharge in CETP besides consumption of excess water despite directions issued by TEPS so as not

to result in excess discharge of pollutants by CETP. MPCB allowed restart of production with number of conditions mentioned in the said order. Proponent submitted a compliance letter dated 11.01.2014 in respect of other conditions except condition (a) for which it sought exemption giving its reasons.

538. This proponent has also objected days of violation on the same ground as raised by earlier Proponents. According to this Proponent, days of violation should have been 83 only. In general, it has also challenged compensation itself on the ground that it had not violated any condition or consent and therefore no compensation could have been imposed. We fin on merit. Consumption of very high quantity of water then sanctioned is admitted. It is also not shown as to how excess water was dealt with so as not to discharge extra or excess release in CETP. With respect of major non-compliances of 2 and 3, Proponent relied on its double effect evaporator system stating that neutralized high TDS and low TDS mixed trade effluent is treated completely and recycled for the gardening and the utility purposeand residue after double effect evaporator is then incinerated in-house incinerator. No supporting material is placed before us. On the question of non-recovery of solvent based on layer of solvent in collection tank of ETP, reply is that Proponent is carrying out solvent recovery in a reactor which is provided with double concentrator to get maximum solvent recovery. In this regard, Proponent has placed on record consent renewal order dated 09.10.2012. With regard to trade effluent disposal, condition 3(iv) of consent renewal order said:

> *"Trade Effluent Disposal: High TDS effluent should be burnt in the existing incinerator equipped with wet scrubber Low TDS effluent should be treated in the effluent Treatment plant. The treated industrial effluent after conforming to the prescribed standards should be reused/recycled to the maximum extent and remaining should be counented to sewerage system provided by MIC for treatment at CETP for further treatment."*

539. In item 3 of chart at para 6(i), consent renewal order shows quantity of ash from incineration at 60kg/day (page 463). In support of submission that Proponent was achieving what he claimed from the alleged double effect evaporator system, neither any material has been placed to show quantity of ash generated as a result of treatment in the incinerators and how that ash was managed and treated. When process of evaporator system with incineration is adopted, it is bound to result in additional high consumption of electricity but to support thereof nothing has been placed on record. Inspection was made by Committee in the presence of Proponents representatives but no such explanation was given at the time of inspection. It is thus an afterthought. Therefore, the entire defence based on incinerator is uncredit worthy in view of above findings. In respect of days of violation, similar arguments we have already rejected giving reasons and the same is followed here also.

(v) Objection by Aarti Industries Ltd., K-17,18, 19 (item 5-List 103 of Committee):

540. This proponent has not raised any specific objection except saying that it has objection to the amount of compensation and liability in view of larger issue/objection raised by TIMA in the objections filed against report dated 18.06.2020.

541. In the affidavit dated 26.12.2020 sworn by Mr. Suresh L. Khimasia, authorized signatory of M/s Aarti Industries Ltd., it is said that statement of objection has been submitted to TIMA along with affidavit and the same is relied. However, no separate affidavit is on record before us. Available record shows that this industry was established in 1995 for manufacturing bulk drugs, a Red category, LSI scale unit. Under consent order, sanctioned discharged quantity of effluent is 318.4m^3/day. Inspection was made on 05.09.2013 when Proponent was found using

excess water against sectioned quantity and also discharging sub-standard effluent in CETP. Consequently, closure/show cause notice dated 15.10.2013 was issued pursuant whereto unit was closed on 18.10.2013. Conditional restart order was issued on 31.10.2013. Committee computed 240 days of non-compliance and compensation of Rs. 45.596 lakhs vide report dated 18.06.2020. Again, after giving further opportunity of hearing, vide revised report dated 21.08.2021, compensation has been revised to Rs. 57.881 lakhs. The difference of amount has come on account of change of distribution recovery cost factor which earlier was taken as 0.0028490 but subsequently found as 0.0036166. Thus, violation is evident and we find on ground to sustain objection.

(vi) Objections by Aarti Industries Ltd., L-5,8,9 TIA MIDC (item 6-List 103 of Committee):

542. This proponent is also a bulk drugs manufacturing unit in Red category with scale LSI. It was established in 1993 and as per consent order, sanctioned discharge quantity of effluent is 20 CMD. Taking days of violation as 600, Committee vide report dated 18.06.2020 computed compensation of Rs. 113.989 lakhs. The objections raised are:

(i) Proponent is not in category Red and ought to be treated as Orange/Green category.

(ii) It is not LSI scale unit but MSLA.

(iii) Number of days of violation ought to be only 36 (17+19) and not 600 (13+587) as taken by committee.

543. We find from record that consent renewal was given by MPCB on 06.03.2014. It was amended vide order dated 06.11.2015 showing category and scale of proponent as Red/MSI and mentioned its capital investment as Rs. 8.03 crores. Board officials, in the inspection dated

23.11.2016 found from the sample of waste water collected from ETP outlet of proponent, pH 6.2 and COD 840mg/l against 250 mg/l. Thus, level of COD was much more and highly exceeded to the prescribed standard. Consequently, closure/show cause notice dated 03.12.2016 was issued. With regard to high level COD, Proponent admitted this fact in reply dated 09.12.2016 stating, *"The joint vigilance sample of treated effluent taken on 23.11.2016 was shown the COD of* ***840*** *mg/l which is higher than consent limit.* ***During the JVS sampling there was some technical problem in the separate tank & treasury treatment plant operation tertiary treatment plant operation. This problem was notices and immediately rectified*** *& the plant was running smoothly.*

> ***Hence COD was slightly higher than consent limit*** *we have improved our effluent treatment plant operation & treating the trade effluent effectively____ we will run our ETP plant effectively & take almost care to keep the ___ of our treated effluent within the prescribed consented limit. Last JVS report enclosed for your reference.*
>
> *We are in process of upgrading our existing ETP with the help of ETP consultants & try to maintain quality consistently. The up gradation will be done by installing fine bubble diffusers existing Secondary Settling Tank with proper feed well arrangement."*

544. Proponent submitted letter dated 27.12.2016 informing about upgradation proposal for ETP. Another similar letter was submitted on 16.01.2017. Ultimately, restart order was issued by MPCB on 03.02.2017 recording undertaking of Proponent given on 17.01.2017 for modification of existing ETP to meet prescribed standards and time bound programme for ZLD system. Conditional restart order was given. Proponent was issued further consent renewal order dated 13.10.2017 wherein its category and scale was shown as Red and LSI, respectively and capital investment as Rs. 12.55 crores.

545. The objections of Proponent regarding category therefore, has no substance and and rejected since its category was specifically mentioned in consent order as Red throughout and also in the amendment consent order issued on 06.11.2015.

546. Objection with regard of number of days of violations, since grounds are same as propounded by Proponents referred above, hence for the reasons we have discussed above, this contention is also rejected.

547. The third submission regarding scale, in our view has substance. From 23.11.2015 to 03.02.2017, under consent order effective during that period, scale of industry of proponent was MSI, hence to that extent computation of compensation needs to be revised. It also placed on record that Committee vide revised report dated 21.08.2021 has revised compensation to Rs. 151.455 in place of 113.989 lakhs. The reason evident from the revised report is that date of inspection was mentioned wrongly earlier as 23.11.2018 and there was some mistake in respect of date of restart order. Further even distinction recovery cost factor has been modified and earlier it was 0.0071225 which has been found to be 0.0094634. Be that as it may, since scale of Proponent for the period during which compensation has been computed has been taken incorrectly and it has been taken as LSI though during the said period it was MSI, to that extent compensation determined against this proponent needs be revised. **The objection of this Proponent is partly allowed.**

(vii) Siyaram Silk Mills ltd. (earlier known as M/s Balkrishan Synthetics Ltd. (item 8-List 103 of industries):

548. This is a textile processing industry in Red category and LSI scale. It was established in 1981 and as per consent, industrial effluent discharge quantity permitted is 2000 CMD. Committee has computed compensation of Rs. 87.962 lakhs for 463 days of violation. Objection of

this Proponent mainly on the correctness of inspection and sample collected on 06.09.2013 and number of days of violation which according to proponent ought to be 21 only. The inspection conducted on 06.09.2013 found many violations. Closure/show cause notice was issued on 15.10.2013 mentioning major and minor non-compliances as under:

> *"**Major Non-Compliance**:*
> *1. Aeration system of ETP found not in operation final outlet effluent is …. temperature at 40 to 50º C blackish color effluent was discharged to CETP the substandard effluent discharge is hampering operation of CETP which is also confirmed by exceeding JVS results.*
> *2. You have **changed fuel from coal** to … coke **without proper permission of the Board thereby leading to excess emission load to environment at enadequate height.***
>
> *3. You have not provided STP for the treatment of sewage, … CMD and the same is **directly discharged into MIDC drain causing injury to environment.***
>
> ***Minor Non-Compliance**:*
> *4. Flow meter is not provided thereby making it difficult to verify the quantity of effluent discharge to CETP.*
>
> *5. You are disposing off the Hazardous Waste (waste oil) to the unauthorized party."*

549. Proponent submitted reply dated 19.10.2013 in which remarks of Committee were not shown incorrect but it has tried to explain the same. Conditional restart order was passed on 29.10.2013. The inspection was made in the presence of the representatives of the Proponent and no objection was mentioned in the inspection note to the observations noticed by inspection team. Moreover, reply submitted shows almost admission of discrepancies though proponent has tried to explain the same. We therefore find no reason to doubt the said inspection and observations made therein.

550. With respect to the number of days, we do not find any force since proponent has claimed lesser number of days on the same reasons as we have already discussed and rejected.

551. Further, compensation has been revised vide report dated 12.08.2021 in which it has been found that an inspection was made on 22.12.2014 when discharge of sub-standard effluent having COD 1500mg/l (against permitted 250mg/l) besides other major non-compliances were noticed. Committee vide revised report dated 21.08.2021 has computed compensation for 201 further days of violation and total compensation has been computed as Rs. 208.612 lakhs. Nothing has been placed before us to dispute this inspection and violations found therein. In view thereof the objections raised by proponent in entirely are rejected.

(viii) Camlin Fine Sciences Ltd., D-2/3 (item 9-list 103 of Committee):

552. The industry is producing synthetic organic chemical, established in 1984, in category Red and scale LSI. Permitted discharge quantity of effluent is 20 CMD. Committee report dated 18.06.2020 determined compensation of Rs. 516.561 lakhs for 871 days for violation. Factual inaccuracy with respect to date of inspection and restart date has been raised and further objection is about number of days of volation which according to proponent ought to be 189+61=250. Inspection was made at the site on 22.04.2017 and discharge of sub-standard effluent to CETP with COD 23200 mg/l and Suspended solids 385 mg/l was found against prescribed limit of 250 mg/l and 100 mg/l respectively. Closure/show cause notice dated 25.04.2017 was issued. Proponent submitted letter dated 15.05.2017 suggesting some change in the process so as to reduce COD at the ground level. It did not dispute correctness of the facts found

by inspection team in the inspection dated 22.04.2017. Proponent has filed another letter dated 25.04.2017 purported to be reply of notice dated 25.04.2017 and therein also it had assured to maintain proper standard but there is nothing to show any inaccuracy in the report on the basis whereof closure/show cause notice dated 25.04.2017 was issued. Later, conditional restart order was issued on 16.05.2017. Committee made computation of compensation for 871 days at Rs. 516.561 lakhs.

553. However, the matter has been re-examined by Committee after objections were filed before this Tribunal. Committee granted opportunity of hearing to all identified defaulting industries. The number of days of violation has been reduced to 44 instead of 871. Further Committee has found from record two more instances of violation pursuant to inspection dated 16.04.2013 where closure notice was issued on 24.05.2013 and restart order was issued on 24.05.2013 and third inspection dated 11.09.2013 where closure order was issued on 15.10.2013 and restart order was issued on 01.11.2013. In the inspection report dated 16.04.2013, proponent was found discharging treated effluent beyond the prescribed standard by more than 100% and in the inspection dated 11.09.2013, again discharge of sub-standard effluent to sub-standard effluent to CETP was found where COD 1112mg/l, BOD was 800mg/l, increased water consumption and no separate treatment for high COD. In view thereof, the number of violation further was found for 148 and 192 days respectively, hence compensation in all has been revised to Rs. 428.077 lakhs against Rs. 516.561 lakhs. We find nothing from record to contradict above findings. The grounds regarding manner of computation of days of violation are rejected for the reasons we have already given in respect of earlier discussed Proponents.

(ix) CIRON DRUGS AND PHARMACEUTICALS PVT.LTD.(item 10-list of committee)

554. This industry has also filed objection but it does not say anything except that being an Orange category industry, level of pollution it is causing is neglible. Record show that it is LSI scale unit. Approved quantity of effluent discharge is 4.5 CMD. In the inspection dated 30.07.2018 unit was found discharging polluted effluent with COD 396mg/l, no sewage treatment plant for domestic effluent was provided, and contaminated plastic bags disposal was proper. Committee computed 96 days of violations and assessed compensation, vide report dated 18.06.2020 at Rs.11.399 lacs which is revised to Rs.14.470 lacs vide revised report dated 12.08.2021. Discharge of effluent with almost more than 50% high COD qua prescribed limit can not be said to be a neglible pollution. Since Proponent has not mentioned any ground of challenge, objection is rejected.

(x) M/s Dicitex Home Furnishing Pvt. Ltd. G-7/1 & 7/2, MIDC Tarapur (item 11-List 103 of Industries):

555. This industry is engaged in the production and process of textiles, established in 2004. It is Red category and LSI scale unit. Effluent discharge quantity, as per consent is 510 CMD. Committee computed compensation of Rs. 77.133 lakhs for 406 days of violation vide report dated 18.06.2020. Basic objection is regarding number of days of violation and as per proponent, it ought to be 222 only.

556. An inspection was made on 07.10.2017 when it was found that proponent has not provided Multiple effective Evaporator. Closure/show cause notice was issued on 06.02.2018 and restart order was issued on 13.03.2018. Violation noted above has not been shown incorrect and, therefore, we find no reason to interfere. Further, the case of proponent

has been re-examined by Committee vide report dated 12.08.2021. It has found that also an inspection was made on 06.09.2013 where various violations namely poor O&M of ETP, discharge of sub-standard quality effluent and violation of HW Rules were found. For the said violation also, compensation has been determined for 92 days. Compensation has been revised to Rs. 218.018 lakhs vide report dated 12.08.2021. Nothing has been placed to discredit above report. Hence objections are rejected.

(xi) M/s Dicitex Furnishing Pvt. Ltd. (Item 12-List 103 of Committee)

557. This is also a Textile industry, engaged in weaving and dyeing of home furnishing fabric, established in 2001 and its category and scale are Red and LSI, respectively. Sanctioned quantity of effluent discharge is 880 CMD. Committee's report dated 18.06.2020 assessed compensation of Rs. 16.908 lakhs taking days of violation as 89. Basic objection is with respect of number of days of violation and according to proponent it should be 54.

558. As per record, inspection was made on 6.09.2013 and following violations were found by Committee:

> *"1. The industrial operations of Dyeing are not in operation, only activities related to furnished yarn were in operation.*
> *2. The primary damper laundry was observed with growth of spyregyra, the sludge also spirogyra, the sludge also found in launder channel.*
> *3. The sludge is observed in the final chamber before MIDC drain.*
> *4. There is provision of pipeline from primary clarifiers to treat water storage tank.*
> *5. HW generation and disposal is not matching i.e. disposal is very less as compared to consented quantity.*
> *6. The coal consumption is 20 MT/D approx. as compared to 14 MT the consented quantity."*

559. Consequently, closure/show cause notice dated 15.10.2013 was issued referring to following major and minor non-compliances.

> *"**Major non compliances**:*

1. *You have made provision of pipeline from primary clarifier to treated water storage tank, which indicates provision of bypass arrangement to discharge sub standard effluent to CETP which is also confirmed by the exceeding JVS results. Primary clarifier is also not in use for long period as indicated by algal growth.*
2. *The sludge/ slurry arises during treatment of effluent is being discharge in the final chamber before MIDC drain, leading to CETP, which hampers effective functioning of CETP.*
3. *Goal consumption is more than consented quantity, thereby leading to excess emission load to environment at inadequate height.*

***Minor Non Compliance**:*

4. *You have not submitted Bank Guarantee of Rs. 2 lakhs, thereby violating consent condition no. 12.*
5. *Hazardous waste disposal is less compared to consented quantity."*

560. Proponent submitted reply dated 22.10.2013 wherein broadly violations were not disputed. On the contrary, Proponent assured to comply with environmental norms and conditions of consent. MPCB issued order dated 29.10.2013 permitting restart of the unit with number of conditions. Proponent vide letter dated 11.11.2013 assured MPCB of compliance of all the conditions mentioned in the restart order.

561. Before us Proponent has filed a chart as annexure 2 (page 782) to show that from 2011-2019 on 30 occasions samples were taken and parameters were found within limits. Proponent has sought to contend that it was not violating environmental norms and not responsible for excess discharge of untreated/partially treated effluent by CETP. We find that the said chart nowhere refers to inspection dated 06.09.2013 in which admittedly number of violations were found. The said inspection was made in the presence of representatives of proponent who had also signed the report. Proponent was found to have violated environmental norms, particularly direct discharge without treatment by making bypass arrangement. There is nothing to discredit above report. Hence, we find no merit in the objections.

562. So far as dispute with regard to number of days is concerned, the grounds taken are similar as in other matters we have discussed above and for the reasons given, objection with regard to days of violation is rejected.

563. Based on the verification of the compliance date, Committee vide revised report dated 12.08.2021 has found period of non compliance as 242 and amount of compensation has been computed as 58.363. The said amount has been computed not only on the basis of the revised days of violation but also higher distribution recovery cost factor as it is evident from the report dated 12.08.2021.

(xii) M/s DC Polyester Pvt. Ltd. (Item 13-list 103 of Committee)

564. This is also a textile unit in red category and scale LSI. The sanctioned discharge quantity of effluent is 300 CMD. As per report dated 18.06.2020 Committee had assessed compensation of Rs. 46.356 lakhs taken number of days of violation as 244. In the visit of MPCB team on 06.09.2013 following non compliances (major and minor) were noticed.

> *"**Major Non Compliances**:*
> 1. *You have undertaken excess production of grey cloth, texturised yarn & twisted yarn without obtaining prior permission from the Board thereby violated condition No. 2 at the Consent to Operate which might be leading to extra effluent load on CETP.*
> 2. *The JVS sample collected from the outlet of ETP are not confirming to the standards which indicates sub standard effluent discharge to CETP thereby hampering the CETP performance.*
> 3. *Hazardous Waste generated is not disposed to CHWTSDF within stipulated time period thereby violated the provisions of the Haz. Waste (Management, Handing & Transboundary Movement) Rules 2008.*
>
> ***Minor Non-Compliances:***
> 4. *Flow meter is not provided thereby making it difficult to verify the quantity of effluent discharged to CETP."*

565. Consequently closure/show cause notice dated 15.10.2013 was issued. Proponent submitted reply dated 22.10.2013, firstly stating that

Proponents company is D.C. Polyester Pvt. Ltd. while notice is in the name of M/s DC Polymer Pvt. Ltd. and therefore name should be corrected. The allegation of excess production and generation of hazardous waste disposal in concentrate quantity was not disputed by Proponent in its reply dated 22.10.2013 though it has sought to explain the same. It also sought to rely on a private testing report dated 06.09.2013 to show that standards of discharge were within prescribed limits though how when and in what circumstances sample was taken is not clear from this report. This report dated 18.09.2013, therefore, is not reliable and can not discredit inspection report dated 06.09.2013 of MPCB officials. MPCB issued order dated 29.10.2013 permitting restart of unit with certain conditions. Proponent submitted acceptance of conditions mentioned in restart order, vide letter dated 11.11.2013. It was also stated that only one authorized discharge for treated effluent into the collection system of CETP is provided and it has installed flow meter to measure the flow. Vide letter dated 07.04.2014, Proponent clarified that it provided lock and key arrangement in November 2013, and that was not properly functioning and as per advice given by MPCB official it has changed the system and rearranged it. The objection with regard to number of days are on the same ground as raised by other Proponents which we have already dealt and rejected and the same is followed hereat. Mistake in the name of Proponent has not caused any prejudice to this Proponent hence no technical advantage can be given to this Proponent.

(xiii) M/s JSW Steel Coated Products Ltd., (JSW Steel Ltd.) (Item 15-List 103 Committee)

566. This is a Steel (Engineering) industry in red category in LSI Scale. Sanctioned quantity of effluent is 603 CMD. Vide report dated

18.06.2020, Committee computed compensation of Rs. 141.347 lacs. Inspection was made on 03.08.2011 when Proponent was found to have not installed Multiple Effective Evaporator. Closure order was issued on 21.12.2011 and conditional restart order was passed on 23.12.2011. Compensation was revised vide report dated 12.08.2012 to Rs. 115.038. Committee found that there was some error in the date and correcting the same, number of days of violation got reduced from 744 to 477 resulting in reduction of compensation.

567. Proponent has placed on record a letter dated 15.12.2011 whereby renewal of consent under Section 27 of Water Act, 1974 and 21 of Air Act, 1981 was refused by MPCB. Further closure notice dated 21.12.2011 shows that earlier consent to operate was granted subject to condition that Proponent shall provide multiple effect evaporation treatment system but despite expiry of one year it was no provided thus for violation of condition of consent, closure/show cause notice was issued on 21.12.2011. However earlier thereto, renewal of consent was refused by order dated 15.12.2011. Later on, by order dated 23.12.2011, after considering Proponent's letter dated 22.11.2011 assuring for commissioning of multi effect evaporator on or before 15.04.2012, MPCB kept in abeyance closure notice dated 21.12.2011 and consent renewal refusal letter dated 15.12.2011. Proponent's letter dated 23.04.2012 shows that it commissioned multiple effect evaporator on 22.04.2012. Thus, it cannot be said that the period for which compensation has been determined by Committee, there was no violation on the part of Proponent. The objection is accordingly rejected.

(xiv) M/s Kriplon Synthetics Pvt. Ltd. (Item No. 16-List 103 of Committee)

568. This is a textile industry in red category and LSI Scale. Sanctioned quantity of effluent discharge is 497 CMD. Vide report dated 18.06.2020, Committee computed compensation at Rs. 127.288 lakhs for two violations comprising 526 days of violations. Proponent claims that the number of days should have been only 93 and not 526. At the outset we may notice that in the subsequent revised report dated 12.08.2021 Committee has re-determined compensation at Rs. 77.416 lakhs and number of days of violation are also reduced to 172.

569. As per record placed by proponent itself, there was an inspection on 28.11.2016. Proponent was found violating following conditions:

(a) RO and MEE not provided.

(b) Did not submit DG.

(c) Excess discharge to CETP.

(d) STP not provided.

(e) Details of ash disposal not provided.

570. Closure/show cause notice was issued on 03.12.2016 and restart order was passed on 25.01.2017. Proponent submitted letter dated 08.04.2017 showing compliance of conditions stated in restart order wherein it is said that it had reviewed ETP, incorporating requisite adequacy measures to ensure its efficient operation and performance. With regard to installation of RO and MEE, it is said that the matter is under consideration of experts for installation. It also assured to comply with all the norms in future. Another inspection was made on 02.02.2018 wherein also Proponent was found to have not installed multiple effective evaporator. Closure/show cause notice dated 06.02.2018 was issued and conditional restart order was issued on 21.02.2018. Proponent sent letter dated 08.02.2018 whereby it replied closure notice, and said that viability

of ZLD is under consultation with experts. However, it requested the authority, vide letters dated 8.4.2017 15.6.2017 and 20.09.2017, to waive condition of ZLD. It is evident that no order was passed for waiver of the said condition. Hence violations on the part of Proponent are established.

571. However, finding certain actual mistakes in the dates, Committee vide revised report dated 12.08.2021 has reduced days of violation to 172 and compensation amount has also been reduced as stated above. The grounds on which computation of number of days of violation has been disputed, is already rejected above and the same is followed here at also. We may also place on record that objections in question nowhere show that the condition of providing multiple effective evaporator has been complied even now and the said violation is still continuing continuing.

(xv) M/s Mandhana Dyeing (Item No. 17- List 103 Committee)

572. It is also a textile industry, red category, LSI scale with sanctioned quantity of discharge of effluent as 900 CMD. Committee has assessed compensation at Rs. 14.629 lakhs taking days of violation as 77. Proponent has stated that M/s Mandhana Dyeing has become M/s G.B. Global Ltd. since 2018. Basic objection is with respect of number of days of violation.

573. Proponent unit was inspected by MPCB officials on 11.05.2017 and found discharge of polluted effluent, having COD 1016 mg/L. Closure/show cause notice was issued on 17.05.2017 and restart order was passed on 02.06.2017. We do not find anything on record to show that above violation was not caused by Proponent. So far as objection in regard of manner of computation of number of days of violation is concerned, the grounds taken are similar as taken in other matters we

have already discussed and rejected. We, therefore, find no force in the objections.

(xvi) E-Land Fashion (India) Pvt. Ltd. (Mudra Life Style) (Item No. 18-List 103 of Committee)

574. A textile industry, in red category and scale LSI with sanctioned quantity of discharge of effluent as 115 CMD. Inspection was made on 12.04.2016 when discharge of sub-standard effluent to CETP having COD 828 mg/l and SS 142 mg/l was found which was much beyond the permissible limit. Closure/show cause notice was issued on14.10.2016 and restart order on 28.10.2016. Another inspection was made on 12.05.2017 when again similar violations were found i.e. discharge of sub-standard effluent to CETP having COD 976 mg/l and SS 125 mg/l. Closure/show cause notice dated 20.05.2017 was issued and restart conditional order on 23.06.2017. Committee computed compensation of Rs. 288.772 lakhs taking violation days as 386 and 597, respectively for both the inspections. Subsequently vide revised report dated 12.08.2021, number of days have been reduced to 385 and 99, noticing certain error in the dates hence compensation has also reduced to Rs. 140.602 lakhs. In respect to both the inspection basic objection raised by proponent is with regard to computation of the days of violation and according to it the same ought to be 47 and 94, total 141 only. The reasons are same as we have already discussed and rejected. The objection is therefore rejected.

(xvii) M/s Manan Cotsyn Pvt. Ltd. (Item No. 20-List 103 of Committee)

575. It is a textile processing of fabrics industry, red category and scale LSI. Approved quantity of effluent discharge is 225 CMD (ZLD). Consent to operate was given 31.12.2013. However, prior to that, inspection was made on 27.12.2012 when it was found that ZLD was not available,

tanker water was being used and sub-standard quality effluent was being discharged. Consequently, closure/show cause dated 10.01.2013 was issued. Another inspection was made on 11.09.2013 when following violations were found:

(i) ETP not in operation.

(ii) Made by pass arrangement for discharge of sub-standard quality effluent.

(iii) ZLD not provided.

(iv) Use of tanker water.

576. Closure/show cause notice was issued on15.10.2013 and conditional restart order issued on 31.12.2013. In respect of both the violations, compensation was determined at Rs. 507.062 by Committee in its report dated 18.06.2020 taking number of days of violation as 1344. Subsequently, vide report dated 12.08.2021, Committee has found some error in the dates hence number of violation of days have been reduced to 258 and 455 respectively, total 713 and compensation has reduced to 281.204 lakhs. Proponent says that subsequently it has not been found committing any default and category of company has wrongly been taken as LSI though it is SSI unit. Proponent has raised a serious objection about the scale and said that when consent to establish was issued on 21.12.2010 and consent to operate issued on 31.12.2013, Proponent unit was in SSI scale and therefore compensation could not have been computed treating it as LSI. On this aspect we do not find any consideration by Committee in the revised report also. In our view, to this extent, matter needs reconsideration. The objections are partly allowed and Committee would revisit amount of compensation. We make it clear that scale of industry would be such as on the date of violation(s). Rest

objections are rejected as findings of violations could not be contradicted by placing any material.

(xviii)Resonance Speciality Ltd. (Item No. 21-List 103 of Committee)

577. It is a chemical industry, red category, SSI scale, established in 1992. Discharge quantity of effluent permitted is 12 CMD. Compensation of 173.770 lakhs was determined by Committee vide report dated 18.06.2020 taking days of violation as 1596 and 574, respectively, total 2170 in two incidents of violations. Amount of compensation has been revised vide Committee's revised report dated noticing some mistake in the days to 326 and 575 days respectively, total 901, and compensation has been reduced to 118.656 lakhs.

578. Inspection was made on 12.09.2013 when following violations were noted:

i. Manufacturing un-authorized products.

ii. Effluent treatment plant corroded and dismantled condition indicating non-operation of ETP and thereby leading to sub-standard quality of discharge to CETP.

iii. Using pet coke as fuel without permission and causing excess emission load to environment.

iv. Distillation residue is unscientifically stored and burned in industrial premises leading to polluted emission.

v. Smell of ammonia gas was felt all over the industrial premises indicating non-provision of ammonia scrubbing system.

579. Closure/show cause notice was issued on 15.10.2013 and conditional restart order on 07.11.2013. Another inspection was made on 13.02.2018 and following violations were found:

(i) RND facility installed without obtaining consent from MPCB.

(ii) About 10 Mp distillation residuary illegally stored in premises.

(iii) Increase fuel quantity.

(iv) Sample collected show polluted effluent discharge having COD 3536 TDS 4682 mg/l affecting performance of CETP.

580. Show cause/closure notice was issued on18.04.2018 and conditional restart order on 26.09.2019. Objection is to the manner of computation of number of days of violation. As per proponent, the same should have been 382 and 191, respectively, total 573. The grounds for disputing number of days of violation are the same as we have already discussed and rejected and same are followed hereat also. Since pollution found to the caused by Proponent is virtually admitted, therefore, we find no reason to grant any relief to this Proponent.

(xix) Silvester Textiles Pvt. Ltd. (Item No. 22-List 103 of Committee)

581. A textile unit, is red category, LSI scale, has sanctioned quantity of discharge of effluent as 410 CMD. On 04.09.2013, when inspection was made, following violations were found:

(i) Operation without valid consent, applied for renewal.

(ii) Secondary treatment not provided at ETP.

(iii) Poor operation and maintenance of ETP.

(iv) Sub-standard quality of effluent discharged to CETP.

(v) Flow meter not provided.

582. Closure/Show cause notice was issued on 15.10.2013 and conditional restart order on 29.10.2013. Another inspection was made on 9.07.2017 when Proponent was found discharging Sub-standard quality discharge having COD 432 mg. Closure/show cause notice 21.07.2017 was issued and conditional restart order on 18.08.2017. Committee in the report dated 18.06.2020 computed compensation at Rs. 191.882

lakhs taking violation days as 290 and 360, respectively, total 650. In the revised report dated 12.08.2021, amount of compensation has been revised to 243.582 lakhs. Proponent has basically disputed number of days of violation and according to it the same ought to be 45 and 16 days, respectively. The grounds for disputing number of days are same as we have already discussed and rejected and same are fpllowed hereat also.

583. Moreover, violations found by the team are not disputed therefore we find no reason to grant any relief to the Proponent.

(xx) Sarex Overseas (Item No. 23-List 103 of Committee)

584. It is a chemical industry, in red category and LSI scale. Sanctioned discharge quantity of effluent is 200 CMD. In the inspection dated 09.07.2017, Proponent was found operating unit without consent and discharging sub-standard effluent having COD 432 mg/l.

585. Closure/ show cause notice was issued on 21.07.2017. Compensation was determined vide report dated 18.06.2020 as Rs. 153.695 lakhs for 809 days. However, it has been revised to 807 days and Rs. 194.624. Basic reason of increase is change of distribution of recovery cost factor which earlier was 0.0096034 but now revised to 0.0121608. In the objections it is said that initial consent was for a period of 01.03.2013 to 28.02.2018 and it was renewed for five years from 01.03.2018 to 28.02.23. Therefore, report that proponent was operating without consent is incorrect. We find force in this submission. Copy of consent to operate dated 28.08.2013 has been placed on record showing that it was granted for a period upto 28.02.2018. Consent renewal order dated 31.05.2018 is also placed on record showing that it was granted upto 28.02.2023. It cannot be said that Proponent was operating without

valid consent. However, this does help the Proponent. We find that in the inspection report dated 09.07.2017, there are more violations noted by inspection team:

(i) Significant quantity of untreated effluent found flowing outside factory premises, SW drains, spot pH noted 7-8 (as per pH paper)

(ii) Air emission (acidic) from zero section is noticed emanating from mother liquor tank from centrifuge tank (as informed by President)

586. In the closure/show cause notice also violations given are:

(i) Board officials has visited your industry on 09.07.2017 and during visit significant quantity of untreated effluent found flowing outside factory premises through storm water drain.

(ii) JVS from was collected, and after analysis of the same the parameter COD 432 mg/l is which is exceeding the consented limit.

(iii) Acidic fumes from zero section of mother liquor tank near centrifuge area.

587. In respect to discharge of polluted effluent, Proponent in its reply dated 24.07.2017 has said:

(i) We have also mentioned in the inspection report that there was some leakage in our water hydrant line which was going into drain and it was not the untreated effluent.

(ii) You have mentioned in your above referred letter that the COD of joint vigilant sample was found 432 mg/L and that is exceeding the consent limit. **We assure you that we will take abundant care to see that COD remains less than the prescribed limit of MPC Board**. We are attaching herewith results of past JVS where we have successfully complied with the MPCB norms. The copies of JVS results are attached herewith as Annexure "A".

(iii) During the visit of Sub Regional Officer, it was also observed that, at the ground floor of our plant ("0" meter section) there was some fume form the tank of mother liquor. This was due to leakage of the gasket which was immediately rectified and attended during visit of Sub Regional Officer itself and shown to him to his satisfaction. The same was also mentioned by us as 'our note' in the inspection report hence this issue is attended and resolved.

588. Thus, violations noted by the inspection team are admitted. The mere fact that some observations of violations are not correct, would make no difference since computation of compensation is not dependent on the number of violations. The further objection that number of days has been wrongly taken and the same should have been only 13 based on the same reasons which we have already discussed and rejected. Following the same reasons, it is rejected here at also.

(xxi) Zeus International (Item No. 24-List 103 of Committee)

589. It is chemical industry, red category, scale LSI with sanctioned quantity of effluent discharge as 400 CMD. In the report dated 18.06.2020, Committee has determined compensation as Rs. 619.341 lakhs taking days of violation as 2328. In the revised report dated 12.08.2021, noticing some mistakes and factual errors in the dates, days of violations have been revised to 1487. Further another violation based on a third inspection has been found for which 650 days have been taken. The quantum of compensation has been re-determined as Rs. 463.063.

590. There were 3 inspections and violations were noted on 3 occasions. First inspection is dated 11.10.2012. Proponent was found discharging sub-standard effluent, highly exceeding prescribed standards. Closure/

show cause notice was issued on 24.05.2013 but proponent failed to comply therewith and continued to violate closure direction. Second inspection was made on 15.09.2013 and again discharge of sub-standard effluent to CETP was found. Closure/show cause notice was issued on 15.10.2013 and conditional restart order on 07.11.2013. Third inspection was made on 16.01.2017 and again discharge of sub-standard effluent to CETP was found with COD 504 mg/l. Again on 17.01.2017 COD level was found as 252mg/l. Closure/show cause notice was issued 14.02.2017 and conditional restart order on 09.05.2017.

591. Proponent has basically disputed days of violation taken for computing compensation and according to it for violations pursuant to reports dated 11.10.2012 and 16.01.2017, it should have been 163 days and 81 days, respectively. The grounds taken are same as we have already discussed and rejected and followed hereat also. Further this is a clear case where Proponent has repeatedly violated environmental norms and hence we do not find any ground justifying any relief.

(xxii) Valiant Glass Works Pvt. Ltd. (Item No. 25-List 103 of Committee)

592. It is textile unit, red category and scale LSI. Sanctioned discharge quantity of effluent, as per consent order is 2000 CMD. Committee in the report dated 18.06.2020 computed assessment at Rs. 110 lakhs for 327 and 126 days of violation total 453 days. There are two inspections when Proponent was found violating environmental norms. One is dated 11.09.2013. Violations found were noted and based thereon, closure/show cause notice dated 15.10.2013 was issued giving details of violations as under:

"*Major Non-Compliances:*

1. *You have not provided Secondary & tertiary treatment to treat the trade effluent and the operation of primary treatment is observed*

unscientific thereby discharging sub-standard effluent to CETP which is also confirmed by exceeding JVS reports. Further the effluent generated from printing section having pH 9 to 10 is directly connected to final outlet bypassing ETP, thereby discharging sub-standard effluent to CETP which is also confirmed by exceeding JVS reports.

2. *It was noticed that after April, 2013 you have not disposed off the hazardous waste to CHWTSDF. Also, further no hazardous waste was observed stored in premises which indicates non operation of effluent treatment system. Thus, you are discharging sub-standard effluent to CETP, thereby hampering proper functioning of CETP.*
3. *You have change fuel from coal to pet coke without prior permission of the Board, thereby leading to excess emission load to environment at inadequate height.*
4. *Flow meter is not provided thereby making it difficult to verify the quantity of affluent discharged to CETP.*"

593. Proponent did not reply show cause notice and this fact is not disputed in the letter dated 23.10.2013 submitted by Proponent in compliance of the conditions of restart order dated 29.10.2013. Violations noticed by inspection team are virtually not disputed by Proponent.

594. Another inspection was made on 01.12.2018 and pursuant to the violations found, closure/show cause notice dated 24.12.2018 was issued mentioning violations as under:

(i) As per consent conditions, till date you have not installed S.T.P. for treatment of sewage effluent generated from your unit.

(ii) The analysis report JVS collected of outlet of ETP shows parameter (COD-496) exceeding consented limits.

595. The reply dated 25.11.2018 shows admission of both the violations. Proponent has tried to explain the same.

596. Further objection is with regard to manner of computing number of days of violation for which compensation has been determined by Committee on the same ground as we have already discussed and rejected. The said reasoning is reiterated here also.

597. However, in the revised report dated 12.08.2021, Committee has taken days oF violation as 327 and 43, total 370 days, noticing certain factual errors in the dates and compensation has been re-determined as Rs.99.603 lakhs.

(xxiii)M/s Aarti Drugs Ltd. Plot E-9/3-4, MIDC (Item No. 26-List 103 of Committee)

598. It is a bulk drugs manufacturing unit, red category, scale SSI. Sanctioned quantity of effluent is 30 CMD. Proponent was assessed compensation of Rs. 4.813 lakhs for 38 days of violation. Committee treated Proponent as MSI but in the revised report dated 12.08.2021, scale of Proponent has been modified as SSI but number of days of violations areincreased to 102 instead of 38 and compensation has been redetermined as Rs. 8.2 lakhs in place of Rs. 4.813 lakhs.

599. The only objection raised before us is with regard to manner of computation of number of days of violation and according to it the same should have been 37. The grounds are same as we have already discussed and rejected and follow the same hereat also. With respect to violations, we find that inspection was made on 12.09.2013 when Proponent was found committing violations pursuant Whereto closure/show cause notice dated 15.10.2013 was issued giving details of violation as under:

*"**Major Non-Compliances***

1. *The ETP especially secondary & tertiary treatment was not found in operation thereby leading to sub standard discharge of effluent to CETP which is also confirmed by exceeding JVS results.*
2. *The provision of By-pass arrangement form collection tank to final outlet and from primary clarifier to outlet have been confirmed during the visit, thereby leading to sub standard discharge of effluent to CETP which is also confirmed by exceeding JVS results.*
3. *The high COD stream is not disposed off properly which has also been confirmed by the exceeding JVS results thereby hampering operation of CETP.*
4. *You are disposing waste solvent in an unauthorized manner.*

5. *You have increased production of 2-Phenoxy sulphonamide more than consented quantity without obtaining EC & consent from the Board.*
6. *Change of fuel from Briquette to coal without prior permission of the Board, thereby leading to excess emission load to environment at inadequate height.*

Minor Non-Compliances:

7. *Flow meter is not provided, thereby making it difficult to verify the quantity of effluent discharged to CETP."*

600. Proponent by letter dated 21.09.2013 stated to MPCB that it assures to reduce effluent quantity by 25% in future and to comply with norms. The relevant extract of reply given by proponent is as under:

> *"Thus violation is admitted and thus we find no reason to justify any relief to this proponent."*

(xxiv) Jakharia Fabrics Pvt. Ltd. (Item No. 27-List 103 of Committee)

601. A textile unit, red category, LSI scale, andhas sanctioned discharge quantity of effluent, as per consent order is 378 CMD. Committee vide report dated 18.06.2020 determined compensation of Rs. 251.536 lakhs for 1324 days of violation. However, in the subsequent revised report dated 12.08.2021 compensation has been reduced to Rs. 49.440 lakhs reducing days of violation as 205.

602. Inspection was made on 09.03.2013 noticing violations pursuant where to closure/show cause notice dated 15.10.2013 was issued detailing major and minor violations as under:

1. *Production quantity observed more than consented limit which means violating the consent conditions and creating extra pollution load in the environment.*
2. *Board has granted the consent to achieve ZERO effluent discharge whereas you are discharging untreated effluent having (pH 10 to 11) outside the factory premises in MIDC open drain (Bypass) which is causing grave injury to environment which is also confirmed by exceeding JVS results and non operation of ETP as reported during visual inspection.*

   Minor Non Compliances:
3. *Flow meter is not provided, thereby making it difficult to verify the quantity of effluent discharged to CETP."*

603. The violations noted were virtually admitted by Proponent though with some explanation, vide reply dated 18.10.2020. The objection with regard to manner of computation of day of violation is rejected for the same reasons we have discussed above in the case of Proponent at item 1 in the list. We therefore find no reason to grant any relief.

(xxv) Pal Fashions Private Limited (Item No. 28-List 103 of Committee)

604. A textile unit, red category and scale LSI, has sanctioned quantity of effluent for discharge as 500 CMD as per consent order. Committee vide report dated 18.06.2020 determined compensation as Rs. 99.551 lakhs for 786 days of violations. However, in the revised report dated 12.08.2021 compensation has been reduced to Rs. 45.179 lakhs for 281 days noticing some errors in the dates.

605. An inspection was made on 13.09.2013 and based on the violations noted therein closure/show cause notice dated 15.10.2013 was issued giving details of violation as under:

*"**Major Non Compliances**:*

1. *Water consumption is more than consented quantity which shows excess load discharged to CETP thereby hampering operation of CETP.*
2. *No treatment chemicals observed at ETP also ETP was not found in operation, thereby leading to discharge of sub standard effluent having pH 10 to 11 (by pH paper) to CETP which is also confirmed by exceeding JVS reports.*
3. *Algal growth noticed in sludge drying bed which indicates chocking of Sludge drying bed and non operation from long period.*
4. *Fuel consumption is more than consented quantity. One stream boiler (2.5 TPH) and oil fired boiler installed without obtaining permission from the Board thereby leading to excess emission load to environment at inadequate height.*
5. *As per consent condition fly ash arrester/ESP is not provided thereby violating the consent condition.*

Minor Non Compliances:

6. *Flow meter is not provided thereby making it difficult to verify the quantity of effluent discharged to CETP."*

606. The violations noted on the date of inspection have not been shown incorrect by Proponent though it is relying on some other reports of

different dates to justify that it was not violating the norms. Conditional restart order was issued on 29.10.2013 and in reply thereof Proponent in letter dated 18.11.2013 stated it shall abide by all the conditions mentioned in the restart order. We therefore find no reason to grant any relief to this proponent. Various representations filed by Proponent show that it is trying to justify request for reduction in compensation on the ground of its subsequent efforts to remove violations but subsequent efforts cannot condone earlier violations.

(xxvi) SD Fine Chem Ltd (Item No. 29-List 103 of Committee)

607. A chemical industry, red category, MSI scale, and sanctioned quantity of effluent discharge is 16 CMD for industrial purpose and 2 CMD for domestic purpose. On two occasions violations were noted. Taking days of violation as 1770 in respect of violations of 2013, vide report dated 18.06.2020 compensation was assessed at Rs. 329.302 lakhs. Later noticing error in the dates, days of violation has been revised and subsequent violations have also been taken into consideration. Taking total days of violations as 193 days and 415, total 608 days, compensation has been redetermined at Rs. 164.478 lakhs.

608. Inspection was made on 12.09.2013 and noticing violations, closure/show cause notice dated 15.10.2013 was issued giving details of violations as under:

"***Major Non Compliances***:

1. *Manufacturing various products other than consented products and the total quantity is also very high than the consented quantity which is a violation of consent conditions. Environmental Clearance is not obtained for the additional new products.*
2. *Scrubber provided to MPP plant and H & D plant was not in operation, thereby untreated emission are led to environment causing grave injury to environment.*

Minor Non-Compliance:

3. *Hazardous Waste disposal is less as compared with consented quantity, indicates non operation of effluent treatment system regularly.*

4. *Flow meter is not provided, thereby making it difficult to verify the quantity of effluent discharged to CETP.*
5. *JVS results are exceeding the stipulated standards implying discharged of sub-standard effluent to CETP."*

609. The violations have not been disputed in the reply submitted by proponent vide letter dated 18.09.2013 though it has attempted to explain. Conditional restart order was issued on 30.10.2013.

610. Another inspection was made on 28.07.2018 and noticing violations, closure/show cause notice dated 8.08.2018 was issued detailing violations as under:

(i) You are manufacturing un-consented product like Genorool. JPA, Chloform and also increased quantity of some products which violating the consent conditions no. 12 of page No. 3 and 4.

(ii) Your JVS report of samples collected on 28.07.2018 are exceeding the consented limit for COD-408 mg/L and SS 119 mg/L.

(iii) During visit primary clarifier found not in operation uneven flow was, observed in launder which shows your negligence towards operation & maintenance of ETP.

(iv) You are operating multi product plant where ammonia fumes are generated.

(v) You have provided online pH meter & flow meter, but not provided data logger.

(vi) You have stored about 30 MT zinc oxide since from 15 years (as reported by industry representative) generated during manufacturing of product Cupferron.

(vii) You have stored other outdated chemicals such as Nitrobenzene, Phenolcrystence, isopherylether, triacetate in factory premises.

611. Proponent submitted reply dated 13.08.2018 where from we find that the proponent has tried to explain violations in his own way and there is no clear denial. Therefore, we find that substantial violations noted in inspections have not been shown incorrect. Conditional restart order was issued on 23.08.2018. Since violations are writ large, Proponent is not entitled for any relief and objection against computation of compensation is rejected.

(xxvii) Auro Laboratories Limited (Item No. 31-List 103 of Committee)

612. It is a bulk drugs manufacturing unit, red category, MSI scale. Sanctioned effluent discharge19 CMD. In the report dated 18.06.2020 Committee determined compensation of Rs. 179.470 lakhs taking days of violation as 131 and 643, total 774 days, based on two inspections. However, later noticing mistakes in the dates, compensation has been redetermined as Rs. 65.437 lakhs reducing days of violations as 131 and 138, total 269 days.

613. Inspection dated 03.06.2016 shows following violations:

(i) It is not in operation.

(ii) Storm water drain to carry effluent.

(iii) Generation of mother liquor but not shown in consent.

(iv) HW stored near ETP unscientifically.

614. Closure/show cause notice was issued on 28.07.2016 and conditional restart order was issued on 17.05.2017.

615. Another inspection was made on 28.07.2017 noticing following violations:

(i) Discharge of substandard quality effluent having COD 70,000 mg/l.

(ii) ETP not operational

616. Closure/show cause notice dated 08.08.2018 was issued and thereafter restart conditional order on 07.01.2019. In the objections before us we do not find any material to show that the violations noted by inspection team were not correct. The computation of days of violation has been challenged on the same grounds which we have considered and rejected and we reiterate here also. Since violations are admitted, we find no reason justifying any relief to this Proponent.

(xxviii) M/s Valiant Organics Ltd. (Formerly known as M/s. Abhilasha Tex-Chem Pvt. Ltd.) (Item No. 32-List 103 of Committee)

617. The unit is producing para nitro aniline and red category, SSI scale unit. It claims to be ZLD unit, but in the inspection dated 10.11.2016 it was found that ZLD was not at all provided and unit was discharging high COD stream directly to MIDC sewage. Consequently closure/show cause notice dated 29.11.2016 was issued. Proponent's letters dated 21.01.2017 and 01.02.2017 clearly show that ZLD was not provided till that date. However, restart order was passed on 15.02.2017 with certain conditions including that the proponent shall improve/modify existing ETP and operate it continuously. Committee determined compensation of Rs. 4.94 lakhs in the report dated 18.06.2020 taking days of violation as 78. Vide revised report dated 12.08.2021 compensation has been reduced to Rs. 4.421 lakhs on 55 days of violation. The entire objections are rejected, Firstly, proponent was clearly causing pollution and secondly for the reasons we have already discussed above with respect to number of days. we find no merit in the objections raised and the same are rejected.

(xxix) M/s Alexo Chemicals (Item No. 33-List 103 of Committee)

618. It is a Chemical industry, red regory and SSI scale. Sanctioned quantity of effluent is 0.7 CMD. Vide report dated 18.06.2020,

compensation was determined at Rs. 52.815 lakhs for 463 days of violation. The objection is against manner of computation of days of violation. According to Proponent it should have been 171 days.

619. Inspection was made on 28.11.2016 when several violations were noted pursuant whereto closure/show cause notice dated 03.12.2016 was issued mentioning violations as under:

> *"Board officials visited your industry on 28.11.2016 to verify compliance of consent conditions & collection of Joint Vigilance sample from ETP outlet. Sub-Regional Officer, Tarapur-I communicated analysis reports of waste water collected from ETP outlet/V-notch/bypass line/treated effluent sumps of your industry. The analysis reports show values of pH-10.6; & COD-32000 mg/L which is exceeding to the inlet designed parameters of CETP thereby up-setting CETP performance. It is found from vigilance sampling drawn during odd hours that you are discharging highly polluting stream/chemical load to the CETP and degree of exceedance of COD compared to consented norms is 12700%. The above fact clearly indicates that you have adopted this practice of discharge of high COD stream and your tendency towards not to abide environment norms. The high polluting/COD streams hampers functioning of CETP operations thereby discharging substandard quality effluent in Navapur sea and creating adverse impact on nearby environment. After perusing the results, degree of exceedance and tendency of discharge of untreated effluent, I am of the opinion that you are willfully/intentionally discharging highly polluting effluent stream thereby violating consented norms and causing severe damage to the environment which needs to be stopped immediately to protect such damage of environment."*

620. Another inspection was made on 26.07.2018 and pursuant to the violation noted therein, closure/show cause notice dated 08.08.2018 was issued mentioning violations as under:

> "*During visit to your, plant found under maintenance, however discharge of washing effluent was found going outside the factory premises. The sample analysis reports at this effluent are exceeding the consented limit for BOD-23000 mg/L, COD-70400 mg/L & TDS 4884 mg/L."*

621. Conditional restart orders were issued on 17.03.2017 and 08.10.2018, respectively. Vide revised report dated 12.08.2021, compensation has revisited as Rs. 63.749 lakhs by taking 51 days of

violation in respect to first inspection and 371 in respect to second inspection. Nothing has been placed on record by Proponent to show that violations were not caused by it. The objections that number of days should have been only 171 is not acceptable for the reasons already discussed and rejected above. The objections are accordingly rejected.

(xxx) Ashwin Synthetics Private Limited (Item No. 34-List 103 of Committee)

622. It is a chemical industry in red category with SSI scale. Effluent discharge was sanctioned for 30 CMD. Vide report dated 18.06.2020 Committee computed compensation at Rs. 41.163 lakhs for 444 and 103 days of violations, pursuant to two inspections. In the revised report dated 12.08.2021, days of violation have been revised as 319 and 103 noticing some mistakes in the dates and compensation has been re-determined at Rs. 42.526 lakhs.

623. The objection of Proponent is that it is not a chemical industry but a yarn dyeing and textile unit. This aspect is of no consequence since category would remain same. Quantum of effluent discharge is disputed stating that it was sanctioned higher quantum but nothing on record is placed to fortify it. With regard to inspection, it is said that it was conducted hasty and unfair and alleged non-compliance is also disputed. Further even days of violation are disputed.

624. From record we find that inspection was made on 07.12.2016. Proponent was found discharging sub standard effluent to CETP. Closure/show cause notice was issued on 18.12.2016 and conditional restart order was issued on 16.06.2017.

625. Again, inspection was made on 30.08.2018, the violations recorded are:

(i) Violation of closure direction.

(ii) Jeans washing activity without permission.

(iii) Direct discharge in nala.

(iv) Using unathorised water (tanker).

(v) Not disposing hazardous waste to common disposal facility i.e., CHWTSDF.

626. These violations are not shown incorrect by placing any material before us. Therefore, we find that Proponent is not entitled for any relief. Dispute with regard to days of violations since based on the same grounds which we have already discussed and rejected, the same are followed here at also.

(xxxi) Accusynth Specialty Chemicals Pvt. Ltd. (Item No. 35-List 103 of Committee)

627. It is a bulk drugs intermediate manufacturing unit, in red category and SSI scale. Effluent discharge quantity permitted is 2.5 CMD. Committee vide report dated 18.06.2020 computed compensation at Rs. 33.057 lakhs for 522 days of violation. In the revised report dated 12.08.2021, compensation has reduced to 23.313 lakhs due to reduction in days of violation as 290 instead of 522.

628. Inspection was made on 5.1.2018. Number of violations were noted as under:

(i) Increase water consumption.

(ii) Violation of environment clearance.

(iii) Exceeding fuel consumption.

(iv) Illegal transportation of spent acid.

(v) Not disposing hazardous waste timely.

629. Proponent submitted reply to closure/Show cause notice dated 12.01.2018 vide letter dated 17.01.2018 wherein with regard to excess use of water it has said that large quantity of water was used in garden and there was a leakage in condensate reuse line. Some other explanations are also given. With respect to excess production than permitted, Proponent has tried to explain that combined production of different products should be examined and not separately. With respect to violation of EC, it is not disputed that some products manufactured were not permitted in EC but explanation is that the quantity produced was within the limit of production permitted. Use of fuel or material not permitted is also not disputed. Though it is sought to be explained on the ground that it was cost effective and had other advantages. With respect to transportation of acid also we find no satisfactory explanation. All the explanations are lame and flimsy. Proponent has not denied violations but tried to explain the same in a different perspective which is not permissible. Further objection with regard to days of violation, which according to Proponent should have been 127, the grounds are same as we have already discussed and rejected. In the entirety we find no merit and all objections are rejected.

(xxxii) M/s Aradhana Energy Pvt. Ltd. (Item No. 38-List 103 of Committee)

630. It is a chemical industry, red category, SSI scale. Sanctioned discharge of effluent is Nil. Proponent was granted consent to operate by letter dated 11.03.2019 but it already underwent production. Inspection was made on 20.01.2019 when Proponent's unit was found in production without consent to operate. Consequently closure/show cause notice was issued on12.03.2019 and restart order on 04.04.2019. For 329 days of violation, Committee, vide report dated 18.06.2020 computed

compensation at Rs. 20.835 lakhs. However, compensation has been revisited vide report dated 12.08.2021 and has reduced to Rs. 2.572 lakhs based on 32 days of violation noticing some factual errors. Since violations, on the face are evident we find no justification for any relief to Proponent. Further objection is that days of violation should be taken as 88 stands already infructuous since Committee has reduced days of violation as 30. Therefore, nothing survives so far as this Proponent is concerned with respect to issuetion of computation of days of violation.

(xxxiii) Bajaj Healthcare Ltd. (Item No. 39-List 103 of Committee)

631. The unit is engaged in the production of drugs intermediate, a red category, SSI scale industry. Quantity of effluent sanctioned is 1.3 CMD. Based on two inspections where violations were found, Committee, vide report dated 18.06.2020 assessed compensation at Rs. 52.878 lakhs for 481 and 777 days of violations.

632. Inspection was made on 12.04.2012 when violation of discharge of sub-standard discharge of effluent to CETP was found. Closure/show cause notice was issued on 16.05.2012 and conditional restart order on 19.06.2012.

633. Another inspection was made on 05.09.2013 and following violations were noted:

(i) Manufacturing unconsented products.

(ii) Inadequate ETP, discharge of sub-standard effluent to CETP.

634. Closure/show cause notice was issued on 15.10.2013 and conditional restart order on 30.10.2013. From the reply of Proponent, we find that discharge of polluted effluent in CETP was not disputed. On the other hand, explanation was that Proponent's effluents treatment plant was slightly destabilized as blower of aeration tank was under

maintenance. It is also admitted that sample collected on 12.04.2012 showed COD as 642, against permissible standard of 250. Similar admission we find in respect of ETP condition also.

635. Further objection is with regard to days of violation and according to Proponent the same should have been only 14 days. The grounds taken are same which we have already discussed and rejected. The objections are entirely rejected.

636. We may also place on record that in the revised report dated 12.08.2021, Committee has found certain factual mistakes in computation of number of days of violation and the same has been revised as 481 and 188. Amount of compensation has been redetermined as Rs. 67.769 lakhs.

(xxxiv) Boston Pharma (Item No. 40-List 103 of Committee)

637. It is a distillation of solvent plant in red category, SSI scale. Sanctioned quantity of effluent discharge is 0.2 CMD. Committee, vide report dated 18.06.2020 computed compensation at Rs. 36.730 lakhs on 580 days of violation. In the revised report dated 12.08.2021, days of violation have been found 844 (earlier some mistake of date occurred) and therefore compensation has been redetermined as Rs. 67.849 lakhs.

638. Inspection was made on 10.01.2017 when discharge of polluted effluent having COD 18080 mg/l was found was found directly releasing in CETP. Closure/show cause notice was issued on 14.02.2017 and conditional restart order on 14.07.2017. Nothing has been placed on record to show that the above findings are incorrect hence we find no justification to grant any relief.

(xxxv) Panchamrut Chemicals Pvt. Ltd. (Item No. 41-List 103 of Committee)

639. It is a chemical industry, red category, SSI unit with sanctioned effluent quantity of discharge as 20 CMD. Based on two inspection reports, Committee, vide report dated 18.06.2020, computed compensation at Rs. 42.809 lakhs for 676 days of violation. However, in the revised report 12.08.2021, compensation has been enhanced to Rs. 68.814 Lakhs, based on 30 and 413 days of violation, total 443 and also due to revised distribution recovery cost factory.

640. In the inspection dated 30.11.2016, following violation were found:

(i) ETP was not is operation.

(ii) Untreated effluent discharge in MIDC drain (COD 23600mg/l) and pH 1.2.

641. Closure/show cause notice was issued on 18.12.2016 and conditional restart order on 17.03.2017.

642. Another inspection was made on 26.07.2018 and based on the violations found, closure/show cause notice dated 08.08.2018 was issued giving details of violations as under:

1. You have not provided segregation and treatment facility for high COD stream the sample analysis reports of the samples collected from ETP inlet for COD-37600 mg/l and Ss 549 mg/l.
2. The trade effluent was by passing along the periphery leading to nearby nalla.
3. Oil spillages/seepage observed in the premises, due to rain chances of flowing the same to near by nalla cannot be ruled out.
4. You have provided ETP comprising of primary, aeration tank and final collection tank which was filled with seems to be full of fresh water.

5. You have provided scrubber but the same was not in operation.

643. From the reply submitted by Proponent, we do not find any falsity or irregularity in the findings of inspection team. So far as dispute with regard to days of violation in concerned, the grounds are same which we have already discussed and rejected. Hence in our view Proponent is not entitled for any relief.

(xxxvi) Diakaffil Chemicals India Ltd. (Item No. 42-List 103 of Committee)

644. It is a synthetic Organic Chemicals industry, in red category, SSI scale with sanctioned quantity of discharge of effluent as 10 CMD. Committee vide report dated 18.06.2020 assessed compensation at Rs. 18.998 lakhs.

645. Inspection was made on 12.09.2013 and based on the observation/violations found, closure/show cause notice dated 15.10.2013 was issued mentioning violations as under:

*"**Major Non-Compliances**:*

1. *Carried out excess production from 20MT/M to 146 MT/M also taking crude and dilution products without obtaining permission for Board which is causing extra pollution load on CETP.*
2. *Effluent generation from the process is more than consented quantity which shows excess load discharged in CETP thereby hampering …. of CETP.*
3. *Since your capital investment might have increased in view of excess production you have to provide high COD separation followed by……*
4. *Dust collector not in operation O & M of APC's is poor as process fumes noticed in premises.*
5. *Cola consumption is excess than consented quantity thereby leading to excess emission load to environment at inadequate height.*

   Minor non compliances:
6. *ETP sludge not disposed in last one year indicates non operation of effluent treatment system regularly.*
7. *Flow meter is not provided thereby making it difficult to verify the quantity of effluent discharged to CETP.*

646. Restart order was issued on 01.11.2013. Nothing has been placed by Proponent before us to show that the findings recorded by inspection team are incorrect.

647. The dispute with regard to number of days of violation, we find, is raised on the same grounds as we have already discussed and rejected.

648. We may also notice that in the revised report dated 12.08.2021, Committee has reexamined the matter in the light of the submissions advanced by the proponent in oral hearing dated 02.12.2019 before Committee and the days of violation are redetermined as 300. Amount of compensation is recomputed as Rs. 48.234 lakhs.

(xxxvii) M/s DRV Organics (Item 43-List 103 of Committee)

649. It is a drugs intermediate manufacturing, red category, SSI scale industry. The approved discharge quantity of effluent is 1.3 CMD. Vide report dated 18.06.2020, Committee assessed compensation of Rs.85.239 lakhs based on two inspections showing days of violation as 516+417=933 days.

650. Unit of Proponent was inspected on 30.11.2016 when Proponent was found discharging sub-standard effluent, COD 6000 and 12460 mg/l. Closure/show cause notice dated 03.12.2016 was issued whereupon proponent submitted an appeal dated 09.12.2016 to Member Secretary, MPCB wherein results of analysis of sample were not disputed. However, Proponent said "*the high COD mentioned in the directions may be due to interference by dissolve solids*". Restart order was given on 04.03.2017.

651. Another inspection was made on 26.07.2018. Again it was found that Proponent's unit was discharging sub standard effluent with COD

11760 mg/l. Closure/show cause notice dated 08.08.2018 was issued which was replied by Proponent by letter dated 12.08.2018 wherein results were not disputed. It only said that results are totally unexpected. Proponent, thereafter said that it would proceed to make some modifications in the management of effluents. Restart order was issued on 11.08.2018.

652. Thus, violation of environmental laws as also discharge of effluent beyond prescribed limits is evident and undisputed.

653. Further manner of computation of days of default/violation is challenged stating that the assessment of compensation should have been for 24 and 52 days =76 days but the reasons for such suggestion are same which we have already discussed and rejected, hence entire objection of Proponent is rejected.

654. We may also notice that noticing some factual errors in dates, Committee, vide revised report dated 12.08.2021 has taken days of violation as 516 and 169=685 days and assessment has been revised and reduced to Rs. 68.653 lakhs.

(xxxviii) Dufon Laboratories Private Limited (Item 44-list 103 of Committee)

655. It is a drugs intermediate manufacturing, red category, SSI Scale unit. Compensation was determined by Committee vide report dated 18.06.2020 as Rs.177.253 lakhs based on two inspections and computing days of violation as 1165+817=1982 days. However, the said compensation has been revised vide report dated 12.08.2021 to Rs.39.391 lakhs taking days of violation as 352 and 69 respectively. Unit of Proponent was inspected on 06.09.2013 when number of violations were noted and, on the basis thereof, closure/show cause notice dated

15.10.2013 was issued. Restart order was issued on 30.10.2013. In the meantime, Proponent submitted letter dated 22.10.2013, stating that it proposes to take certain steps, for reducing pollution in the effluent. We do not find any denial to the factum of violations noted by inspection team on 06.09.2013.

656. Again, samples were collected on 09.01.2017 and 10.01.2017 and level of COD was found 17600 mg/l and 2512 mg/l respectively which highly exceeded to the prescribed limits. Nothing has been placed on record to show that Proponent ever disputed aforesaid sample report.

657. Further objection is in respect of number of days of violation on the same grounds we have already considered and for the same reasons reject hereat also. The mere fact that on certain dates, Proponent was found to have not violated prescribed limits, does not nullify the factum that on other occasions, effluent discharge by Proponent was found highly polluted. Objections are rejected.

(xxxix) M/s D.H. Organics (Item 45 - list 103 of Committee)

658. Industry is manufacturing bulk drugs, red category and SSI scale. The sanctioned quantity of effluent which it can discharge is 1.8 CMD. Committee, vide report dated 18.06.2020 made assessment of Rs.42.429 lakhs taking days of violation as 670. However, vide revised report dated 12.08.2021 compensation has been reduced to Rs.2.331 lakhs and days of violation are reduced to 29, on account of some factual mistake in the dates.

659. Inspection of the unit was made on 24.11.2016 and it was found that the unit was discharging sub standard quality of effluent with pH 8.5 and COD 9760 mg/l. Closure/show cause notice dated 06.12.2016 was

issued and restart order was issued on 17.03.2017. Nothing has been placed on record to show that the above findings are incorrect.

660. The proponent however, claims that the days of violation should have been 19 and not 670. The grounds taken are same as we already discussed and rejected, hence the entire objections are rejected hereat also.

(xl) Gangwal Chemicals Private Limited (Item 46-list 103 of Committee)

661. This is a chemical manufacturing, red category, SSI scale unit. Report dated 18.06.2020 assessed compensation as Rs.7.093 lakhs for 112 days of violation.

662. Inspection was made on 30.11.2016 and unit was found discharging polluted effluent with COD 12960mg/l. This report has been filed by Proponent itself and is on record. Closure/show cause notice was issued on 03.12.2016 and restart order on 04.03.2017. Proponent had not placed anything on record to show that violations found in the above inspection was not correct.

663. Further objection is with regard to number of days of violation and as per proponent it should have been 17 days. The grounds taken by Proponent, however, are same which we have already discussed and rejected and the same followed here at also.

664. Further we may notice that vide revised report dated 12.08.2021, Committee has revised assessment to Rs.9.084 lakhs, taking days of violation as 113 instead of 112 and also revising distribution recovery cost factor.

(xli) Haren Textiles Private Limited (Item 47 –list 103 of Committee)

665. It is a textile, red category and SSI Scale industry. Permitted quantity of effluent it can discharge is 80 CMD. Committee made assessment of compensation of Rs. 50.409 lakhs vide report dated 18.06.2020. Compensation was determined computing 796 days of violations. However, it has been revised and amount of compensation has been reduced to Rs. 15.515 lakhs vide report dated 12.08.2021 and number of days has been reduced to 193 on account of certain error of the dates.

666. Inspection was made on 21.06.2018 when following violations were noted:

"1. You have not sought prior consent for establishing ETP on plot other than mentioned in consent i.e. Plot No.J-169, MIDC Tarapur.
2. You have been granted consent for 50% recycling of treated effluent; however, you have not provided adequate effluent treatment facility for the same.
3. You are exceeding water consumption than the consented quantity i.e., 3952 m^3 to 5092 m^3. 5102 m^3, 4524 m^3, 5170 m^3, 5265 m^3, 6501 m^3& 5049 m^3 for the period Jan to July-2018 which is violation of Board's Direction dtd 07/10/2016 regarding curtailing in water consumption by 40%.
4. You have not provided on-line system along with SCADA system.
5. You are not maintained the record of hazardous waste generated & its disposal.
6. You are exceeded Fuel consumption from consent 6 MT/day to 7 MT/day."

667. Closure/show cause notice dated 17.07.2018 was issued. Reply was submitted by Proponent on 21.07.2018 which shows that at the premises where construction was going on, no consent for establishment was obtained. In respect of other violations also, we find only explanation and no denial. Conditional restart order was issued on 31.07.2018. Since violations have not been shown incorrect, hence, we do not find anything wrong in the findings of Committee.

668. Further objection is with regard to manner of computation of number of days of violations. Proponent claims that the same should have been 16. The grounds taken are same as we have already discussed above and rejected, hence objections of Proponent are rejected in entirety.

(xlii) M/s INDO Amines Ltd. (Item no.48-List 103 of Committee)

669. Proponent is manufacturing fatty amines. The unit is red category and SSI scale. Sanctioned quantity of effluent 5.6 CMD. Vide report dated 18.06.2020, Committee assessed compensation of Rs.58.198 lakhs, based on two inspections, taking days of violation as 743.

670. Inspection was made on 12.01.2017. Proponent was found discharging sub standard effluent having pH 9.8 and COD 13280 mg/l which exceeded much to the prescribed limits. Closure/show cause notice was issued on 14.02.2017 and restart order issued on 31.05.2017.

671. Another inspection was made on 21.01.2019 when again COD in the effluent discharged by Proponent was found 1272 mg/l. Closure/show cause notice was issued on 12.03.2019 and restart order on 04.04.2019. The violations noted by the team during inspection have not been shown incorrect.

672. Proponent has filed some other reports showing that various components therein were within prescribed parameters but that will not nullify the factum in the abovementioned inspections when Proponent was found violating environmental norms.

673. Further objection is with regard to manner of computation of number of days. As per Proponent it should have been 36. The grounds taken are same as we have already discussed and rejected. The objections are rejected.

674. We also notice that vide revised report dated 12.08.2021, Committee has made reassessment of compensation as Rs.59.810 lakhs which is mainly due to addition of one day of violation and change in distribution recovery cost factor.

(xliii) M/s. Moltus Research Laboratories (Item No. 51-List 103 of Committee)

675. It is a chemical industry in red category and SSI scale. Quantity of effluent permitted to be discharged is 0.1 CMD. In report dated 18.06.2020, Committee assessed compensation of Rs.0.887 lakhs for 14 days of violation.

676. Inspection was made on 19.07.2017. It was found that hazardous waste was dumped illegally. Closure/show cause notice was issued on 28.07.2017 and conditional restart order 06.12.2017. We find nothing on record to show that the above findings in the report are incorrect, hence, find no reason to interfere.

677. Further objection with regard to number of days of violation is also rejected since the grounds on which the same is assailed, are same which have already been considered and rejected above.

678. In the revised report dated 12.08.2021, Committee has revised assessment to Rs.1.125 lakhs. Increase is mainly due to change in distribution recovery cost factor.

(xliv) M/s. KP Chemicals (Item 52-List 103 of Committee)

679. It is a chemical industry in red category, SSI Scale and 11 CMD of effluent it can discharge as per consent orders. Committee vide report dated 18.06.2020 computed compensation of Rs. 59.338 lacs for 937 days of violations. Amount of compensation is, however, substantially

reduced as per Committee report dated 12.08.2021 to Rs. 1.527 lakhs since days of violation are also reduced to 19 noticing some error in the days.

680. The inspection was made on 24.11.2016 when Proponent was found discharging sub standard effluent with COD 8560 mg/l. Closure/show cause notice was issued on 03.12.2016 and conditional restart order was issued on 17.03.2017. There is nothing on record to show that violation shown is incorrect. In the appeal dated 09.12.2016, Proponent has referred to other reports but that will not justify report as noted above. We, therefore find no reason to grant any relief.

681. Further manner of computation of number of days has been challenged but on the same ground which we have already discussed and rejected, hence the same are rejected for the same reasons here also.

(xlv) JPN Pharma (Item 53 List 103 of Committee)

682. It is a bulk drug manufacturing industry in red category and SSI scale. Discharge of effluent permitted by the consent order is 3 CMD. In the report dated 18.06.2020, Committee assessed compensation of Rs. 32.234 lakhs taking days of violation as 509. However, finding a mistake in the dates, it has been revised vide report dated 12.08.2021 and number of days have reduced to 12 and compensation to Rs.0.96 lakhs.

683. Inspection was made on 29.11.2016, when Proponent was found discharging sub standard effluent with COD 7280 mg/l. Closure/show cause notice was issued on 03.12.2016 and conditional restart order is dated 17.03.2017. Nothing has been placed on record to show that the above violations found are not correct, hence no interference is called for.

684. Further objection is with regard to number of days raising the same grounds as we have same discussed above hence the same is rejected here at also.

(xlvi) Keshav Organics Pvt. Ltd. (Item 55-List 103 of Committee)

685. It is chemical industry in red category and SSI scale. Approved effluent discharge quantity is 4.5 CMD. Committee, vide report dated 18.06.2020 made assessment of compensation at Rs. 5.193 lakhs taking days of violation as 82. Compensation has been revised and reduced to Rs.2.331 lakhs taking 29 days of violation vide revised report dated 12.08.2021.

686. Inspection was made on 25.11.2016 and Proponent was found discharging sub standard effluent with COD 5720 mg/l. Closure/show cause notice was issued on 03.12.2016 and conditional restart order is dated 20.02.2017. Against closure notice, Proponent submitted appeal dated 09.12.2016 and perusal thereof shows that the blame has been levelled on manner of taking sample ignoring the fact that sample was collected in the presence of Proponent's representative and it did not notice any flaw in the inspection report. Further we find from record that proponent itself has placed on record renewal of consent to operate order dated 02.11.2015 precribing standard of COD 250 mg/l. However, there are certain analysis reports placed on record to show that higher level of COD was found even on 07.03.2017 showing COD as 472mg/l and 392 mg/l based on the different points where samples were taken. So far as the dispute with regard to the number of days, the grounds are same as we have already discussed and rejected, hence proponent's entire objection is rejected.

(xlvii) Nayakem Organics Pvt. Ltd. (Item 56-List 103 of Committee)

687. In the Committee report, it is shown as chemical industry while in the objections Proponent has shown itself as plasticizers in red category and SSI scale unit with approved quantity of effluent as 1 CMD. Both come in red category. Compensation of Rs.9.689 lakhs assessed by Committee vide report dated 18.06.2020 which has been revised to Rs. 12.541 lakhs vide revised report dated 12.08.2021. No substantial objection has been raised by this Proponent.

(xlviii) Nirbhay Rasayan Pvt. Ltd. (Item 57- List 103 of Committee)

688. It is a dye industry (pigment) in red category and SSI scale. Approved quantity of effluent which it can discharge is 93 CMD. Compensation of Rs.78.019 lakhs was assessed vide report dated 18.06.2020 which has been reduced and revised to Rs.53.861 lakhs vide revised report dated 12.08.2021.

689. Proponent unit was inspected on 05.09.2013 when following violations were found:

(i) Discharge of sub-standard quality effluent

(ii) Additional product manufacturing without consent

(i) 50 MT excess production.

690. Another inspection was made on 30.11.2016, when again sub-standard effluent with COD 1248 mg/l was found being discharged.

691. Nothing has been placed on record to show that the above findings are incorrect.

692. Compensation was determined taking days of violation as 1170 and 31 respectively but the same is revised to 295 and 20 respectively vide

report dated 12.08.2021. In the absence of any material to show any discrepancy in the above reports, we find no reason to interfere.

693. With respect to days of violation, Proponent claims that the same should have been 58 but the grounds taken are same as we have already discussed above and rejected and the same are rejected here at also.

(xlix) Nutraplus India Pvt. Ltd. (Item 58-List 103 of Committee)

694. It is a chemical industry in red category and SSI Scale. Approved effluent quantity it can discharge is 5 CMD. Compensation of Rs.103.603 lakhs was assessed by Committee vide report dated 18.06.2020 which has been revised to Rs.313.039 lakhs vide revised report dated 12.08.2021.

695. Inspection was made on 26.11.2016. Proponent was found discharging sub standard effluent with CMD 8560 mg/l. Closure/show cause notice dated 03.12.2016 was issued and conditional restart order is dated 17.07.2017.

696. Another inspection dated 25.07.2018 again show various violations that is:

(i) High COD stream not segregated

(ii) Online monitoring system for pH flow, COD TSS and positive discharge not provided

(iii) Separate storm water drain not provided

(iv) Hazardous waste storage not proper

(v) Fail to curtail 40% water consumption.

697. Closure/show cause notice issued on 08.08.2018 and conditional restart order is dated 09.11.2018.

698. A third inspection was made on 24.12.2018 on account of accident due to improper operation of reactor meta bromo nitro benzene kept aside spilled on floor. Closure/show cause notice was issued on 27.12.2018. No restart order was issued but on 26.09.2019, unit was found operating illegally.

699. Proponent has not placed anything on record to show any discrepancy in the above findings. The issue raised with regard to number of days, we find based on the same grounds as we have already discussed and rejected hence the entire objections are rejected.

(l) Sequent Scientific Ltd. (Item No.59- List 103 of Committee)

700. It is a bulk drugs industry in red category and SSI scale. Quantity of effluent discharge approved is 37.8 CMD. Vide report dated 18.06.2020, Committee assessed compensation of Rs.43.253 lakhs which has been revised to Rs.27.091lakhs vide revised report dated 12.08.2021.

701. Inspection was made on 22.04.2017 when it was found that Proponent has made bye-pass arrangements and discharging sub standard effluent with COD 268 mg/l. Closure/show cause notice was issued on 25.04.2017.

702. Again on 28.04.2017, an inspection was made. Besides other, inspecting body found as under:

> *"Industry has blocked the another discharge point by concrete from inside and outside of factory premise, photographs enclosed. It was collected from that point on 22.04.2017."*

703. Restart order was issued on 04.01.2018. The bye-pass arrangement made by Proponent were in flagrant violation of conditions of consent. Nothing has been placed on record to show above findins incorrect therefore, we do not find any ground for relief to Proponent.

704. Proponent has further raised objection on the manner of computation of days of violation but the grounds are same as we have already considered and rejected and same are followed here also.

(li) Pulcra Chemicals India Ltd. (Item No. 60-List 103 of Committee)

705. It is a chemical industry in red category and SSI scale, effluent quantity approved is 15 CMD. Compensation was determined vide report dated 18.06.2020 as Rs.58.831 lacs but revised to Rs.15.756 lacs vide report dated 12.08.2021. Report also shows that the unit was earlier SSI scale industry but subsequently, came into the scale of MSI. It is a ZLD unit and sanctioned discharge quantity is 15 ZLD.

706. Inspection was made on 12.01.2017 when unit was found discharging sub standard effluent, outlet COD as 32400 mg/l. Closure/show cause notice dated 14.02.2017 was issued and conditional restart order is dated18.04.2017. In the reply dated 20.02.2017 Proponent has said that its ETP was under maintenance since 10.01.2017. This clearly shows that on 12.01.2017, what was found by inspection official team was not incorrect. Further objection that sample was not properly taken, is not worth acceptance inasmuch as sample was taken in presence of the representatives of Proponent but no such objection has been mentioned in the inspection report.

707. The objection has been raised with respect to number of days of violation on similar grounds which we have already considered and rejected.

708. We may notice that Committee, in the revised report has found certain errors in the dates and therefore, days of violation have reduced to 98 as a result whereof compensation has reduced to Rs. 15.756 lakhs.

(lii) Pantagon Drugs Pvt. Ltd. (Item No.61-List 103 of Committee)

709. It is a bulk drug manufacturing unit in red category and SSI scale. Compensation of Rs.25.584 lakhs was computed vide report dated 18.06.2020, which has been revised to Rs. 32.478 lakhs vide report dated 12.08.2021.

710. Inspection was made on 30.07.2018 and the sample shows level of COD as 59200 mg/l and suspended solids as 49. Report dated 30.07.2018 had signature of Mr. Jayesh Sanghi who has filed these objections showing his designation as Managing Director. Closure/show cause notice was issued on 08.08.2018 noticing following violations:

"1. You have not provided segregation & treatment facility for high COD stream, the sample analysis reports of the samples collected from ETP inlet for pH-22, COD-59200 mg/l.
2. You have provided collection neutralization, aeration, sand & carbon filters for treatment of effluent generated from your process which is not adequate for treatment of high COD stream."

711. Conditional restart order is dated 01.09.2018. Proponent has not placed anything on record to show any error in the inspection mentioned above.

712. Further objection is with regard to number of days of violation which according to Proponent, should have been 12 but the grounds taken are the same as we have already discussed and rejected hence the objections are rejected.

(liii) **M/s. Ramdev Chemicals Pvt. Ltd. (Now IPCA Laboratories (Item 63-List 103 of Committee)**

713. It is a bulk drugs manufacturing, red category, MSI scale unit. The revised report dated 12.08.2021 shows that industry is now LSI. Approved quantity of effluent it can discharge is 65.6 CMD. Compensation of Rs.285.226 lakhs was determined vide report dated

18.06.2020 based on two inspections dated 12.04.2012 and 12.04.2017. However, compensation has been revised and reduced to Rs.26.529 lakhs vide revised report dated 12.08.2021.

714. Inspection was made on 12.04.2012. Proponent was found discharging highly polluted effluent in CETP. Closure/show cause notice dated 16.05.2012 was issued mentioning violations as under:

> *"AND WHEREAS, Sub-regional Officer (S.R.O.), Tarapur-1, has communicated analysis results of treated effluent collected from the final outlet of your ETP on 14/04/2012. On scrutiny of the same, it is noted that the* ***analysis results are exceeding the prescribed standards by more than 100****% which clearly shows that you are not operating your ETP properly and are discharging sub-standard effluent to the CETP, thereby disturbing its performance."*

715. Proponent's letter dated 31.05.2012 did not dispute findings of violations during inspection. Conditional restart order was issued on 30.01.2013.

716. Another inspection was made on 22.04.2017 when Proponent was found discharging sub standard effluent with COD 508 mg/l and suspended solids 313 mg/l. Closure/show cause notice was issued on 25.04.2017 mentioning violations as under

> *"AND WHEREAS, JVS from outlet of tertiary treatment was collected and after analysis of the same the parameter COD-508 mg/l & Suspended Solids-313 mg/l are exceeding the consented limit."*

717. Proponent sent letter dated 26.04.2017 as an appeal to Regional Officer, MPCB but we do not find any fault was shown in the inspection report. Conditional restart order was issued on 09.05.2017.

718. We, therefore, find no reason to interfere in view of above facts. Further dispute is raised in respect of number of days of violation but the grounds taken are same, we have already considered and rejected. Compensation of Rs.285.226 lakhs determined vide report dated

18.06.2020 has been revised and reduced to Rs. 26.529 lakhs vide revised report dated 12.08.2021.

(liv) Tryst Chemicals Pvt. Ltd. (Item No. 64-List 103 of Committee)

719. It is a bulk drug manufacturing, red category, SSI scale unit. Compensation of Rs.27.294 lakhs was assessed vide report dated 18.06.2020 which has been reduced to Rs. 14.872 lakhs vide report dated 12.08.2021. In the revised report, days of violation are reduced from 431 to 185 finding certain factual error in the dates.

720. Proponent unit was inspected on 24.11.2016 when it was found discharging highly polluted effluent with COD 488000 mg/l and pH 11.8. Closure/show cause notice dated 03.12.2016 was issued noticing violations as under:

> *"AND WHEREAS, Board officials visited your industry on 24/11/2016 to the compliance of consent conditions & collection of Joint Vigilance sample from ETP Outlet, Sub Regional Officer, Tarapur-I communicated analysis reports of waste water collected from ETP outlet /V-notch / bypass line /treated effluent sumps of your industry. The* ***analaysis reports shows values of pH-11.8, & COD-488000 mg/l*** *which is exceeding to the inlet designed parameters of CETP thereby up-setting CETP performance. It is found from vigilance sampling drawn during odd hours that you are discharging highly polluting stream / chemical load to the CCETP and degree of exceedance of COD compared to consented norms is 195100%. The above fact clearly indicates that you have adopted these practices of discharge of high COD stream and your tendency towards not to abide environmental norms. The high polluting / COD streams hampers functioning of CETP operations thereby discharging substandard quality effluent in Navapur sea and creating adverse impact on nearby environment. After perusing the results, degree of exceedance and tendency of discharging highly polluting effluent stream thereby violating consented norms and causing severe damage to the environment which needs to be stopped immediately to protect such damage of environment."*

721. Proponent submitted appeal dated 09.12.2016 but therein did not give any material to show anything wrong in the above inspection except of disputing the point of sample collections which can not be accepted

since inspection was made in presence of Proponent's representative. Conditional restart order was issued on 17.03.2017. Objection is rejected.

(lv) M/s Omtech Chemicals (Item No. 65-List 103 of Committee)

722. It is a chemical, red category and SSI scale industry. Approved quantity of effluent it can discharge is 30 CMD. Vide report dated 18.06.2020, compensation of Rs.16.782 lakhs was determined which has been reduced vide revised report dated 12.08.2021 to Rs.6.592 lakhs.

723. Inspection was made on 14.09.2013 when it was found that ETP was not in operation, product not consented was being manufactured, scrubber was not in operation and flow meter was not provided. All these violations have been admitted by Proponent in its letter dated 21.10.2013, filed pursuant to closure/show cause notice dated 15.10.2013. Conditional restart order is dated 01.11.2013. In view of proven violations, we do not find that this Proponent is entitled for any relief. The dispute with regard to number of days of violation which according to proponent should have been only 35, is founded on similar grounds which we have already considered and rejected and the same is rejected here also.

(lvi) M/s Shreenath Chemicals (Item No. 66- List 103 of Committee)

724. It is a chemical, red category and SSI scale industry. Approved quantity of effluent it can discharge is 1.5 CMD. Inspection was made on 27.11.2016 when Proponent was found discharging sub standard effluent with COD 4000 mg/l. Closure/show cause notice was issued on 03.12.2016 and conditional restart order is dated 17.03.2017. Nothing has been placed on record to discard the above reports, we find no reason to grant any relief. The dispute with regard to number of days of violation is founded on the same grounds which we have already rejected. The

compensation determined vide report dated 18.06.2020 was Rs.5.066 lakhs but the same has been revised to Rs.1.125 lakhs vide revised report dated 12.08.2021.

(lvii) Salvi Chemicals Industries (Item No. 67-List 103 of Committee)

725. It is a chemical industry, red category, LSI scale. Approved quantity of effluent discharge is 55.5 CMD. Based on 4 inspection reports, Committee, vide report dated 18.06.2020 made assessment of Rs. 156.418 lakhs which has been revised and increased to Rs. 311.350 lakhs vide revised report dated 12.08.2021.

726. Inspection was made on 20.08.2016 when, besides other, Proponent was found discharging sub-standard effluent with very high COD and suspended solids. In closure/show cause notice dated 04.11.2016, violations mentioned are as under:

> *"AND WHEREAS, Board officials visited your industry on 20/08/2016 to verify compliance of consent conditions and directions issued by the Board. Sub-Regional Officer, Tarapur-1 submitted proposal as per Enforcement Policy of the Board for initiation of action against you vide above referred letter at sr. no. 3 and it has been reported that effluent treatment plant provided by you was not in operation thereby untreated acidic effluent is directly discharged into MIDC drain. Aeration and settling tank observed in idle condition indicating poor O & M of pollution control measures. The JVS analysis reports of sample collected from ETP outlet on dtd. 16/07/2015, 24/08/2015, 15/10/2015, 04/1/2016 & 16/2/2016 are exceeding to the consented norms. The* ***analysis reports of sample collected on 16/2/2016 shows BOD, COD, SS, O & G, TDS to the tune of 1,15,000 mg/l, 4,68,000 mg/l, 656 mg/l, 255 mg/l and 5439 mg/l respectively****. It can be concluded from above that there is need of segregation of High COD/SS stream along with further segregation of high TDS stream also."*

727. Proponent submitted letter dated 09.11.2016 but therein we find no denial of above violations except that Proponent had no experience of such high value effluent. Conditional restart order was issued on 12.01.2017.

728. Another inspection is dated 11.04.2018 when violations including sub standard discharge of effluent with COD 12080 mg/l, BOD 5300 mg/l, SS 668 etc. were found. Closure/show cause notice was issued on 17.07.2018 and restart order is dated 24.05.2018.

729. Similar violations were found in the inspection dated 28.08.2018 and 30.10.2019 but nothing has been placed on record to show any discrepancy in the inspection notes prepared by concerned authorities. We therefore, find no reason to grant relief to this Proponent. So far as dispute with regard to number of days is concerned, the grounds taken have already been considered and rejected and the same are rejected here also.

(lviii) M/s Sapna Detergent and Chemicals Pvt. Ltd. (Item 68-List 103 of Committee)

730. This is a laboratory chemical manufacturing, red category and SSI scale unit. Approved quantity of effluent is 2 CMD. Vide report dated 18.06.2020, compensation of Rs. 59.338 lakhs was determined taking days of violation as 937. However, the said amount is revised and reduced to 40.813 lakhs on 545 days of violation vide revised report dated 12.08.2021.

731. Inspection was made on 24.11.2016 when Proponent was found discharging sub-standard effluent with COD 4480 mg/l and pH 4.4. Another inspection was made on 28.11.2016 when also discharge of sub-standard effluent was found with COD 3160 mg/l and pH 6.8. Closure/ show cause notice dated 03.12.2016 was issued mentioning violations as under:

> *"Board officials visited your industry on 24.11.2016 and 28.11.2016 to verify compliance of consent conditions & collected two Joint vigilance samples from ETP outlet. Sub Regional Officer, Tarapur-I communicated analysis reports of waste water collected from ETP*

outlet/V notch/bypass line/treated effluent sumps of your industry. ***The analysis reports show values of pH-4.4, 6.8 & COD 4480 mg/L, 3160 mg/L respectively which is exceeding to the inlet designed parameters of CETP*** *thereby up-setting CETP performance. It is found from vigilance sampling drawn during odd hours that you are discharging highly polluting stream/chemical load to the CETP and degree of exceedance of COD compared to consented norms is 1692 % and 1164% respectively. The above fact clearly indicates that you have adopted these practices of discharge of high COD stream and your tendency towards not to abide environmental norms. The high polluting/COD streams hampers functioning of CETP operations thereby discharging substandard quality effluent in Navapur sea and creating adverse impact on nearby environment. After perusing the results, degree of exceedance and tendency of discharge of untreated effluent, I am of the opinion that you are willfully/intentionally discharging highly polluting effluent stream thereby violating consented norms and causing severe damage to the environment which needs to be stopped immediately to protect such damage of environment."*

732. Proponent submitted letter dated 12.12.2016 as an appeal to Member Secretary, MPCB but therein we do not find any denial of violations noted in the above inspections. On the contrary, Proponent admitted these violations as is evident from the following:

> "*The* ***high COD mentioned in the directions may be due to interference by dissolved solvents****".*

733. In view of the above admitted position of violation of environmental norms, we find no reason to grant any relief to this Proponent. Conditional re-start order was issued on 17.03.2017. Proponent has further objected assessment of days of violations stating that the same ought to be 59 only but the grounds on which the said objection has been raised, we have already discussed and rejected hereinabove and the same are reiterated here also. The entire objections are therefore rejected.

(lix) M/s Sagitta Pvt. Ltd. (Item 69-List 103 of Committee)

734. It is a chemical manufacturing, red category, SSI scale industry with approved effluent discharge quantity of 3.5 CMD. Computation of assessment of Rs. 59.148 lakhs was made by Committee vide report dated 18.06.2020 but in the revised report dated 12.08.2021,

compensation is reduced to Rs. 1.447 lakhs. The days of violation earlier were 934 which are reduced to 18 in the revised report due to factual mistake in the dates detected.

735. Inspection was made unit premises on 24.11.2016 when Proponent was found discharging pollutED effluent with pH 11.4 and COD 976 mg/l. Closure/show-cause notice dated 03.12.2016 was issued stating violations on part of Proponent as under:

> "*Board officials visited your industry on 24.11.2016 to verify compliance of consent conditions &collection of Joint vigilance samples from ETP outlet. Sub Regional Officer, Tarapur-I communicated analysis reports of waste water collected from ETP outlet/V notch/bypass line/treated effluent sumps of your industry. The* ***analysis reports show values of pH 11.4.4, 6.8 & COD 976 mg/L which is exceeding to the inlet designed parameters of CETP*** *thereby up-setting CETP performance. It is found from vigilance sampling drawn during odd hours that you are discharging highly polluting stream/chemical load to the CETP and degree of exceedance of COD compared to consented norms is 290 %. The above fact clearly indicates that you have adopted this practices of discharge of high COD stream and your tendency towards not to abide environmental norms. The high polluting/COD streams hampers functioning of CETP operations thereby discharging substandard quality effluent in Navapur sea and creating adverse impact on nearby environment. After perusing the results, degree of exceedance and tendency of discharge of untreated effluent, I am of the opinion that you are willfully/intentionally discharging highly polluting effluent stream thereby violating consented norms and causing severe damage to the environment which needs to be stopped immediately to protect such damage of environment."*

736. Proponent submitted letter dated 08.12.2016 to Member Secretary, MPCB wherein violations noted above, as a matter of fact, are not disputed. Relevant extract of reply is reproduced under:

> *"During the visit of your Officer on 24th November 2016 at our unit, sample was drawn and PH was checked and found to be pH 8 by your Officer and the same was showed in our online Electronic PH meter which is within the limit and is also mentioned in your visit report.*
>
> *However as per report received from your Office for the same sample shows pH 11.40 which we cannot prove, since we don't have the counter sample with us. But COD in your report is shown as 976 which is within the limit of SSI."*

737. Conditional re-start order was issued on 17.03.2017. Since violations found in the inspection have not been shown incorrect by placing any material before us, we find no reason to grant any relief. So far as objection with regard to number of days of violation is concerned, the grounds taken are same as we already discussed above and rejected, hence and entire objection of proponent is rejected.

(lx) Shri Vinayak Chemex (I) India Pvt. Ltd. (Item 71-List 103 of Committee)

738. Proponent is API and intermediate manufacturer, red category and SSI scale industry, with approved quantity of effluent discharge as 7.5 CMD. Assessment of compensation of Rs. 59.401 lakh was made vide report dated 18.06.2020 taking days of violations as 938. It has been revised vide report dated 12.08.2021 and taking days of violation days as 245, compensation amount is reduced to Rs. 19.696 lakhs.

739. Inspection was made on 23.11.2016 when Proponent was found discharging highly polluted effluent with COD 68800 mg/l. Closure/show-cause notice dated 03.12.2016 was issued. Proponent has placed on record various sample reports of different periods but nothing on record is available to show, what was found in the inspection dated 23.11.2016 was incorrect. We find no reason to grant any relief. Further objection is regarding number of days of violations which as per Proponent should be 8. However, grounds taken for the said submission are same which we have ready discussed above and rejected, hence following the same here at also, objections under consideration are rejected.

(lxi) M/s Sunil Great (H.Y.K.) Processors Pvt. Ltd. (Item No. 72-List 103 of Committee)

740. It is a chemical industry with red category with SSI scale and approved quantity of effluent it can discharge is 6 CMD. Vide report dated

18.06.2021, compensation of Rs. 77.513 lakhs was determined with reference to two inspections dated 24.11.2016 and 29.07.2018. Later vide report dated 12.08.2021 compensation is revised and increased to Rs. 98.397 lakhs.

741. Inspection was made 24.11.2016 when Proponent was found discharging highly polluted effluent with COD 16160 mg/l. Closure/show cause notice dated 3.12.2016 was issued and conditional restart order was issued on 17.03.2017. Proponent has placed on record his letter dated 13.12.2016 filed as an appeal before Regional Officer MPCB against closure order wherein, like others, objection with regard to collection of sample has been taken. Inspection was made in presence of representative of Proponent and it has not noted any objection with regard to the sample collected by officials making inspection. Hence different stand taken subsequently is nothing but an afterthought and cannot be believed. Moreover, some kind of explanation is also there in the letter dated 13.12.2016 which shows admission of violations. It says:

> *"There was some spillage in the drain. We have already taken corrective action and filled up the ditches and cleaned the storm water drain. We will take care that this will not happen in future."*

742. It shows that violations found by inspection team, as a matter of fact, were correct and hence we do not find any reason to grant any relief to this Proponent.

743. Another inspection was made on 29.07.2018 and noticing violation found therein, closure/show cause notice dated 08.08.2018 was issued giving details of violations as under:

(i) You have not provided segregation & treatment facility for high COD stream the sample analysis reports of the samples collected from ETP outlet for COD-88800 mg/L and SS 1821

mg/L & phenol-11.6 mg/L which are exceeding the consented limit.

(ii) You have increased water consumption from 11 CMD to 16.5 CMD in the month of April 2018 and 13.5 CMD in the month of May-2018, thus violating the NGT order for curtailing of 40% water consumption & effluent generation.

(iii) You have altered the fuel consumption from coal to wood without prior permission from M.P.C.B.

(iv) You have stored about 25.30 MT of ETP sludge unscientifically in factory premises.

744. Proponent has placed on record letter dated 07.08.2018 sent just one day before closure/show cause notice but pursuant to inspection dated 29.07.2018 wherein it has clearly said that it is going to take action and appropriate steps so as to avoid any mistake in future. This shows that the violations found were in fact correct and in our view no relief would be justified. So far as objection with regard to days of violation is concerned the ground are same which we have already considered above and rejected and the same is followed here also.

(lxii) M/s Vardhaman Dyestuff Industries Pvt. Ltd. (Item 73-List 103 of Committee)

745. It is a dyeing manufacturing, red category, SSI scale unit. Approved quantity of effluent which it can discharge is 52 CMD. Compensation of Rs. 6.396 lakhs was assessed vide report dated 18.06.2020 which has been revised vide report dated 12.08.2021 as Rs. 8.441 lakhs.

746. Inspection was made on 08.05.2012 when it was found that Proponent was discharging sub standard effluent with high COD level. In fact record shows that consistently, on various dates, level of COD was found much beyond the permissible limit as under:

Date of sample collection	COD level	PH	TDS
10.12.2013	336 Mg/L		
02.12.2014	540 Mg/L		
30.05.2015	392 Mg/L		
05.12.2016	1260 Mg/L		
28.01.2014		pH-5	
31.11.2016	364 Mg/L		
14.11.2019			3322 g/L

747. Record shows that virtually Proponent admitted high COD value in the effluent found from time to time. Thus there is nothing to take a different view in the matter. Further objection with regard to days of violation is founded on the grounds we have already considered and rejected. The same is reiterated here also.

(lxiii) M/s Usha Fashion Pvt. Ltd (Item 74-List 103 of Committee)

748. It is a textile industry, red category, SSI scale. Approved quantity of effluent it can discharge is 305 CMD. Compensation of Rs. 125.895 lakhs was determined vide report dated 18.6.2020 but later on vide revised report dated 12.08.2021 compensation has been revised and reduced to Rs. 23.635 lakhs. Computation of days of violation is based on two inspections taking 170 and 909 i.e.,1079 days of violation but the same after noticing some mistakes in the dates, have been reduced to 172 and 61 respectively i.e., 233 days.

749. Inspection was made on 05.09.2013 and several violations were noted. Closure/show cause notice dated 15.10.2013 was issued mentioning violations as under:

> *"Major Non-Compliances:*
> *1. You are not properly operating Effluent Treatment Plant to treat industrial effluent and discharging substandard effluent into CETP thereby hampering its performance.*
> *2. You are using Pet Coke as fuel instead of Coal thereby violated condition No. 7 –(i) of the Consent to Operate.*
> *3. You have not provided adequate air pollution control system i.e., Wet Scrubber to Thermopack thereby violated condition No. 7 (ii) of the Consent to Operate.*

Minor Non Compliances:
4. Flow meter is not provided thereby making it difficult to verify the quantity of effluent discharged to CETP.
5. You have not provided temporary storage facility for storage of hazardous waste and same is being stored on open ground which may lead to soil & surface water contamination."

750. Proponent submitted reply dated 28.10.2013 but violations found in the inspection were not disputed as is evident from the following:

1. During the visit of team of officers of the Sub-Committee constituted by the Board and inspection and sampling of our unit at that time the mechanical stinger at Neutralization tank was under maintenance. Hence, dosing chemicals which were added in it for neutralization purpose was not mixed properly and **lead to show the parameters towards higher side.**

   Whereas, the problem has been rectified soon after & **now the E.T.P. is running smoothly and efficiently to achieve desired limits**. We have provided full-fledged physics-chemical treatment to our plant comprising Neutralization, Primary settling & Tertiary treatment with filtration (Pressure sand & Activated carbon)

   We are also going for upgradation of existing treatment plant within a period of 3 months.

2. Now we are using coal as fuel instead of Pet coke.
3. We have placed the orders for Wet scrubber from thermoplastic end it will get commissioned within a period of 2 months (purchase order annexed)
4. We have provided temporary storage facility for storage of hazardous chemicals.
5. Also, we are self concerned about environment and assure you to take utmost care in future.

751. Conditional restart order was issued on 07.11.2013. Another inspection was conducted on 10.01.2017 when it was found that level of parameters of BOD and COD exceeded the permissible limit. Smples were also collected on subsequent dates which also shows similar violations as under:

Date of sample collection	*level of COD*
13.01.2017	*1552 mg/L*
14.01.2017	*1240 mg/L*
15.01.2017	*560 mg/L*

752. Proponent has not placed anything on record to show the above findings of violations incorrect so as to warrant any interference. The objection has been raised further with regard to days of violation on which the compensation has been determined and according to proponent the same should have been 43+38 i.e., 81 days. However, the grounds taken are same as we have already considered and rejected and the same are reiterated here at also.

(lxiv) M/s Visen Industries Ltd. (Item 75-List 103 of Committee)

753. It is chemical manufacturing industry, red category and SSI scale. Approved quantity of effluent it can discharge is 7 CMD. Compensation of Rs. 13.299 lakhs was determined vide report dated 18.06.2020 but the same is revised to Rs. 17.043 lakhs vide revised report dated 12.05.2021. Earlier days of violations were taken as 210 but after noticing factual mistakes, revised to 212.

754. Inspection was made on 21.01.2019 when Proponent was found discharging highly polluted effluent with pH 9.4, BOD 11000 mg/l and COD 36000 mg/l and O&G 257.6 mg/l. Based on the above violations closure/show cause notice dated 12.03.2019 was issued. Proponent's letter dated 22.03.2019 in fact shows that above violations were not disputed. It says, *"Board official has issued instructions for discharge of*

domestic effluent in MIDC sewage system which is connected to CETP. We were not aware of this but after getting instruction from Board we immediately provided smoke pit and now we are reusing maximum extent of domestic effluent into gardening. We already have submitted a letter to MPCB on 20th February, 2019.

Board official has collected JVS from outside of our unit which after ***analysis shows high COD, BOD and O&G which is neither matching with our untreated nor with treated****. We have full fledged ETP, having primary, secondary and tertiary system and it is working properly. As we said we are chemical manufacturer for textile unit and effluent coming after process having COD around 3000-4000. We do primary treatment first and getting 40-45% reduction in COD there. We also have 3 stages Biological tank and getting good reduction in COD and HO around 90-95% followed by tertiary system comprising PSF and ACF. After all processing COD and BOD is come down to 250 and 100 mg/L which is under MPCB prescribed norms".*

755. Consequently, we find no reason to interfere and grant any relief. Conditional restart order was issued on 22.04.2019. Proponent has also disputed days of violation and according to it the same should have been 57 only but the grounds taken are same which we have already considered and rejected. Hence the same are reiterated here also.

(lxv) M/s U.K. Aromatics & Chemicals (Item 76-List 103 of Committee)

756. It is an aromatics chemicals manufacturing unit, red category and SSI scale. Approved quantity of effluent it can discharge is 6 CMD. Compensation of Rs. 13.552 lakhs was determined vide report dated 18.06.2020 but the same has been renewed and revised vide report dated

12.08.2021 as Rs. 16.802 lakhs. Compensation has been assessed taking into account two inspection reports dated 01.12.2016 and 21.01.2019.

757. In inspection dated 01.12.2016 Proponent was found discharging sub standard effluent with BOD 10320mg/l and pH 4.8. Consequently closure/show cause notice dated 23.02.2017 was issued and conditional restart order was issued on 08.08.2017.

758. In the inspection dated 21.01.2019, again Proponent was found discharging sub standard effluent with BOD 72000 mg/l and COD 224000 mg/l. Proponent has not placed any material on record to show the above findings incorrect or having any discrepancy justifying any interference. Committee computed days of violation as 98 and 58 i.e., 156 days for assessment vide report dated 18.06.2020 but the same has been revised to 89 and 16 vide report dated 12.08.2021. The objection with regard to days of violation are on the same grounds which we have already considered and rejected and the same is followed here at also.

(lxvi) M/s Ujwal Pharma Pvt. Ltd. (Item 77-List 103 of Committee)

759. It is a chemical industry in red category in SSI scale with approved discharge quantity of 4 CMD. Referring to inspection report dated 28.12.2016, assessment of compensation of Rs. 83.27 lakhs was made vide report dated 18.06.2020 but the same has been revised vide report dated 12.08.2021 as Rs. 106.155 lakhs. In two inspections Proponent was found guilty of violation of environmental norms.

760. Inspection dated 28.11.2016 was made when Proponent was found discharging sub standard effluent with COD 11360 mg/l. Closure/Show cause notice was issued on 03.12.2016 and conditional restart order was issued 04.03.2017. Another inspection was made on 30.07.2018 when

again sub-standard discharge of effluent was found with pH 11.6 and COD 296000 mg/l. Closure/show cause notice was issued on 08.08.2018 and conditional restart order on 06.09.2018. Proponent has disputed the manner in which samples were collected but it is not in dispute that samples were collected in the presence of representative of Proponent and no objection with regard to any irregularity in collection of samples was pointed out in the inspection/visit report. The objection therefore is an after thought and cannot be believed. The objection with regard to days of violation are the same which we have already considered and rejected and the same is followed here at also.

(lxvii) M/s Vivid Global Industries Limited (Item 78-List 103 of Committee)

761. It is a chemical manufacturing industry, red category, SSI scale. Approved quantity of effluent discharge is 40 CMD. Assessment of Rs. 60.984 lakhs was made as compensation vide report dated 18.06.2020 which has been revised to Rs.77.576 lakhs vide report dated 12.08.2021. Earlier days of violation were taken as 963 which are revised to 965.

762. Inspection was made on 23.11.2016 when number of violations were noted based whereon closure/show cause notice dated 23.02.2017 was issued giving details of violations as under:

> *"Board officials visited your industry on 23.11.2016 to verify compliance of consent conditions & collection of Joint Vigilance sample from ETP outlet. Sub-Regional Officer, Tarapur-I communicated analysis reports of waste water collected from ETP outlet/V-notch/bypass line/treated effluent sumps of your industry. The* ***analysis reports shows values of pH-2.5 & COD-52000 mg/L which is exceeding to the inlet*** *designed parameters of CETP thereby up-setting CETP performance. It is found from vigilance sampling drawn during odd hours that you are discharging highly polluting stream/chemical load to the CETP and degree of exceedance of COD compared to consented norms is 20700 %. The above fact clearly indicates that you have adopted this practices of discharge of high COD stream and your tendency towards not to abide environmental norms. The high polluting /COD streams hampers functioning of CETP operations thereby discharging*

substandard quality effluent in Navapur sea and creating adverseimpact on nearby environment. After perusing the results, degree of exceedance and tendency of discharge of untreated effluent, I am of the opinion that you are willfully/intentionally discharging highly polluting effluent stream thereby violating consented norms and causing severe damage to the environment which needs to be stopped immediately to protect such damage of environment."

763. In the reply dated 03.03.2017, Proponent claimed that it is a zero-discharge unit and not giving any effluent to CETP. However, we find that at the time of inspection ZLD was not operating and that being so the reply submitted by Proponent without placing anything on record to show that ZLD was functional and actually functioning at the time of inspection, we find no reason to take a different view than what has been taken by the Authority. Conditional restart order was issued 11.05.2017. Inspection report is duly signed by the representative of Proponent and no otherwise observation was made by him therefore dispute about sample collection is an after thought. Infact Proponent has placed on record another order dated 07.05.2018 of CPCB referring to its visit dated 28.03.2018 when officials of CPCB noted following violations:

(i) The unit was operational during the visit. The unit failed to provide the date regarding raw material consumption and product manufactured.

(ii) The unit generates 40 KLPD of trade effluent which is treated in Effluent treatment plant of 50 KLD. The unit has not installed web camera (PTZ) which is requisite as per condition of Consent to Operate.

(iii) Effluent is collected in open channels as well as in pits at several locations. From the pit, effluent is conveyed to main collection tank manually using bucket.

(iv) The unit has 12 reactors for various slops of manufacturing. Leakages from reactors and obnoxious fumes from nutche filter were observed.

(v) Large amount of liquid were found in pits and PVC drums without any identification mark. The effluent was found overflowing in low lying areas near pits due to improper and unlined drainage for effluent which has potential for water and soil pollution.

(vi) Leakage from effluent pumps was abandoned in nearby soil.

(vii) Large amount of solid waste was observed within the premises as well as outside at several locations.

(viii) The unit has two vents, but the approach to stacks for monitoring has not been provided.

(ix) The stack of DG set was situated within the shed of DG set.

764. The point wise reply was submitted by proponent vide letter dated 14.12.2018 and perusal thereof shows that virtually all the observations have been admitted and reply basically is a subsequent attempt of clarification. Further, objection with regard to days of violation are the same which we have already considered and rejected and the same is followed here at also.

(lxviii) M/s Square Chemicals (Item 79-List 103 of Committee)

765. It is a chemical industry, red category, SSI scale with approved effluent discharge quantity of 4 CMD. Compensation of Rs. 25.331 lakhs was determined vide report dated 18.06.2020 which has been revised and increased to Rs. 32.317 lakhs vide report dated 12.08.2021. Inspection was made on 11.02.2018 when several violations were noticed pursuant whereto closure/show cause notice dated 19.03.2018 was issued mentioning violation as under:

(i) You have drained huge quantity of yellow/turmeric colour sludge illegally into MIDC drainage system which gets accumulated and causing choking of two MIDC chambers leading to sump no. 3.

(ii) You are carrying unconsented activity i.e. job work of distillation of solvent form spent mother liquor without obtaining prior permission from the Board.

(iii) You have not provided positive discharge system till the date inspite of Hon'ble NGT order still continued with gravity discharge pipeline.

766. Proponent submitted letter dated 24.03.2018 which is on record and perusal thereof shows that Proponent admitted to manufacture items which were not approved in the consent order and with respect to other violations also there is no denial to the factum but only explanation. Conditional restart order is dated 17.05.2018. Since violations are not shown to be incorrect, we find no reason to grant any relief. With regard to dispute on days of violation the same have already been considered and rejected and the same is followed here at also.

(lxix) Shree Chakra Organics Pvt. Ltd.(Item 80-List 103 of Committee)

767. It is a chemical industry, red category and SSI scale. Approved quantity of effluent which it can discharge is 63.9 CMD. Compensation of Rs. 10.639 lakhs was determined vide report 18.06.2020 finding days of violation as 168. The amount has been revised to Rs. 13.666 lacs for 170 days of violation vide revised report dated 12.08.2021.

768. Inspection was made on 29.01.2018 when Proponent was found discharging sub standard effluent with COD 17440 and SS 3049. Closure/show cause notice was issued on 08.08.2012. Proponent has placed nothing on record to show the above findings incorrect, hence we

find no reason to interfere. Further, objection with regard to days of violation is same which we have already considered and rejected and the same is followed here at also.

(lxx) Aarti Drugs Ltd. E-105,106,109,120 TIA MIDC (Item 81-List 103 of Committee)

769. It is a bulk drug manufacturing industry, red category, SSI scale. Earlier it was LSI unit but subsequently has come in SSI scale. The approved quantity of effluent discharge is 23 CMD. Compensation of 7.029 lakhs was determined vide report dated 18.06.2020 which has been revised and reduced to Rs. 2.974 lakhs vide report dated 12.08.2021.

770. Inspection was made on 25.11.2016 when proponent was found discharging sub standard effluent with COD 704 mg/l. Based on the said violation, closure/show cause notice dated 03.12.2016 was issued. Proponent submitted reply dated 8.12.2016 wherein it sought to explain/justify COD level with reference to capacity of CETP and not on the basis of its own consent order prescribing limits of COD. We therefore find no error or discrepancy in the findings and there is no reason to interfere. Further objection with regard to days of violation is same which we have already considered and rejected and the same is followed here at also.

(lxxi) Omega Colors Pvt. Ltd. (Item 82-List 103 of Committee)

771. It is a dye manufacturing industry, red category, SSI scale. Approved quantity of effluent discharge is 82 CMD. There are two inspections which have been referred by Committee for making assessment of compensation of Rs. 11.209 lakhs vide report dated 18.06.2020 taking days of violation as 35 and 71 total 106. However, after review, vide report dated 12.08.2021, days of violation are revised as

35 and 470, total 505. Consequently, amount of compensation is revised to Rs. 78.380 lakhs. In the Inspections dated 23.11.2016 and 30.11.2016, samples were collected wherein COD level was found as 320 mg/l and 612 mg/l, respectively. Consequently closure/show cause notice dated 03.12.2016 was issued and conditional restart order dated 23.02.2017. Further inspection was made on 05.04.2017 when again discharge of sub-standard quality of effluent was found with pH 4.9 while prescribed standard was 5.5 to 9.0, as per consent order. Closure/show cause notice dated 05.04.2017 was issued and order of conditional restart is dated 01.06.2017. Proponent has not placed anything on record to show anything wrong in the above findings and we find no reason to interfere. Reports of some other period are of no relevance so far as violations noted in the inspections above. Dispute with regard to days of violation, has no merit since similar grounds we have already considered discussed and rejected and the same are followed here at also.

(lxxii)M/s Remi Edelstahl Tubulars Ltd. (Formerly Rajendra Mechanical Industries Ltd) (Item 83-List 103 of Committee)

772. It is an engineering industry, red category and SSI scale. Effluent discharge quantity approved is 20 CMD. Compensation of Rs. 4.180 lakhs was determined for 22 days of violation vide Committee's report dated 18.06.2020. The said amount is revised to 5.306 lakhs vide report dated 12.08.2021.

773. Inspection was made on 28.12.2016 when Proponent was found discharging sub standard effluent with COD 976 mg/L and pH 2.7 which were not in accordance with the limits prescribed in the consent order. Closure/show cause notice was issued on 03.12.2016 and conditional restart order is dated 25.01.2017. Proponent has not placed anything on record to show the above finding incorrect and we find no reason to

interfere so as to grant any relief to the Proponent. Further, objection with regard to days of violation is same which we have already considered and rejected and the same is followed here at also.

(lxxiii) Gini silk Mills limited (item 84-List 103 of Committee)

774. It is textile processing industry in red category and MSI scale. The quantity of effluent it can discharge is 510 CMD. Compensation of Rs. 119.309 was determined vide report dated 18.06.2021 but the same has been revisited and it reduced to Rs. 77.416 lacks vide report dated 12.08.2021. Inspection was made on 23.11.2016 when proponent was found discharging polluted effluent with COD 896mg/l. Closure notice dated 03.12.2016 was issued. Conditional restart order was issued on 03.03.2017. There is nothing on record to show that the violation found in the inspection dated 23.11.2016 was not correct. In view thereof we have no hesitation in holding that the proponent has violated environmental laws and condition of consent and liable for payment of environmental compensation. One of the objections is that earlier, as per consent to operate applicable on 23.11.2016, it was LSI and scale has been modified as MSI vide renewal of consent dated 02.07.2020 in view of MSME Act (Micro, Small and Medium Enterprises Development Act) came into force on 01.06.2020. In our view, subsequent change in the scale is of no relevance since on the date when Proponent was found causing pollution by discharging sub-standard effluent, it was LSI and therefore for the purpose of compensation to be determined it has to be treated as LSI. The objection taken otherwise is rejected. Further objection taken in respect of days of violation founded on the same grounds we have already considered rejected above hence for the same reasons this objection is also rejected.

(lxxiv) M/s. Ankit Petroproducts Ltd.-earlier known as Mainfair biotech (item 85-List 103 of Committee)

775. The unit is manufacturing Poly Vinyl Acetate Thermoset Polymers, ied category and SSI scale. Compensation of Rs. 136.077 lakhs was determined vide report dated 18.06.2020 but the same has been reduced and revised vide report dated 12.08.2021 as Rs. 57.559 lakhs.

776. Inspection was made on 24.11.2016 when Proponent was found discharging sub-standard effluent with pH 7.4 and COD 8880mg/l. Closure/show cause notice dated 03.12.2016 was issued mentioning violations as under:

> *"AND WHEREAS, Board officials visited your industry on 24/11/2016 to verify compliance of consent conditions & collection of Joint Vigilance sample from ETP Outlet. Sub-regional Officer, Tarapur-I communicated analysis reports of waste water collected from ETP outlet/V-notch/bypass line/treated effluent sumps of your industry. The analysis reports shows values of pH-7.4 & COD- 8660 mg/l which is exceeding to the inlet designed parameters of CETP thereby up-setting CETP performance. It is found from vigilance sampling drawn during odd hours that you are discharging highly polluting stream/chemical load to the CETP and degree of exceedance of COD compared to consented norms is 3452%. The above fact clearly indicates that you have adopted this practices of discharge of high COD stream and your tendency towards not to abide environmental norms. The high polluting/COD streams hampers functioning of CETP operations thereby discharging substandard quality effluent in Navapur sea and creating adverse impact on nearby environment. After perusing the results, degree of exceedance and tendency of discharge of untreated effluent. I am of the opinion that you are willfully/intentionally discharging highly polluting effluent stream thereby violating consented norms and causing severe damage to the environment which needs to be stopped immediately to protect such damage of environment."*

777. Conditional restart order was issued on 24.10.2017. First objection taken by Proponent is that inspection was not properly made. We, however find that inspection was made in presence of representatives of the unit and no objection was taken at the time of inspection or immediately thereafter. Second objection is that unit is SSI/ZLD but compensation has been computed by treating it as LSI. We find that this objection stands removed since in the revised report dated 12.08.2021 compensation has been redetermined treating Proponent as SSI unit.

Third objection is with regard to days of violation and according to proponent it should have been 10 days. The grounds taken are same as we have already discussed above and rejected, hence the objection taken by proponent in this regard is rejected here it also.

(lxxv) M/s. Radiant Intermediates Pvt. Ltd. (item 86-list 103 of Committee)

778. This is a chemical manufacturing unit, red category, SSI scale. The approved quantity of effluent it can discharge is 1.4 CMD. Compensation of Rs. 84.225 was determined vide report dated 18.06.2020 based on two inspection reports when Proponent was found violating environmental laws and causing pollution, taking days of violation as 522 and 404 respectively. However, vide revised report dated 12.08.2021 days of violation are reduced to 14 and 404.

779. Inspection was made on 29.11.2016 when Proponent was found discharging sub-standard effluent with COD 15360 mg/l and pH-5. The sample report dated 01.12.2016 is on record filed by Proponent himself. On the date of inspection, sample was collected in the presence of industry's representatives as is evident from report available on record at page 3175. Closure/show cause notice dated 03.12.2016 was issued. With regard to high level of pollution i.e. COD level, Proponent has not denied the same but has sought to explain by observing that since water consumption was reduced, the dilution of effluent may not have been done to the requisite level. This is evident from the following extract of reply submitted by Proponent vide letter dated 08.12.2016:

> *"As you are well aware the working of Small Scale Industries and also the ETP Facilities installed as per the Guidelines by MPCB, we generally Dilute the effluent by Adding water to bring down the COD level.*
>
> *We here want to make a statement that* ***it may have happened that since Water was not available in sufficient quantity, the***

> ***COD level may have gone little up,*** *but not the extent as shown in the result.*
>
> *As we assessed the situation, we were thinking that we have reduced the Effluent Quantity and the same will solve the problems assuming that other parameters will be taken care by CETP*
>
> *Sine this has not happened, so as per the Guidelines, we will have to cut down the Production Activity by 60% to have sufficient water to bring down the COD level to the prescribed limit and thus improve the Quality of Effluent with Reduced Quantity*
>
> *We are committed to this and we Assure you that you will take this as very seriously and reduce the Production Activity till it matches with Effluent of Prescribed Quality in Less Quantity."*

780. In view thereof and admission of Proponent, determination of compensation cannot be faulted and objection there against is rejected.

781. Another inspection was made on 30.07.2018 when also several violations were noticed based whereon closure/show cause notice dated 08.08.2018 was issued mentioning violations as under:

> *"AND WHEREAS, the Board officials visited to your unit on 30/072018. The non-compliances observed during the visit are as follow:*
>
> 1. *You have not provided segregation & treatment facility for high COD stream.*
> 2. *You are treating the effluent generated from M/s Pantagon Drugs plot No. N-225 without prior permission from Board.*
> 3. *You have not provided online monitoring & not connected to MPCB server till date.*
> 4. *You failed to provide details of solvent generation & disposal to the visiting MPCB officials."*

782. Proponent submitted reply dated 13.08.2018 stating that it has made arrangement of segregation on 08.03.2017 but nothing has been placed on record to show that the same had continued or actually was available on the date of inspection i.e. 30.07.2018. The second violation of treating effluent generated by M/s Pantagon Drugs, Plot No. N-225, Proponent explained that it is not doing any such treatment and has further explained that Pantagon is a group company on the adjacent plot and has a separate consent as well as effluent treatment arrangements. Since Proponent and Pantagon are same group company, both shares

drainage connection to MIDC drainage chamber, have only one drainage connection to MIDC chamber; provided combined pH flow meter which shows that the observations made in the report are incorrect. With respect to other faults also, it sought to explain the things but explanation appears to be afterthought. Moreover, no such observation with regard to findings mentioned in report dated 30.07.2018 has been noted by representatives of Proponent who signed inspection report. Further objection is with regard to days of violation and the grounds are same as we have already discussed and rejected hence the same are rejected here at also. Conditional restart order was issued on 01.09.2018. Amount of compensation has been reduced noticing some factual errors in the dates. In view of above discussions, objections raised by Proponent are rejected.

(lxxvi) Premier Intermediate Pvt. Ltd. (Item No. 87-List 103 of Committee)

783. It is a bulk drugs manufacturing, red category, LSI scale unit. The effluent quantity approved as per consent order is 5 CMD. Compensation of Rs. 9.499 lakhs was determined vide report dated 18.06.2020 but the same has been reviewed and reduced to Rs. 4.019 lakhs vide revised report dated 12.08.2021.

784. Inspection was made on 28.11.2016 when proponent was found discharging sub standard effluent with COD 6400 mg/l. Closure/show cause notice dated 03.12.2016 was issued and conditional restart order is dated 17.03.2017. The first objection taken by Proponent is that it was wrongly considered as LSI for the purpose of compensation but we find that as per revised report dated 12.08.2021, compensation has been re-determined by treating Proponent as SSI, therefore, this objection stands removed. Second objection is on the manner of computation of number of

days of violation. According to Proponent it ought to be 9 while Committee has computed as 50. However, the grounds of challenge are same which we have already discussed and rejected, hence the same are rejected here also.

(lxxvii) M/s Maharashtra Organo Metalics Pvt. Ltd. (Item No. 88-List 103 of Committee)

785. It is a chemical manufacturing industry in red category and SSI scale with approved quantity of effluent discharge is 6 CMD. Compensation of Rs. 9.309 lakhs was determined vide report dated 18.06.2020 but the same has been reviewed, revised and reduced to Rs. 1.447 lakhs vide revised report dated 12.08.2021.

786. The inspection was made on 24.11.2016 when Proponent was found discharging polluted effluent with COD 1728mg/l and pH 4.4. Closure/show cause notice was issued on 03.12.2016. Proponent submitted reply on 22.12.2016 referring to a third party testing in which no violation was found but in the absence of collection of sample in the presence of authorised officials, the private testing after collecting samples as per the convenience of Proponent cannot be a valid defence, hence rejected. Next objection is that the unit on the date of inspection was SSI but wrongly taken as LSI. We find that in revised report dated 12.08.2021, this discrepancy has been corrected and compensation has been re-determined by treating Proponent as SSI, hence this objection no more survive.

(lxxviii) Anuh Pharma Chem, N-183, MIDC Tarapur (Item No. 89-List 103 of Committee)

787. It is a bulk drugs manufacturing, red category, LSI scale unit. The quantity of effluent approved for discharge is 10 CMD. Compensation of Rs. 50.535 lakhs was determined vide report dated 18.06.2020 but revised to Rs. 64.392 lakhs vide revised report dated 12.08.2021. A

substantial objection raised is that there is some mistake of identity inasmuch as compensation relates to another industry and not to this Proponent. It appears that compensation order was in the name of **Anu Pharma Chem Plot No. E-17/3 & 4** who filed objection that compensation has wrongly been addressed to it though it appears to be in relation to another industry industry working at plot no. N-183, TIA MIDC. This objection has been accepted by Committee vide revised report dated 12.08.2021 and it has been clarified that compensation of Rs. 64.392 lakhs is in respect of M/s. **Anu Pharma Chem, plot no. N-183 TIA MIDC**. Rectification of error is appreciable but substitution of industry without giving opportunity to the correct Proponent is erroneous. Once Committee found error in respect of identity, it ought to have given opportunity of hearing to Proponent of corrected identity. In our view, to this extent, computation of compensation in respect of **Anu Pharma Chem, Plot no N-183** needs to be revisited after giving opportunity to the above Proponent. **Objection of this Proponent is allowed to this extent.**

(lxxix) M/s Ganesh Benzoplast Ltd. (Item No. 90-List 103 of Committee)

788. It is a bulk drugs manufacturing, red category, LSI scale unit. Approved effluent quantity permissible for discharge is 5 CMD. Compensation of Rs. 187.702 lakhs was determined vide report dated 18.06.2020 but subsequently vide report dated 12.08.2021, it has been revisited and increased to Rs. 238.275 lakhs.

789. Proponent unit was inspected on 07th and 8th January, 2017 when ETP was found not operating and discharging sub standard effluent with COD 260 mg/l.

790. Unit was again inspected on 08.01.2017 when discharge of polluted effluent was found with pH 3.9 and COD 7560 mg/l. Closure/show cause notice dated 14.02.2017 was issued mentioning violations as under:

> *"**AND WHEREAS**, Board officials visited your industry to verify compliance of consent conditions & collection of Joint Vigilance sample from ETP Outlet. Sub-Regional Officer Tarapur-I communicated analysis reports of waste water collection from ETP outlet/V-notch/bypass line/ treated effluent from your industry. The analysis reports of the sample collected are given in the table below which are exceeding to the inlet designed parameters of CETP thereby up-setting CETP performance.*

S.No.	Date of Sample Collection	Point of Sample Collection	Parameters		% Exceedance of COD
			pH	COD	
1	7.1.2017	ETP outlet	**7.7**	**260**	**4**
2	8.1.2017	ETP outlet	**3.9**	**7560**	**2924**

> ***AND WHEREAS**, it is found from the vigilance sampling drawn during odd hours that you are discharging highly polluting stream/chemical load to the CETP and **degree of exceedance of COD compared to consented norms is up to 2924%.** The above fact clearly indicates that you have adopted this practices of discharge of high COD stream and your tendency towards not to abide environmental norms. The high polluting/COD streams hampers functioning of CETP operations thereby discharging substandard quality effluent in Navapur sea and creating adverse impact on nearby environment. After perusing the results, degree of exceedance and tendency of discharge of untreated effluent, I am of the opinion that you are willfully/ intentionally discharging highly polluting effluent stream thereby violating consented norms and causing severe damage to the environment which needs to be stopped immediately to protect such damage of environment."*

791. Proponent submitted reply dated 18.02.2017 in which it simply denied the violations and said it is discharging effluent meeting the norms without placing any material in support thereof. Conditional restart order was passed on 23.02.2017. The objection with regard to inspection report is that Proponent does not admit the same but in absence of any material to show any fault or discrepancy, we find no reason to accept this defence. Further objection is with regard to days of violation on the same grounds which we have already discussed and rejected, hence rejected here also.

(lxxx) Aarviam Dye Chem (Item No. 93-List 103 of Committee)

792. It is a dyes unit in red category and scale SSI. Permitted quantity of effluent it can discharge is 20 CMD. Compensation of Rs. 4.433 lakhs was determined vide report dated 18.06.2020 which has been revised and reduced to Rs. 5.708 lakhs vide report dated 12.08.2021.

793. Inspection was made on 12.01.2017 when Proponent was found discharging sub standard effluent with COD 7400 mg/l and pH 11. Closure/show cause notice was issued on 14.02.2017 and conditional restart order was passed on 18.05.2017. Interestingly, compensation was determined earlier for 70 days and after revision for 71 days but Proponent, in his objection has submitted that days of violation should have been 90. Therefore, we find no real objection in this regard. With respect of violations nothing substantial has been placed on record by the proponent to show any fault with the said report. The objection is therefore rejected.

(lxxxi) Dhanlaxmi Steel (Item No. 94-List 103 of Committee)

794. It is an engineering company in red category and SSI scale. Approved quantity of effluent for discharge is 0.8 CMD. Compensation was determined vide report dated 18.06.2020 as Rs. 55.475 lakhs but reduced vide revised report dated 12.08.2021 as Rs. 3.78 lakhs.

795. Inspection was made on 15.10.2016 when Proponent was found to have started pickling activity, wire drawing, and did not provide ETP. Based on such violations, closure/show cause notice dated 23.11.2016 was issued mentioning violations as under:

> ***"AND WHEREAS**, Board officials visited your industry on 15.10.2016 to verify compliance of consent conditions and investigate complaint matter. Sub-Regional Officer, Tarapur-I submitted proposal as per Enforcement Policy of the Board for initiation of action against you vide above referred letter at sr.no.2. It has been reported that **you have started wire drawing &***

> ***pickling activity without obtaining prior consent from the Board. You have not provided effluent treatment plant thereby untreated waste water generated from pickling activity is directly discharged outside factory premises creating pollution*** *nuisance to the environment. You have* ***not provided air pollution control system to the pickling section thereby off gases/process emissions are being discharged into environment****. You have not obtained membership of CHWTSDF thereby hazardous waste generated from process is being disposed unscientifically creating pollution nuisance in the nearby vicinity."*

796. Conditional restart order was issued on 03.03.2017. Proponent has not placed anything on record to show that the violations found were not correct. In the objections nothing has been said on this aspect. The real objection is with regard to number of violation and according to proponent it should have been 96 days. We find that earlier in the report dated 18.06.2020 days of violation were taken as 876 but now the same are reduced to 47. Quantum of environmental compensation has also been revisited and reduced substantially. Hence basic objection raised by Proponent stands removed.

(lxxxii) M/s S R Steel (Item No. 97-List 103 of Committee)

797. It is an engineering unit, red category and SSI scale with effluent quantity permissible for discharge is 0.2 CMD. Compensation of Rs. 13.235 lakhs was determined vide report dated 18.06.2020 but reviewed, revised and reduced to Rs. 6.672 lakhs by revising the days of violation from 209 to 83.

798. Inspection was made on 01.04.2017 when it was found that proponent's ETP was not operating and untreated effluent was being discharged. Based thereon, closure/show cause notice was issued on 26.04.2017 mentioning above violations. Proponent submitted reply vide letter dated 12.05.2017 which shows that violations found were not disputed. Relevant extract of reply dated 12.05.2017 is as under:

"1. I want to bring to your kind notice that when F.O. visited, my ETP had gone to repair. Now it is proper. I am attaching the bill for the same. ***Now ETP has been made perfect and I will use it in zero discharge.***

2. Scrubbing system was repaired and now in working condition.

3. Kachcha pit has been repaired with RCC Cement.

4. Every month I will give Sludge to Taloja.

5. I had some issue with money so I could not pay the money as bank guarantee. But now I promise to pay it at the earliest.

6. I further request that my family and families of 8 workers under me only on this business."

799. Conditional restart order was issued on 29.09.2017. In view of the fact that violations found are incorrect and on contrary, virtually admitted by Proponent, it cannot be said that Proponent is not liable to pay environmental compensation on the principle of polluter pays. Further objection is with regard to days of violation and as per Proponent it should have been 154 days. We find that earlier compensation was determined vide report dated 18.06.2020 for 209 days of violation but reduced to 83 days vide report dated 12.08.2021 while Proponent himself says that days of violation should have been only 154. It is also mentioned in the objection that if record is fully examined, number of days of violation would only be 81 days but how it comes to this figure, nothing has been said. In any case, this objection substantially stands removed.

(lxxxiii) M/s J V Chem Industries (Item No. 98-List 103 of Committee)

800. It is a chemical industry in red category, SSI scale with approved quantity of effluent it can discharge is 4 ZLD. Compensation of Rs. 16.148 lakhs was determined vide report dated 18.06.2021 but reviewed and revised to Rs. 20.499 lakhs vide revised report dated 12.08.2021. Objection of Proponent basically is that neither it is a red nor orange nor green category unit, hence wrongly included in the list of polluting units.

It a SSI unit and total discharge is less than 25 KLD. It ought to have been excluded. It is also disputing date of inspection stating that on the said date no inspection was made. It has not violated any environmental norms and even otherwise days of violation are wrongly mentioned and correct days of violation should have been 21.

801. Unit was inspected on 05.04.2017 when several violations were found, whereupon closure/show cause notice dated 10.04.2017 was issued mentioning violations as under:

> ***"AND WHEREAS**, TEPS-CETP vide their e-mail dtd. 5/4/2017 reported that **your industry was discharging acidic effluent pH-1.2 and sample of the same was collected by TEPS-CETP and also communicated the analysis report of the same i.e. pH-1.2 and COD-960 mg/l which is exceeding to the permissible limit**. The Sub-Regional Officer, Tarapur-I has communicated the same on dtd.5/4/2017.*
>
> ***AND WHEREAS**, after examining all the reports and records available with this office, I have come to conclusion that you are knowingly and willfully violating the consent conditions thereby provisions of Water (P & CP) Act, 1974 and Air (P & CP) Act, 1981."*

802. Conditional restart order was issued on 04.07.2017. Proponent filed an appeal seeking withdrawal of closure directions vide letter dated 02.06.2017 wherein it has said that sample was not properly taken from the appropriate place and results of sample are also not correct.

803. With regard to the objections for samples it was taken in the presence of representatives of industry. No such objection was taken at that time. Responding Proponent's objection that it is neither red nor orange nor green category industry, Committee has found that in the consent order industry was shows as red category and therefore, objection on this aspect has no substance and rejected. Scale of unit as per consent order is SSI hence Committee has rightly computed compensation treating Proponent unit as red category, SSI scale. Nothing

has been placed on record to show any fault in the findings recorded by Committee. So far as objection with regard to manner of computation of number of days of violation is concerned, the grounds are same as we have already discussed and rejected, hence entire objections are rejected.

(lxxxiv) M/s Shreyans Chemicals (Item No. 99-List 103 of Committee)

804. It is chemical, red category, SSI scale industry with approved quantity of effluent it can discharge is 1 CMD. Compensation of Rs. 54.018 lakhs was determined vide report dated 18.06.2020 which is reviewed and reduced to Rs. 3.376 lakhs vide revises report dated 12.08.2021.

805. Inspection was made on 04.04.2017 (wrongly mentioned in the earlier report dated 18.06.2020 as 05.04.2017) when proponent was found discharging sub standard effluent with pH 3.19 and COD 19680 mg/l. Founded on the said violations, closure/show cause notice dated 05.04.2017 was issued. Proponent has relied on certain reports of other dates showing that no violation was found but that will not be of any relevance with regard to violation found on 04.04.2017 in respect whereto nothing has been placed on record to controvert. One of the objections taken by proponent is that on 04.04.2017, inspection was not made by officials of MPCB or CPCB but by officials of TEPS operating CETP. In our view that will not make any difference inasmuch TEPS is an association of industries themselves. Proponent is also member of TEPS. There is no reason as to why officials of TEPS operating CETP in which Proponent is also discharging its effluent, would have any reason to submit wrong adverse report against Proponent.The purpose is prevention of degradation of environment and for this purpose any reliable information can be acted upon. Further objection is on the

manner of computation of number of days of violation. As per Proponent it should have been 38. Earlier compensation was computed by taking days of violation as 853 which are revised and reduced to 42 days. Substantially, grievance of Proponent has been met out. Even otherwise the grounds taken in respect of days of violation are same as we have already discussed and rejected. Same reasons are followed hereat also.

(lxxxv) M/s Bombay Rayon Fashions Ltd. (item 7-List 103 of Committee)

806. It is a textile industry, red category, LSI scale with approved quantity of effluent it can discharge is 6000 CMD. Compensation of Rs. 66.114 lakhs was determined vide report dated 18.06.2020 which has been reduced and revised as Rs. 73.557 lakhs vide revised report dated 12.08.2021.

807. Inspection was made on 29.04.2016 when Proponent was found committing following violations:

(i) Discharging substandard quality effluent

(ii) Ozonization was not in operation

(iii) Decanter was not in operation

(iv) ETP maintenance and operation was very poor

(v) Excess water consumption and excess effluent generation hampering performance of CETP.

808. Closure/show cause notice was issued on 14.10.2016 and conditional restart order is dated 27.10.2016. Objection raised by Proponent is that there was no discharge of sub-standard effluent since sample collected on 16.01.2017 and 18.01.2017 found meeting norms but the said samples in our view are irrelevant for the violation found in inspection dated 29.04.2016. Further objection is that observations with regard to decanter, ozonisation and ETP are not correct in view of

subsequent reports of 16th and 18th January but the same is also liable to be discarded as irrelevant for the violations found in inspection dated 29.09.2016. Objection with regard to manner of computation of days of violation is founded on the same grounds which we have already considered and rejected. Committee earlier determined compensation taking days of violation as 348 but the same are revised to 305. Compensation however has increased on account of change in distribution recovery cost factor from 0.0041310 to 0.0045961.

MA No. 3/2021 & 4/2021

809. Some MAs have been filed by individual industries referring to their objections on different aspects and seeking permission to intervene. Some of these industries have also filed objections along with MA 2/2021 i.e., through their associations which we have already discussed above. However, we are taking these individual applications also into consideration and wherever any additional objection has been raised, we would consider the same.

810. MA 3/2021 dated 28.12.2021 has been filed on behalf of M/s Maharashtra Organo Metalics Pvt Ltd. (Item 88). Principle objection is that unit is SSI though it has been taken LSI for the purpose of determining compensation. Objection of this unit we have already discussed above and found that scale of unit is rectified in revised report dated 12.08.2021 and compensation has been redetermined treating this Proponent as SSI. MA 3/2021 stands disposed of.

811. MA 4/2021 dated 20.11.2020 has been filed by same proponent. Its objection is with regard to manner of computation of number of days of violation and further that any violation in respect of pH is not relevant for SSI unit. So far as days of violation is concerned, we have already

discussed above that in respect of the concerned Proponent, the same has reduced to 18 from 49, vide revised report dated 12.08.2021 and the amount of compensation has also reduced from Rs. 9.309 lakhs to 1.447 lakhs. Further, once prescribed limit is breached, scale or category of unit would not be relevant for seeking any exemption from such violation and in law, industry is liable to pay compensation for causing pollution on the application of principle of polluters pay. Further objection is that Committee had not given any opportunity of hearing but in the report dated 12.08.2021 we find that this Proponent was given opportunity of hearing on 30.11.2019 and thereafter revised report has been submitted, hence we find no substance in the objection raised in MA 4/2021 and the same is rejected.

MA 5/2021 and 6/2021:

812. These MAs dated 02.02.2021 have been filed on behalf of Anu Pharma Chem, plot no. E-17/3& 4 and E-18, TIA MIDC. Objection of this proponent we have already discussed above. Revised report dated 12.08.2021 also says that compensation determined vide report dated 18.06.2021, revised vide report dated 12.08.2021 is applicable to M/s Anu Pharma Chem, plot no. N-183. Hence grievance of this Proponent does not survive any more. The MAs 5/2021 and 6/2021 stand disposed of accordingly.

MA 08/2021: by Applicant

813. This application dated 08.03.2021 has been filed by applicants with the request to direct officials and respondents to utilize amount deposited by Polluter Proponents in Environment Relief Fund to initiate restoration and remedial steps, outlined in Chapter VIII of Expert Committee report dated 18.06.2020 including remedying health of inhabitants and providing health care to affected individuals. It for the Tribunal to pass

appropriate order and there is no reason to anticipate the tribunal will pass such order.

814. **ISSUE 2** formulated above in para 185, in fact, substantially has been considered and answered above when we considered the objection regarding formula adopted and applied by Committee for computation of compensation. We reiterate above reasons but would add some further crucial angles to support final return to the said issue.

815. This matter has remained pending for almost 5 years before Tribunal. The mischief of Proponents, apathy towards preservation of environment, consistent violation of statutory conditions of consents/approvals granted by Statutory Regulators and provisions of environmental laws, emboldened conduct to justify their act of destruction of ecology, unhesitant attitude to compromise purity of nature in preference of commercial interest etc. has caused almost unmeasurable damage to water bodies including marine ecology and local residents in particular. The matter has been examined at different levels by different Expert Committees as also by Tribunal very meticulously. It is beyond doubt that discharge of polluted effluent by TEPS through CETP had violated capacity norms. Against the capacity of 25 MLD, actual discharge was much higher and also contained pollutants beyond permissible and prescribed limits/standards. Individual member industries are also guilty by discharging polluted effluent, damaging environment and breaching conditions of consent/approvals. Committee has also shown that the land area and water bodies in and around TIA MIDC, where industries which are members to TEPS and TIMA are situated, have suffered huge degradation. Proponents have caused deterioration and damage to environment by affecting not only the land

but also ground water, surface water, and water bodies including Arabian Sea where highly polluted effluents ultimately reach. These facts and findings recorded by Committee have not been controverted either by TEPS or TIMA or the individual members who have submitted their own documents also which we have already discussed. Rather documents submitted by Proponents have proved their fault. Mere denial is not sufficient considering the fact that in the matter of environment when Proponents are found discharging polluted effluents etc. and causing pollution, principle of absolute liability is attracted and it is upon Proponents to demonstrate that they were/are not violating environmental norms/laws, by placing positive material before Court which has not been done in the case in hand.

816. So far as the compensation determined by Committee is concerned, objections raised by Proponents including operator of CETP i.e., TEPS, we have considered above and rejected. However, it does not mean that we have approved the amount of compensation, determined by Committee, as such. Committee has concentrated on the quantum of pollutant and the period for which it was discharged for the purpose of computing compensation but when we talk of environmental compensation for the purpose of causing damage to environment and for remediation/ restoration of environment, it is not only the quantity of pollutant but the severity of damage caused to the environment, sphere of influence, mediums of environment affected and other relevant factors like:

(a) Damage caused to environment

(b) Cost of remediation/restoration of environment,

(c) Deterrence to the polluter for causing violation of environmental norms so that one may not get encouraged to do the same in future, instead scared to repeat,

(d) The act of violation of statutory orders like consent, NOCs, permission etc.,

(e) The loss/damage caused to the inhabitants and their health immediately and likely to cause in future.

817. In **Goa Foundation (*supra*)** Supreme Court awarded compensation on 10% of sale price of the goods. In **Deepak Nitrite (*supra*)** Supreme Court said that in a given case the percentage of the turnover itself may be a proper measure because the method to be adopted in awarding damages on the basis of 'pollutor to pay' principle has got to be practical, simple and easy in application. In **Goel Ganga Developers (*supra*)** Supreme Court allowed 10% of project cost as compensation. As we have already examined probability of computation of environmental compensation based on turn over and we have found that compensation would increase multifold. We have given reference of some units based on their turn over as available on public domain. That approach would place very heavy burden upon Proponents. Interestingly, TIMA in its reply dated 10.04.2017 has said that current turnover in TIA MIDC is 40000 crores. If we take just 1%, it will come to Rs.400 crores. Here Committee has ignored the fact that violation of environmental norms by Proponents by discharging polluted effluent has continued for years together and compensation if determined for one, two or more violations, based only on the date of inspection, it would condone violations continued for years and that is how would allow Proponents to profiteer by continuing business with continued violation of environmental norms, without any liability. In such cases where violation has continued for years together, compensation should be imposed, in the absence of regular periodical inspection report due to lackcity on the part of the officials of Statuary Regulators, atleast on annual basis based on turn over of the unit. We

may point out to an interesting factor that most companies have placed on record inspection reports when an individual official of State PCB made inspection and found everything correct but when surprise checking and particularly by joint Committee is made, violations have been found. This speaks volumes not only about the conduct of industries but also inspecting officials of State PCB.

818. Officials of State PCB have also not taken care of their duties by strict enforcementof law inasmuch as violation of laws in the case in hand causing pollution of water, water bodies etc. is an offence under Section 41 to 45A of Water Act, 1974.

> *"[**41. Failure to comply with directions under sub-section (2) or sub-section (3) of section 20, or orders issued under clause (c) of sub-section (1) of section 32 or directions issued under sub-section (2) of section 33 or section 33A**.—(1) Whoever fails to comply with the direction given under sub-section (2) or sub-section (3) of section 20 within such time as may be specified in the direction shall, on conviction, be punishable with imprisonment for a term which may extend to three months or with fine which may extend to ten thousand rupees or with both and in case the failure continues, with an additional fine which may extend to five thousand rupees for every day during which such failure continues after the conviction for the first such failure.*
> *(2) Whoever fails to comply with any order issued under clause (c) of sub-section (1) of section 32 or any direction issued by a court under sub-section (2) of section 33 or any direction issued under section 33A shall, in respect of each such failure and on conviction, be punishable with imprisonment for a term which shall not be less than one year and six months but which may extend to six years and with fine, and in case the failure continues, with an additional fine which may extend to five thousand rupees for every day during which such failure continues after the conviction for the first such failure.*
> *(3) If the failure referred to in sub-section (2) continues beyond a period of one year after the date of conviction, the offender shall, on conviction, be punishable with imprisonment for a term which shall not be less than two years but which may extend to seven years and with fine.]*
> ***42. Penalty for certain acts**. (1) Whoever—*
> *(a) destroys, pulls down, removes, injures or defaces any pillar, post or stake fixed in the ground or any notice or other matter put up, inscribed or placed, by or under the authority of the Board, or*
> *(b) obstructs any person acting under the orders or directions of the Board from exercising his powers and performing his functions under this Act, or*
> *(c) damages any works or property belonging to the Board, or*

(d) fails to furnish to any officer or other employee of the Board any information required by him for the purpose of this Act, or
(e) fails to intimate the occurrence of any accident or other unforeseen act or event under section 31 to the Board and other authorities or agencies as required by that section, or
(f) in giving any information which he is required to give under this Act, knowingly or wilfully makes a statement which is false in any material particular, or
(g) for the purpose of obtaining any consent under section 25 or section 26, knowingly or wilfully makes a statement which is false in any material particular,
shall be punishable with imprisonment for a term which may extend to three months or with fine which may extend to 1 [ten thousand rupees] or with both.
(2) Where for the grant of a consent in pursuance of the provisions of section 25 or section 26 the use of meter or gauge or other measure or monitoring device is required and such device is used for the purposes of those provisions, any person who knowingly or wilfully alters or interferes with that device so as to prevent it from monitoring or measuring correctly shall be punishable with imprisonment for a term which may extend to three months or with fine which may extend to 1 [ten thousand rupees] or with both.

43. Penalty for contravention of provisions of section 24*.— Whoever contravenes the provisions of section 24 shall be punishable with imprisonment for a term which shall not be less than 2 [one year and six months] but which may extend to six years and with fine.*

44. Penalty for contravention of section 25 or section 26*.— Whoever contravenes the provisions of section 25 or section 26 shall be punishable with imprisonment for a term which shall not be less than 2 [one year and six months] but which may extend to six years and with fine.*

45. Enhanced penalty after previous conviction. —*If any person who has been convicted of any offence under section 24 or section 25 or section 26 is again found guilty of an offence involving a contravention of the same provision, he shall, on the second and on every subsequent conviction, be punishable with imprisonment for a term which shall not be less than 3 [two years] but which may extend to seven years and with fine:*
Provided that for the purpose of this section no cognizance shall be taken of any conviction made more than two years before the commission of the offence which is being punished. 4
[45A. Penalty for contravention of certain provisions of the Act.—*Whoever contravenes any of the provisions of this Act or fails to comply with any order or direction given under this Act, for which no penalty has been elsewhere provided in this Act, shall be punishable with imprisonment which may extend to three months or with fine which may extend to ten thousand rupees or with both, and in the case of a continuing contravention or failure, with an additional fine which may extend to five thousand rupees for every day during which such contravention or failure continues after conviction for the first such contravention or failure.]"*

819. Though there is massive violations by hundreds of industries inTIA MIDC but negligible number of complaints have been filed and that too without any conviction till date. It appears that officials impression is that after filing a complaint, their responsibility is over. Actually, element of accountability is completely missing. Statutory Regulators offices have become decorated power points where anything may matter but not protection and preservation of environment and positive action for enforcement of environmental laws. An individual small industry having single instance of violation may not be prosecuted, but we find no reason for not taking action under Chapter VII of Water Act, 1974 prescribing offences and punishment of such offences against Proponents who have repeatedly committed violations. Further such repeated offences in respect of larger industries like MSI and LSI should have been taken more seriously but nothing of this sort has been done by officials of MPCB/Statutory Regulators who are responsible for ensuring strict compliance of the provisions of environmental norms.

820. Similarly, violation of environmental norms is also an offence under Section 15 of EP Act, 1986. Discharge or emission causing environmental pollution in excess of standard prescribed is prohibited under Section 7 of EP Act, 1986 and an offence under Section 15 but here also nothing has been done by responsible Statutory Regulators and no action of criminal prosecution has been initiated against Proponents violating the said provisions particularly wher such violations are repeated i.e. committed for more than, one found in the inspections conducted by the officials and becomes more serious when such violation is by larger industries like MSI and LSI.

821. Some provisions of IPC also cover these offences and are cognizable but even Police has not touched these violators/offenders. In **State (NCTof Delhi) vs Sanjay (supra)**, Supreme Court, while cosidering an argument whether offences under MMDR Act would exclude action under I.P.C., held that it will not. Illegal mining is an offence under MMDR Act but also amount to theft, an offence under I.P.C. and even if no action was taken under MMDR Act, that does not mean that offender can not be prosecuted under section 379 I.P.C. Hence Police can also take appropriate action but unfortunately, we have never seen them taking offences relating environment, seriously.

Offence under Prevention of Money Laundering Act, 2002:

822. When environmental norms are not observed and in violation thereof there is discharge and/or emission of pollutants causing pollution and thereby commercial activities for commercial gains continue, such activities also attract provisions of Prevention of Money Laundering Act, 2002 (hereinafter referred to as '**PMLA 2002**' as amended from time to time).

823. PMLA 2002 was enacted pursuant to resolution No. S-17/2 adopted by General Assembly of United Nation at 17th Special Sessions held on 23.02.1990 on political declaration and global programme of action; and political declaration adopted by UNGA in the Special Session held on 8th to 10th June, 1998. It came into force however on 01.07.2005. The term "money laundering" and" proceeds of crime" are defined in Section-2(p)&(u) which read as under:

> *2(p). "Money Laundering" has the meaning assigned to it in Section-3.*
>
> *2(u). "**Proceeds of Crime**" means any property derived or obtained directly or indirectly, by any person as a result of **criminal activity** relating to a "**scheduled offence"** or the*

value of any such property or where such property is taken or held outside the country, then the property equivalent in value within the country or abroad.

[Explanation: for the removal of doubts, it is hereby clarified that proceeds of crime include property not only derived or obtained from the "scheduled offence" but also any property which may directly or indirectly be derived or obtained as result of criminal activity relatable to the "schedule offence";''

824. "Scheduled Offence" is defined in Section 2(y) and says;

*2(y). "**Scheduled Offence" means**-*
*(i) The offences **specified under Part-A of the Schedule**; or*
(ii) The offences specified under Part-B of the Schedule, if the total value involved in such offences is one crore rupees or more; or
(iii) The offences specified under Part-C of the schedule.

825. Section 3 of PMLA 2002 talks of offence of money laundering and says:

*"3. **Offence of money laundering**: whosoever directly or indirectly attempts to indulge or knowingly assists or knowing is a party or is actually involve **in any process or activity connected proceeds of crime** including in concealment, possession, acquisition or use **and projecting or claiming it as untainted property** shall be guilty of offence of money laundering."*

826. There is an explanation also inserted by Finance Act, 2019 w.e.f. 01.08.2019, but for the issue under consideration, it is not relevant, hence ommitted.

827. Attachment of property involved in "money laundering" is governed by Section 5 of PMLA 2002 which permits attachment by Director or any other officer not below the rank of Deputy Director authorised by Director for the purpose of such attachment and he has reason to believe (to be recorded in writing) on the basis of material in his possession that **any person is in possession of any proceeds of crime** and such proceeds of crime are likely to be concealed, transferred or dealt with in any manner

which may result in frustrating any proceedings relating to confiscation of such proceeds of crime under this chapter (by order in writing), may provisionally attach such property for a period not exceeding 180 days from the date of the order, in such manner as may be prescribed.

828. First proviso of Section 5(1) imposes a condition that no such order of attachment shall be made unless, in relation to the "Scheduled offence", a report has been forwarded to a Magistrate U/s 173 C.R.P.C. or a complaint has been filed by a person authorised to investigate the offence mentioned in that schedule, before a Magistrate or Court for taking cognizance of the "Scheduled offence".

829. There is an exception in 2nd proviso of Section 5(1) authorising Director or the officers authorised by him to attach any property of any person referred to in Sub-Section 1, if he has reason to believe (to be recorded in writing), on the basis of material in his possession that if such property involved in money laundering is not attached immediately, it is likely to frustrate proceeding under PMLA 2002.

830. Section 5 (5) requires the Director or the other officer, who has provisionally attached property under Sub-Section 1 to file a complaint within 30 days from such attachment stating facts of such attachment before Adjudicating Authority which is appointed U/s 6.

831. Section 8 provides the procedure to be observed by **Adjudicating Authority** to pass an order confirming attachment of property U/s 5(1). When such order of confirmation is passed, attached property would remain under attachment till trial completes and if Special Court under PMLA 2002 recorded finding of conviction of commission of offence of money laundering, such property shall stand confiscated to the Central

Government but where Special Court finds that offence of money laundering has not taken place or properties not involved in money laundering, it shall release such property to the person entitled to receive it.

832. Section 5 shows that except the cases covered by second proviso, no attachment is permissible unless report U/s 173 C.R.P.C. submitted to the Magistrate or complaint has been filed before the Magistarte or concerned **to take cognizance of "Scheduled offence"**.

833. Schedule to PMLA 2002 as initially came into force on 01.07.2005, was having Part-A divided in paragraph 1 dealing with Section 121 & 121(A) of IPC; paragraph-2 covering certain offences under Narcotic Drugs and Psychotropic Substances Act, 1985 and Part-B paragraph 1 offences U/s 302, 304, 307, 308, 327, 329, 364(A), 384 to 389, 392 to 402, 467, 489A and 489B of IPC; paragraph 2 contain some offences of Arms Act, paragraph 3 referred to offences under Wild Life Protection Act 1972, Paragraph 4, offences under Immoral Traffic Prevention Act 1956 and Paragraph 5, offences U/s 7, 8, 9 and 10 of PCA 1988.

834. Thus, PMLA 2002, at the time of enforcement in 2005, did not cover Sections 120-B, 468, 420 and 471 IPC and Section 13 of PCA, 1988 and environmental enactments. In other words, offences under these Sections/Statutes were not "Scheduled offences" for the purpose of Section 3 PMLA 2002.

835. The Schedule underwent amendment for the first time vide Prevention of Money Laundering (Amendment) Act, 2009 published in Gazette of India, Extraordinary dated 6.3.2009. In Part A paragraph 1

Section 489A & 489B were inserted. We are not concerned with the offences referred under paragraph 2 of the Schedule, hence amendments made therein are omitted. After paragraph-2, paragraph-3 and paragraphs-4 were inserted relating to offences under Explosive Substance Act, 1908 and Offences Under Unlawful Activities (Prevention) Act, 1967. In Part-B paragraph-1 was substituted and a number of offences of IPC were added and this included Section 120-B, 420, 467 and 471 IPC. Some amendments were made in paragraph 3 and 5 of Part-B and thereafter paragraphs 6 to 25 were inserted covering offences under several inactments which are not relevant for the purpose of issue before us. Part C was also inserted in the schedule to cover cross border offences and the same is also omitted. Even after this amendment, Section 468 IPC and 13 PCA, 1988 were not "scheduled offence" so as to attract offence U/s 3 of PMLA 2002. The amendment was given effect from 01.06.2009.

836. Next amendment was made vide Prevention of Money Laundering (Amendment) Act, 2012 published in Gazette of India, Extraordinary dated 4.1.2013. Paragraph A part-1 of the Schedule was substituted adding some more offences of IPC. In fact, entire Part A was substituted by a new Part-A which had paragraphs 1 to 28 covering offences under various Statutes, some were earlier in Part A and also Part B and some newly added. Paragraph 8 Part 1 as substituted in 2012 covered offences under Sections 7, 8, 9, 10 and 13 of PCA, 1988. Thus, Section 13 was included therein only in 2013. In Part B paragraph 1 to 25 were omitted and in Part C serial No. 2 and entries relating thereto were omitted. This amendment came into force from 15.02.2013.

837. The offences under environmental norms have been included in the Schedule to PML Act, 2002 inasmuch as paragraph 23, 25,26,27 have been inserted by Section 30 of PML (Amendment) Act, 2012 which came into force on 15.02.2013 and said insertion of paragraphs are as under:

"PARAGRAPH 23
OFFENCES UNDER THE BIOLOGICAL DIVERSITY ACT, 2002
(18 of 2003)

Section	Description of offence
55 read with section 6.	Penalties for contravention of section 6, etc.

PARAGRAPH 25
OFFENCES UNDER THE ENVIRONMENT PROTECTION ACT, 1986
(29 OF 1986)

Section	Description of offence
15 read with section 7.	**Penalty for discharging environmental pollutants, etc., in section 7 excess of prescribed standards.**
15 read with section 8.	Penalty for handling hazardous substances without section 8 complying with procedural safeguards.

PARAGRAPH 26
OFFENCES UNDER THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974
(6 OF 1974)

Section	Description of offence
41(2)	Penalty for pollution of stream or well.
43	Penalty for contravention of provisions of section 24.

PARAGRAPH 27
UNDER THE AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981
(14 OF 1981)

Section	Description of offence
37	Failure to comply with the provisions for operating industrial plant."

838. All these provisions relating to offences under various Environmental Statutes have been placed in part A of the Schedule. Application of PMLA 2002 in respect to the aforesaid offences has to be seen in the light of Section 3 read with schedule as amended vide Amendment Act, 2012.

839. In ***A.K. Samsuddin Vs. Union of India, Writ Petition No. 15378/2016*** **decided on 19.07.2016**, Kerala High Court said that the time of commission of the "scheduled offence" is not relevant in the context of the prosecution under the Act. What is relevant in the context of the prosecution is the time of commission of the Act of money laundering. It has to be established that the money involved are the proceeds of crime and having full knowledge of the same, the person concerned projects it as untainted property.

840. In ***Smt. Soodamani Dorai v. Joint Director of Enforcement, Writ Petition No.8383 of 2013*** **decided on 04.10.2018**, a Single Judge of Madras High Court observed that substratal subject of the Act is to prevent money laundering and to confiscate proceeds of crime.

841. PMLA 2002 brings in a different kind of offence on the statute book. In ***Janta Jha v. Assistant Director (2013) SCC Online (Odisha) 619***, High Court of Odisha held that even if an accused has been acquited of the charges framed against him in Sessions Trial, a proceeding under PMLA 2002 cannot amount to double jeopardy where procedure and nature of proof are totally different from a criminal proceeding under IPC.

842. On the contrary in ***Rajeev Chanana v. Deputy Director (2014) SCC Online (Delhi) 4889***, it was held by Delhi High Court that after acquittal of a person from a "Scheduled offence", trial for an offence U/s 3

of PMLA 2002 will not survive. Court said it is hard to imagine as to how a trial for an offence of money laundering can continue where the fundamental basis, i.e., the commission of a Scheduled offence has been found to be unproved.

843. The question of simultaneous investigation by Police or CBI or any other Investigating Agencies in respect of schedule offences and ED U/s 3 of PMLA 2002 was considered by a Single Judge (Hon'ble S.P. Garg, J) of Delhi High Court in ***Rohit Tandon v. Enforcement Directorate in Bail Application No. 119 of 2017*** **and** ***Crl.M.B. 121 of 2017***. In the judgment dated 05.05.2017, Court found that Delhi Police registered FIR u/s 420, 406, 409, 467, 468, 188 and 120-B on 25.12.2016 and very next date ED registered ECIR on 26.12.2016. Court said that presence of "Scheduled offence" is only a trigger point for initiating investigation under PMLA 2002. Act nowhere prescribes, if ED is debarred from conducting investigation U/s 3 & 4 PMLA 2002 unless investigating agency concludes its investigation in the FIR or charge sheet is filed therein for commission of "Scheduled offence". The proceedings under PMLA 2002 are distinct from the proceedings of the "Scheduled offence". In the Investigation of FIR by Police, ED has no control. The proceedings under PMLA 2002 are not dependent on the outcome of the investigation conducted in the "Scheduled offences". More over to avoid conflicting and multiple opinions of court, section 44 PMLA 2002 provides trial by Special Court in case of "Scheduled Offence" and offence under PMLA 2002. Delhi High Court relied on a judgment of Allahabad High Court in ***Sushil Kumar Katiyar v. Union of India & Ors. (MANU/UP/0777/2016)*** wherein Allahabad High Court said:

> ***"A person can be prosecuted for the offence of money laundering even if he is not guilty of "Scheduled offences" and his property can also be provisionally attached irrespective of***

> ***the fact as to whether he has been found guity of the "Scheduled offences". The prosecution is not required to wait for the result of the conviction for the "scheduled offences" in order to initiate proceedings U/s 3 of the PML Act****. However, the person against whom, there is an allegation of the offence of money laundering, can approach appropriate forum, in order to show his bonafide and innocence that is not guilty of the offence of money laundering and has not acquired any proceeds of crime or any property out of the proceeds of crime."*

844. Against the judgment of Delhi High Court in **Rohit Tandon appeal was filed in Supreme Court and judgment is reported in *(2017) SCC Online SC 1304***. Supreme Court upheld, the order of High Court rejecting Bail. Then meeting further argument raised on behalf of Rohit Tandon that the incriminating material recovered, would not take the colour of proceeds of crime as there is no allegation or the prosecution complaint that un-accounted cash deposited by Appellant was result of criminal activity, it was observed that the expression "criminal activity" has not been defined but very nature of the alleged activities of the accused referred to in the predicate offence are criminal activities. Court observed:

> *".... however, the stated activity allegedly indulged into by the accused named in the commission of predicate offence is replete with mens-rea. In that the concealment, possession, acquisition or use of the property by projecting or claiming it as untainted property and converting the same by bank drafts, would certainly come within the sweep of criminal activity relating to a "scheduled offence". That would come within the meaning of Section 3 and punishable under Section 4 of the Act, being a case of money laundering."*

845. Recently in ***P. Chidambaram v. Directorate of Enforcement (2019) SCC Online SC 1143*** Court considered scheme of PMLA 2002, and observed that **money laundering is the process of concealing illicit sources of money and launderer transferming the money proceeds derived from criminal activity into funds and moved to other institution and transformed into legitimate asset**. It is realized

world around that money laundering poses a serious threat not only to the financial system of the country but also to their integrity and sovereignty. "**Schedule offence" is a sine qua non for the offence of money laundering which would generate the money i.e., being laundered**.

846. In the present case, when environmental norms were not followed by not operating ETP or by discharging partially or totally untreated pollutant or by causing other violations, this resulted in commissioning of Scheduled offence and revenue earned by committing such crime is proceeds of crime as defined in PMLA 2002 and by showing it part of business proceeds in accounts amounts to projecting or claiming it as untainted property. The entire activity is covered by Section 3 of PMLA 2002.

847. It appears that initially PMLA 2002 was enacted so as to cover activities of terrorist, illegal traffic in narcotics, enemies of the country etc., applying to a very limited number of statutes, Enforcement Directorate had been taking action under PMLA 2002 in a narrow sphere. It has forgot to take note of the fact that scope of PMLA 2002 has been enhanced or widened, a lot, at least after amendment Act of 2012 w.e.f. 15.02.2013. More than 8 and half years have passed but not a single action has been taken by Enforcement Directorate against violators committing offences under environmental statutes which have been included in the Schedule, part A of PMLA 2002. The offences under Environmental Acts, as such are non-cognizable but under PMLA 2002, offences are cognizable. Since competent authority has never resorted to proceed against violators of environmental Statutes despite committing offences thereunder, which are included in PMLA 2002, this inaction has

encouraged polluters to continue violation with impunity. Parliament's intention of treating environmental violations as very serious offences is writ large from the fact that, offences under environmental laws as noticed above, have been included in Schedule, Part A of PMLA 2002 yet enforcement machinery has frustrated entire attempt. It is incumbent upon the competent authorities regulating and enforcing PMLA 2002 to take action against such violators, if not against small violators, at least against substantial resourceful bigger proponents whose violations are liable to cause huge damage to environment as also the inhabitants. At least matters of LSI and MSI scale level industries should have been examined by competent authority under provisions of PMLA 2002.

848. We do not intend to delve more on the above aspect. Our endeavour was to highlight inapt attitude and apathy towards enforcement of laws enacted to give teeth to environmental laws but responsible authorities find it convenient to put these laws in hibernation. Now reverting back to **issue 2,** we find that simpler methods of computation of compensation are available but here, in absence of relevant informations, it is difficult to follow any of such method. Proponents's learned Senior Counsels stated during arguments to furnish such informations but have refrained from doing so. In the entirety of the circumstances and also considering the fact that matter is pending for more than five years and it is high time to give it a rest, we find it appropriate to attach finality to our view expressed above in **para 498** and direct that amount of compensation recommended by Committee would be made twice where concerned Proponents are shown with single instance of violation of environmental norms; thrice where there are two violations and tetra where there are more than two violations. However, we make it clear that in respect of TEPS, amount of compensation recommended by Committee vide revised

report dated 12.08.2021 would remain unchanged. **We answer ISSUE 2 accordingly**.

849. MIDC: In the entire matter role of MIDC is very crucial and occupy central place. Admittedly it is a statutory body constituted in 1962 under Maharashtra Industrial Development Act 1961 (MID Act 1961) enacted by Provincial Legislature. Functions of MIDC are provided in section 14 of MID Act, 1961. In MIDC website, it claims to be the highest contributor to nation's economy, industrial growth, exports and FDI attractiveness. Its plan 'Magnatic Maharashtra 2.0' says that MIDC is the nodal Investment Promotion Agency under Government of Maharashtra. It provides land, roads, water supply, drainage facilities and street lights etc. It is owner of largest industrial land bank in Country having more than 2.5 lakh acres. TIA MIDC is said to be one of the best industrial areas situated near Mumbai. In ACTION PLAN FOR TIA MIDC prepared by MPCB in 2010, it is said, area is near Mumbai Port/Mumbai Harbour, JNPT and Trans Thane Creek, MIDC. River surya is main water source for operation of indusrial activities. The effluent generated from industrial area is finally disposed in the Creeks i.e., Navapur sea, Kharekuram murbe creek, Dandi creek, and Sarvalli creek. MIDC had provided 59 kilometers of effluent pipeline throughout industrial area to dispose effluent, treated/partially treated, to Arabian sea at Navapur. In 2009-10, average 45.6 tonnes per day COD was being received whereof only 37 tonnes per day was treated. About 4 MLD of untreated effluent was being collected every day at Sump no.3 of MIDC, giving about 15.04 tons per day COD, discharged in Arabian sea. This situation, more or less has continued. Proponents have said repeatedly that MIDC was not properly maintaining pipelines, not cleaning sludge collected in huge quantity in different sumps maintained by MIDC. Applicants have also said so. Committee

reports certify these complaints. MPCB has taken a stand that several notices were issued to MIDC but they did not respond positively and effectively. Record show that MIDC in general, observed a passive inactive response. Being a statutory body, it had statutory obligation to ensure protection and preservation of environment but it miserably failed. In our view MIDC also has also contributed in causing pollution by failing to ensure its functions of maintenance of pipelines, non clearance of sludge in a regular manner etc. It is also responsible to pay compensation which we compute at Rs. 2 crores. If we apply methodology of Committee or the one, we have referred above, amount of compensation would have been very heavy but we have taken a little considerate approach since MIDC is a statutory non-commercial body.

850. We cannot leave the matter without commenting upon extremely negligent and lax approach, careless aptitude, non bona fide conduct and lack of devotion to duty on the part of officials of MPCB. They are the Regulators and under Statute, bound to ensure compliance of environmental laws. If they would have been vigilant, active, sensisitive to subject, and honest to their duties, the situation we are confronted, would not have arisen. We hope and trust that superior officers including Secretary, department of Environment, Maharashtra and Chairman/Member Secretary MPCB shall look into the matter and take appropriate action, also necessary to repel general perception of top support to wrongdoers.

851. Accordingly, we accept Committee's reports/response dated 18.06.2020 and 12.08.2021 partly i.e, except the amount of compensation recommended as payable by Proponents and to the extent the same are inconsistent to our observations/findings recorded in this

order. Periodical monitoring/compliance reports submitted have been perused, discussed and are accepted.

852. In the light of the above discussions, we dispose of Original Application and all M.A.s and I.A.s. O.A. is partly allowed, with following directions:

(i) Committee shall continue for a period of one year to monitor compliance conditions in TIA MIDC by all stake holders and submit quarterly reports to Registrar General, NGT, PB, who shall, if find necessity of any further directions/instructions etc. ot Tribunal, will place before us.

(ii) The objections of M/S AARTI INDUSTRIES LTD., L-5,8,9; MANAN COSTYN PVT. LTD., G-4/2; ANUH PHARMA CHEM., N-183, TIA MIDC are allowed. Committee shall determine compensation payable by above Proponents afresh after giving opportunity of hearing, within two months from today.

(iii) The Proponents named in column II shall pay environmental compensation mentioned in column IV, in the chart below:

I	II	III	IV
SN	**Name and address of industry**	**Product, Category, Scale**	**Compensation Rs. In lakh**
1	Aarti Drugs Ltd., G-60	Bulk drug, Red, LSI	81.034
2	Aarti Drugs Ltd., N-198, 199	Bulk drug, Red, LSI	1474.996
3	Aarti Drugs Ltd., E-1, E-21, E-22	Bulk drug, Red, LSI	291.573
4	Aarti Industries Ltd., E-50	Bulk drug, Red, LSI	96.468
5	Aarti Industries Ltd., K-17,18,19	Bulk drug, Red, LSI	115.762
6	Bombay Rayon Fashion Ltd. C-6,7	Textile, Red, LSI	147.114
7	Siyaram Silk Mills, (Balkrishna Synthetics) H-3/1	Textile processing (earlier it was textile), Red, LSI	625.836
8	Camlin Fine Chemicals, D-2/3	Chemical	1,712.308
9	M/s Ciron Drugs &	Pharma, Orange, LSI	28.94

	Pharmaceutical Pvt. Ltd. N-113, 118, 119 & 119/2		
10	M/s Dicitex Home Furnishing Pvt. Ltd. G-7/1 & 7/2	Textile, Red, LSI	654.054
11	M/s Dicitex Home Furnishing Pvt. Ltd. G-58	Textile, Red, LSI	116.726
12	DC Polyester Pvt. Ltd, E-26/2	Textile, Red, LSI	117.69
13	DC Textile Pvt. Ltd, E-26/1	Textile, Red, LSI	4.342
14	JSW Steel Coated Product Ltd (JSW Steel Ltd) B-6	Steel (Engineering) Red, LSI	230.076
15	M/s Kriplon Synthetics Pvt. Ltd, N-97/1/2, 97, 98	Textile, Red, LSI	232.248
16	Mandhara Dyeing, E-25	Textile, Red, LSI	17.364
17	E-Land Fashion (Mudra Life Style), D-1	Textile, Red, LSI	421.806
18	Nipur Chemical, D-17	Chemical Red, LSI	36.658
19	Resonance Speciality Ltd. T-140	Chemical, Red, SSI	355.968
20	Silvester Textiles P. Ltd.E-24	Textile, Red, LSI	730.746
21	Sarex Overseas N-129,130,131,132	Chemical, Red, LSI	389.248
22	Zeus International Ltd, A-10 & 11	Chemical, Red, LSI	1,932.252
23	Valiant Glass P. Ltd., J-85	Textile, Red, LSI	298.809
24	Aarti Drugs Ltd., E-9/3-4	Bulk Drug, Red, SSI	16.4
25	Jakharia Textile, A-13	Textile, Red, LSI	98.88
26	Pal Fashions Pvt. Ltd, E-49 & E-49/2	Textile, Red, MSI	90.358
27	SD Fine Chemicals, E-27/28	Chemical, Red, MSI	493.434
28	Iraa Clothing (P) Ltd (Shagun Clothing P Ltd), B- 7/3	Textile, Red, MSI	271.718
29	Auro Laboratories Ltd, K-56	Bulk Drugs, Red, MSI	196.311
30	Valiant Organics Ltd. (Formerly M/s. Abhilasha Texchem Pvt. Ltd.) M-7	Textile, Red, SSI	8.842
31	Alexo Chemicals, N-	Chemical, Red, SSI	191.247

	174		
32	Ashwin Synthetics P Ltd, C-8/2	Yarn Dying and textile (Chemicals)Red, SSI	127.578
33	Accusynth Speciality Chemical, E-29/1-2	Chemical, Red, SSI	46.626
34	Ajmera Organics, N-211/2/1	Chemical, Red, SSI	3.858
35	Aarey Drugs & Pharmaceuticals Ltd, E-34	Drug intermediate, Red, SSI	4.02
36	Aradhana Energy Pvt Ltd, K-34	Chemicals, Red, SSI	5.144
37	Bajaj Health Care Ltd, N-216, N-217	Drug Intermediate Red, SSI	203.307
38	Bostan Pharma, E-84	Chemical, Red, SSI	135.698
39	Panchamrut Chemical Pvt. Ltd (Dragon Drugs Pvt. Ltd), N-76	Chemical, Red, SSI	206.442
40	Diakaffil Chemicals, E-4	Chemicals, Red, MSI	96.468
41	DRV Organics, N-184, N-185	Drug Intermediate Red, SSI	205.959
42	Dufon Laboratories P Ltd, E-61/3	Drug Intermediate Red, SSI	118.173
43	D.H. Organic, N-89	Bulk drug, Red, SSI	4.662
44	Gangwal Chemical, N-5	Chemical, Red, SSI	18.168
45	Haren Textile Pvt Ltd, J-194	Textile processing, Red, SSI	31.03
46	Indo Amines Ltd (Previously known as Sri Sai Industries) K-33	Chemical, Red, SSI	119.62
47	Indaco Jeans Pvt. Ltd, G-21	Textile processing, Red, SSI	74.763
48	Mehta API Pvt. Ltd, Gut No- 546, 571, 519, 520, Vill- Lumbhavali, Tal & Dsit- Palghar	Bulk drug, Red, MSI	28.618
49	Moltus Research Laboratories, N-59	Chemical, Red, SSI	2.25
50	K P Chemicals, L-63	Chemical, Red, SSI	3.054
51	JPN Pharma, T-108-109	Bulk drug, Red, SSI	1.93
52	Khanna & Khanna K-10	Chemical, Red, SSI	17.364
53	Keshav Organics P Ltd, T-97,98,100	Chemical, Red, SSI`	4.662
54	Nayakem Organics Pvt. Ltd, T-128	Chemical, Red, SSI	37.623
55	Nirbhay Rasayan Pvt. Ltd,	Pigment (Dyes), Red, MSI	161.583

	N-95,96,96/1		
56	Nutraplus India Ltd, N-92	Chemical, Red, LSI	1,252.156
57	Sequent Scientific Ltd (PI Drugs Pharmaceuticals) W-136,137,138,151	Bulk drug, Red, SSI	54.182
58	Pulcra Chemicals India Ltd D-7/1/1	Chemical, Red, MSI	31.512
59	M/s. Pentagon Drugs Ltd Plot No.N-224, 225	Bulk drug, Red, SSI	64.956
60	M/s. Paramount Syncot Textile, Plot No. N-13/2	Textile, Red, SSI	66.562
61	M/s. IPCA Laboratories (Ramdev Chemicals) Plot No. E-41	Bulk drug, Red, LSI	53.058
62	M/s. Tryst Chemicals, Plot No. L-47	Bulk drug, Red, SSI	29.744
63	M/s. Omtech Chemicals Plot No T-12	Chemical, Red, SSI	13.184
64	M/s. Shreenath Chemicals, Plot No. T-54, T-80	Chemical, Red, SSI	2.25
65	M/s. Salvi Chemicals Industries, Plot No. E-90, E-91, E-92, E-93, E-94, E-95	Chemical, Red, LSI	1,245.4
66	M/s. Sapna Detergent, Plot No. N-152/N-153	Chemical, Red, SSI	87.626
67	M/s. Sagitta P Ltd, Plot No. N-4	Chemical, Red, SSI	2.894
68	M/s. Surmount Chemicals (I) P Ltd, Plot No. N-41,	Chemical, Red, SSI	16.4
69	M/s. Shri Vinayak Chemex India Pvt. Ltd. Plot No. T-11	Chemical, Red, SSI	39.392
70	M/s. Sunil Great Processers, Plot No. N-47/3	Chemical, Red, SSI	295.191
71	M/s. Vardhman Dyestuff Pvt. Ltd, Plot No. N-33, T-34	Dyes, Red, SSI	16.882
72	M/s. Usha Fashion, Plot No. E-42	Textile, Red, SSI	70.905
73	M/s. Visen Industries Ltd Plot No. K-30, T-31, T-32	Chemical, Red, SSI	34.086
74	M/s. U. K. Aromatics & Chemicals Plot No. K-6/3	Chemical, Red, SSI	50.406
75	M/s. Ujwal Pharma P Ltd., Plot No. N-52	Chemical, Red, SSI	318.345
76	M/s. Vividh Global	Chemical, Red, SSI	155.152

	Inds Ltd Plot No. D-21/1		
77	M/s. Square Chemical Plot No. N-60	Chemical, Red, SSI	64.634
78	M/s. Shree Chakra Organics Pvt. Ltd Plot No. K-62	Chemical, Red, SSI	27.332
79	M/s. Arti Drugs, Plot No. E-105, 106, 119, 120	Bulk Drugs, Red, SSI	5.948
80	Omega Colurs Pvt. Ltd., Plot No.D-21/2/3	Crude pigment green. (Earlier mentioned as Dyes), Red, SSI	235.14
81	REMI Edelstahi Tubulars Ltd., (Old Name-RAJENDRA MECHANICAL INDL LTD.) Plot No.- N-2011 /1	Engineering, Red, LSI	10.612
82	Gini Silk Mills Ltd., Plot No.E-15	Textile, Red, LSI	154.832
83	Mayfair Bio tech (Ankit Petro) Plot No. L-12	Chemical, Red, SSI	115.118
84	Rediant Intermediates Plot No. N-224	Chemical, Red, SSI	198.243
85	Premier Intermediate Plot No. T-55, T-56	Bulk Drugs, Red, SSI	8.038
86	Maharashtra Organo Metalics Pvt. Ltd., Plot No.N-220 & 221	Chemical, Red, SSI	2.894
87	Ganesh Benzoplast Plot No.- D-21/2/2	Bulk Drug, Red, LSI	476.552
88	Zorba Dyechem Plot No.W-14	Dyes, Red, SSI	8.2
89	Prabhat Engineering Plot No. L-50	Engineering (Earlier it was mentioned as pickling),Red, LSI	20.258
90	Aarviam Dye Chem Plot No. L-9/2	Dyes, Red, SSI	11.416
91	Dhanlaxmi Steel Plot No.J-56	Engg., Red, SSI	7.556
92	Sarswati Steel (Shiv steel) Plot No.W-88/A	Engg., Red, SSI	14.792
93	Deep Industries Plot No.W-146	Engg., Red, SSI	3.858
94	SR Steel, Plot No.W-80/A	Engg., Red, SSI	13.344
95	J V Chem Industries, Plot No. N-111,112	Chemical, Red, SSI	40.998
96	Shriyans Chemical, Plot No.W-43	Chemical, Red, SSI	6.752
97	The Pharmaceutical Product of India Ltd.,	Bulk Drug, Red, LSI	63.186

	Plot No.N-24, N-25		
98	Union Park Chemicals Pvt. Ltd., Plot No.E-11	Dyes, Red, SSI	3.698
99	Lavino Kapoor Cottons Pvt. Ltd., Plot No.H-1	Cotton, Red, LSI	196.794
100	M/s. Tarapur Environment Protection Society CETP(25 MLD), Plot No. AM-29	Collection, storage and treatment of effluent from member industries, Red, LSI	9179.894

(iv) MIDC shall pay compensation of Rs. Two crores.

(v) The above amount of Environmental Compensation shall be paid by concerned Proponents/MIDC within three months with MPCB. If any amount is already deposited, the same shall be adjusted. If amount of has been deposited with any other authority, it shall be transferred to MPCB. If any Proponent has paid more amount than what has been determined above, the excess amount shall be refunded within one month.

(vi) The amount of compensation shall be utilised for remediation/restoration of environment, and healthcare activities of people in area under guidance and supervision of a Committee comprising CPCB, MPCB, a senior Mdical Expert nominated by Secretary, Medical and Health Department of Government of Maharashtra, National Institute of Oceanography and Collector, Palghar. MPCB and Collector shall be nodal authorites. Committee may opt for any other expert/authority, if finds necessary. Plan for remediation shall be finalized within three months and would be executed within one year thereafter.

(vii) Enforcement Directorate may examine the matter for appropriate action, in the light of PMLA 2002 as amended from time to time, particularly Amendment of 2012.

(viii) The Proponent(s) whose amount of compensation has been increased in the revised report dated 12.08.2021, would have liberty to request Committee to re-visit, if they have any apporiate ground for the same. If any such application is filed, Committee shall consider the same and take final decision within two months. We make it clear that if there is any alternation or modification in the amount, the same shall ultimately be governed by the direction contained in this judgment with regard to number of violations and enhancement of compensation accordingly, as we have directed.

(ix) A copy of this order shall be forwarded to Chief Secretary, State of Maharashtra, CPCB, MPCB, MoEF&CC and Enforcement Directorate by e-mail for compliance.

Adarsh Kumar Goel,
Chairperson

Sudhir Agarwal,
Judicial Member

Brijesh Sethi,
Judicial Member

Dr. Nagin Nanda,
Expert Member

January 24, 2022
Original Application No. 64/2016 (WZ)

2023 INSC 618

REPORTABLE

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION

CIVIL APPEAL NO. 3856/2022

SINGRAULI SUPER THERMAL POWER STATION **APPELLANT(S)**

VERSUS

ASHWANI KUMAR DUBEY & ORS. **RESPONDENT(S)**

WITH

CIVIL APPEAL No.4529/2022

CIVIL APPEAL No.4525/2022

CIVIL APPEAL No.4581/2022

J U D G M E N T

NAGARATHNA J.

Since the grievances ventilated by the appellant(s) in these appeals are common, they have been clubbed and heard together and are disposed of by this common judgment.

2. The appellants(s) herein are aggrieved by the order passed by the National Green Tribunal, Principal Bench, New Delhi (hereinafter referred to as "NGT" for the sake of convenience) dated 18.01.2022. By the said order the following directions have been issued against the appellant(s) herein:-

> **"Directions:**
> **21. In the light of above discussion, it is patent that remedial measures are required in terms of recommendations set out in para 15 above in respect of individual TPPs or other projects as well as general issues applicable to all the TPPs such as timely installation of air pollution control and monitoring devises, timely utilization and disposal of fly ash, scientific designing of fly ash dykes and safety norms, addressing public health issues, steps for restoration of deteriorated environment by bringing down CEPI scores in the entire area, restoration of Rihand Reservoir and other damaged/degraded areas, providing arrangement for**

public health facilities, including water supply and by coordinated and concerted efforts and high level monitoring. The PP are to be accountable for past violations and are under obligation to remedy the violations and follow the norms for future. The regulators are to enforce the same and higher authorities are to oversee. Accordingly, following direction are issued:

i. We direct constitution of a fly ash management and utilization Mission to be jointly headed by the Secretaries, MoEF&&CC, Coal and Power, GoI and Chief Secretaries of UP and MP. The Secretary, MoEF&CC will be the nodal agency for coordination and compliance. The Mission will coordinate and monitor issues relating to handling and disposal of flyash as well as all associated issues in the light of above discussion. It may hold its first meeting within one month to take stock of the situation and to prepare action plan in the light of recommendations of Joint Committees quoted earlier in para 15 above in respect of individual plants as well as road map generally. Thereafter, it may meet atleast once in a month for one year to review the progress. The resolutions of the Mission and quarterly progress may be placed on the website of MoEF&CC for information of the stake holders and inhabitants in the area. The Mission will be free to interact with the concerned Government Departments/ Expert institutions/individuals/other stakeholders. The Mission may in its first meeting require voluntary financial contribution by all the projects in proportion of the financial capacity of the projects out of CSR funds or otherwise. The contribution, alongwith compensation which may be collected may be credited to a separate environment restoration account for restoration of environment and relief to the victims of damage to the environment in such manner as may be found necessary by the Mission. Any victim or aggrieved party will be free to approach the Mission for providing such relief. The Mission may also consider the safeguards laid down in the Notification dated 31.12.2021, particularly for safety audits of sh dykes which should be conducted particularly for structural stability, as far as possible within six months. Advisory issued by the Ministry of Power dated 22.9.2021 will not be enforced being against the spirit of notification dated 31. 12.2021 and obstructing much needed speedy utilisation/disposal of legacy flyash. The Mission may evolve mechanism for interaction with stake holders, including associations of brick kiln owners. Guidelines be also issued for siting, design and engineering standards for the location, disposal, maintenance and regulation of Ash Ponds as breach of a fly ash pond result in great disaster. Public health and risk impact

assessment in the areas of operation of TPPs and generators of fly ash may be got conducted. The Mission may also monitor scientific management and utilization of fly ash by power projects outside Singrauli and Sonebhadra, in coordination with Chief Secretaries of concerned States and adopting safety measures for ash dykes, installing devices to control air pollution, (including FGDs, OCEMS) in a time bound manner and restoration of environment and public health. The Mission may also consider use of beneficiated coal. It may in particular consider on-site and off-site crisis management plans with regard to fly ash ponds and dykes. As noted earlier, legacy fly ash is 1670.602 Million Tonnes as on.31.12.2021 and data of ash generation and utilization of legacy fly ash is as follows:
"Summary of of Ash Generation and Utilization during year 2020-21

No. of Thermal Power Stations	191
Capacity (MW)	2,13,030 MW
Coal Consumed	672.130 Million Tonnes
Fly Ash Generation	222.789 Million Tonnes
Fly Ash Utilization	205.098 Million Tonnes
Percentage Utilization	92.06%
Legacy Flyash	1670.602 Million Tonnes

The Committee of Secretaries, in coordination with PPs and statutory regulators, may draw a road map for utilization and disposal of entire legacy fly ash for Sonebhadra and Singrauli areas as well as for all the Power Plants located in clusters or standalone with tagging the sources to utilize fly ash on voluntary and compulsion mode for which required mechanism be laid down.

ii. With regard to past violations, the PPs remain liable and the Joint Committee of CPCB, State PCB and jurisdictional District Magistrates may determine compensation following due process, on the principles laid down inter alia in M.C. Mehta, (1987) 1 sec 395, Sterlite (2013) 4 sec 575 and Goel Ganga (2018) 18 SCC 257, having regard to the period of violation and financial capacity of the unit. The PPs may take remedial measures as per recommendations of the Committee and as per law, failing with coercive measures for continuing or future violations be taken by concerned authorities.

iii. Statutoiy regulators may take action in terms of need for compliances in the light of recommendations with regard to individual Plants as well as generally so as to require the concerned PPs to comply, failing which coercive measures be taken by the statutory regulators In accordance with law.

iv. In respect of incident dated 10.04.2020, compensation paid to heirs of the deceased at the rate of Rs. 10 lakhs per death is increased to Rs. 15 lakhs on principles laid down inter alia in Sarla Verma (2009) 6 SCC 121 and Uphaar Cinema (2011) 14 SCC 481. We direct the remaining amount to be paid within one month. This order will not debar the heirs of the victims to claim higher compensation by approaching appropriate forum. If the salaries to persons appointed as compensation to the victims are below minimum wages, the PP may ensure compliance of law on the subject which may be also looked into by the concerned Labour Departments of the State of UP and MP. The statutory regulators may take further remedial action in terms of recommendations of the Committee in OA 148/2020, quoted earlier for restoration of environment and preventing such incidents.

v. With regard to breach of Rihand Reservoir also, further remedial measures be taken in terms of recommendations on the subject, quoted in para 15 above.

All the matters (including IAs) will stand disposed of accordingly. If any grievance survives, aggrieved parties are free to take remedies as per law.

A copy of this order be forwarded to the Secretaries, MoEF&CC, Coal and Power, GoI and Chief Secretaries of UP and MP, CPCB, State PCBs, SEIAAs, PCCFs (HoFF) UP and MP, District Magistrates, Singrauli and Sonebhadra, Labour Commissioners, UP and MP, State Disaster Management Authorities of UP and MP and SSPs by e-mail for compliance. CPCB may also circulate the same by email to all TPPs or other concerned to facilitate compliance.

Adarsh Kumar Goel, CP

Sudhlr Agarwal, JM

Brijesh Sethi, JM

Prof. A. Senthil Ve!, EM

Dr. Afroz Ahmad, EM

January 18, 2022

3. Being aggrieved by the directions issued by the NGT and the manner in which the original petition has been disposed of, the appellants have filed these appeals.

4. At this stage itself it may be noted that the first respondent, the original applicant before the NGT has been served in all the cases and has not appeared in these cases. In the circumstances, the appeals have been heard and decided, by taking into consideration, the submissions of the learned counsel appearing for the appellants herein.

5. Learned Solicitor General appearing for the appellants in C.A. No.3856/2022 at the outset submitted that the proceedings of the NGT are judicial proceedings and compliance of principles of natural justice is a hallmark of all judicial proceedings. That in the instant case, while the NGT was well within its powers to constitute an expert Committee and to seek a report with regard to the alleged violations complained of by the first respondent herein, on receipt of the said report, it was necessary that the alleged violators were given an opportunity to object to the said report and after consideration of the objections, the NGT ought to have passed a considered order and issued only those directions which were appropriate having regard to the facts of each industry that was made a respondent before the NGT.

He further submitted that Section 19(1) of the National Green Tribunal Act, 2010 (hereinafter referred to as the "Act" for the sake of convenience) categorically states that the Tribunal, though not bound by the procedure laid down by the Code of Civil Procedure, 1908, shall nevertheless be guided by the principles of natural

justice.

According to learned Solicitor General in the instant case, there has been gross violation of the principles of national justice on two counts: firstly, the report of the Committee constituted by the NGT and the recommendations made by the said Committee could not be objected to by the appellant(s) herein as there was hardly any time given to the appellants to even peruse the same. In this regard, he drew our attention to the fact that the report and the recommendations of the Committee constituted by the NGT were put up on the website of the NGT on 15.01.2022 and three days thereafter i.e., on 18.01.2022 the impugned directions have been issued. Secondly, he submitted that the fact that in such a short span of time the matters were considered and disposed of by the NGT, in the absence of there being objections filed by the appellants herein nor having heard the appellants herein, would also imply that there has been no consideration by the NGT of the *pros* and *cons* vis-a-vis the recommendations made by the expert Committee and as to whether the directions issued were appropriate to the case of each of the appellant(s) herein or not.

It was submitted that had the appellants herein had an opportunity of filing their objections to the recommendations made by the Committee constituted by the NGT and had the appellants been heard in the matter, possibly appropriate directions could have been issued as against the appellant(s) herein.

In conclusion, learned Solicitor General submitted that the impugned order may be set aside and the matter may be remanded to the NGT for re-consideration of the entire case of the first

respondent herein in compliance with the principles of natural justice, that is, firstly by giving an opportunity to the appellants herein to file their objections, if any, to the recommendations of the Committee constituted by the NGT and secondly, by giving a further opportunity of hearing to the appellants herein.

In this regard, learned Solicitor General relied upon a decision of this Court in ***Sanghar Zuber Ismail vs. Ministry of Environment, Forest and Climate Change and Another*** reported in (2021) SCC Online SC 669.

6. Learned senior counsel Mr. Sanjay Jain and Mr. Nazki adopted the submissions of learned Solicitor General and also contended that the manner in which the original petition has been disposed of by the NGT in these cases was in gross violation of the principles of natural justice. In this regard, reliance is also placed on another decision of this Court in case of ***Kantha Vibhag Yuva Koli Samaj Parivartan vs. State of Gujarat*** reported in 2022 SCC online SC 120.

7. The other learned counsel who have appeared, brought to our notice that in the instant case, there were two reports filed and therefore, it was all the more necessary that the said reports had to be considered in order to examine as to whether there were contradictions in them and were in accordance with law.

8. Learned ASG appearing for the respondent No.2 as well as other learned counsel for private respondents also supported the arguments of learned Solicitor General.

9. We find substance in the submissions made by learned Solicitor General, learned senior counsel and learned counsel for the respective parties.

As already noted, the first respondent is the contesting respondent herein who has been served and has failed to appear in these cases.

10. The directions issued by the NGT have been extracted above. The aforesaid directions are in light of the recommendations made by the expert Committee *vide* two reports submitted to the NGT. It is noted that the NGT has extracted the report/s as well as the recommendations at paragraphs 14-16 of the impugned order and has observed as under:

> **"14. Points for determination are remedial action against pollution due to failure to scientifically manage and utilise the flyash, accountability for damage due to breach of Rihand reservoir and due to breach of ash pond, resulting in deaths and injuries and damage to the crops and environment. As already mentioned, legacy fly ash is 1670.602 Million Tonnes as on 31.12.2021 which has potential for serious damage to the environment as shown by incidents of dyke breaches contaminating sources of water and air pollution making industrial areas critically polluted. Air control devices are not installed in many TPPs. There are incidents of deaths, injuries and loss of flora and fauna.**
>
> **15. We have considered the data furnished in the reports furnished in pursuance of earlier orders of this Tribunal dated 04.11.2020 in OA No. 117/2014, 14.07.2020 in OA No. 164/2018 and 29.6.2020 in OA No. 148/2020, including the recommendations for remedial action. The compliance status as projected in the reports of the Joint Committees/Oversight Committees shows huge gap in storing, handling, management and utilization of fly ash and consequential continuing damage to the environment and public health. Such huge gaps are patent from the recommendations part in the reports. Deficiencies noted in respect of some individual TPPs appear to be of representative nature and may exist in almost all TPPs, unless shown otherwise on the ground and not in the form of self-serving denial. In the light of the said recommendations, further remedial action needs to be taken to enforce the principle of sustainable development under section 20 of the NGT Act. The recommendations are reproduced below:**
>
> > **"M/s NTPC Limited Shakti Nagar Sonbhadra:**
> > **Recommendations of the Committee**
> >
> > **xxx**
> >
> > **M/s NTPC Limited Rihand Super Thermal Power (Power Plant)**

Recommendations of the Committee

xxx

M/s Anpara Thermal Power Plant (Power Plant)

Recommendations of the Committee

xxx

M/s Anpara 'C' Lanco Thermal Power Station

Recommendations of the Committee

xxx

M/s Renusagar Thermal Power Plant

Recommendations of the Committee

xxx

M/s Obra Thermal Power Station (Power Plant)

Recommendations of the Committee

xxx

Coal Mines of M/s Northern Coalfields Limited (NCL)

1. NCL Dudhichuwa Project, Sonbhadra

Recommendations of the Committee

xxx

2. NCL Bina Project, Bina, Sonbhadra

Recommendations of the Committee

xxx

3. NCL Krishna Shila Project

Recommendations of the Committee

xxx

4. M/s NCL Kakri Project, Sonbhadra

Recommendations of the Committee

xxx

5. NCL Khadia Project Sonbhadra

Recommendations of the Committee

xxx

Aluminum Smelter: M/s HINDALCO Industries Ltd., Renukoot, Sonbhadra

Recommendations of the Committee

xxx

M/s Grasim Industries Limited Chemical Division, Renukoot, Sonbhadra

Recommendations of the Committee

xxx

M/s Birla Carbon India Pvt. Ltd., Renukoot, Sonbhadra

Recommendations of the Committee

xxx

Stone Crusher

Recommendations of the Committee

xxx

A. Thermal Power Plants (TPPs) and Industries

B. Coal Mines of M/s Northern Coalfields Limited (NCL)
C. Stone Crushers
Recommendations"

16. From the above, it is seen that there is a long way to go for protecting environment and public health. The failures of the TPPs are alarming. We find no reason not to accept all the recommendations and to direct remed1al action. Thus, all recommendations are accepted and further remedial action is directed to be taken by the statutory regulators which also be overseen by the joint Committees of CPCB, State PCB and the jurisdictional District Magistrates, with CPCB and State PCBs being nodal agencies. Quarterly reports may now be filed with the MoEF&CC to be considered by the Coordinating Committee being hereby constituted."

11. In other words, the NGT has simply accepted the recommendations as remedial action suggested by the Committee but the same is in the absence of there being objections filed by the appellants herein who were the respondents before the NGT and without giving any hearing to them and against whom directions impugned in these cases have been passed by the NGT. We find that the procedure adopted by the NGT is an instance of violation of the principles of natural justice. Section 19(1) of the NGT Act, 2010 reads as under:

"19.(1) The Tribunal shall not be bound by the procedure laid down by the Code of Civil Procedure, 1908 (5 of 1908) but shall be guided by the principles of natural justice."

At this stage, we may also observe that the recommendations made by an expert Committee are not binding on the NGT, they are only by way of assistance to enable the NGT to arrive at a correct decision in the matter.

12. In this regard reliance may be placed on paragraph 7 and 8 of the judgment of this Court in ***Sanghar Zuber Ismail*** (supra) wherein it has been stated as under:

> "7. Having regard to the nature of its appellate power, the NGT has to apply its mind to the substantive grounds of challenge. The NGT has merely based its conclusion on the statement which has been made by the project proponent and has not conducted an independent appraisal of the grounds of challenge.
> 8... the NGT has not dealt with the substantive grounds of challenge in the exercise of its appellate jurisdiction. Constitution of an expert committee does not absolve the NGT of its duty to adjudicate. The adjudicatory function of the NGT cannot be assigned to committees, even expert committees. The decision has to be that of the NGT. The NGT has been constituted as an expert adjudicatory authority under an Act of Parliament. The discharge of its functions cannot be obviated by tasking committees to carry out a function which vests in the tribunal."

13. Furthermore, in ***Kantha Vibhag*** (supra), this Court had criticized the practice of delegation of core adjudication to the joint committee:

> 15. It is first important to differentiate expert committees which are set by the courts/tribunals from those set up by the Government in exercise of executive powers or under a particular statute. The latter are set up due to their technical expertise in a given area, and their reports are, subject to judicially observed restraints, open to judicial review before courts when decisions are taken solely based upon them. The precedents of this court unanimously note that courts should be circumspect in rejecting the opinion of these committees, unless they find their decision to be manifestly arbitrary or mala fide. On the other hand, courts/tribunals themselves set up expert committees on occasion. These committees are set up because the fact-finding exercise in many matters can be complex, technical and time-consuming, and may often require the committees to conduct field visits. These committees are set up with specific terms of reference outlining their mandate, and their reports have to conform to the mandate. Once these committees submit their final reports to the court/tribunal, it is open to the parties to object to them, which is then adjudicated upon. The role of these expert committees does not substitute the adjudicatory role of the court or tribunal. The role of an expert committee appointed by an adjudicatory forum is only to assist it in the exercise of adjudicatory functions by providing them better data and factual clarity, which is also open to challenge by all concerned parties. Allowing for objections to be raised and considered makes the process fair and participatory for all stakeholders.

16. Sections 14 and Section 15 entrust adjudicatory functions to the NGT. The NGT is a specialized body comprising of judicial and expert members. Judicial members bring to bear their experience in adjudicating cases. On the other hand, expert members bring into the decision-making process scientific knowledge on issues concerning the environment. In Hanuman Laxman Aroskar v. Union of India9, a two- Judge Bench of this Court noted that the NGT is an expert adjudicatory body on the environment. The Court held:

> "133. The NGT Act provides for the constitution of a tribunal consisting both of judicial and expert members. The mix of judicial and technical members envisaged by the statute is for the reason that the Tribunal is called upon to consider questions which involve the application and assessment of science and its interface with the environment...
>
> 134. NGT is an expert adjudicatory body on the environment."

17. The NGT does not have a dearth of 'expertise' when it comes to the issues of environment.

18. Section 15 empowers the NGT to award compensation to the victims of pollution and for environmental damage, to provide for restitution of property which has been damaged and for the restitution of the environment. The NGT cannot abdicate its jurisdiction by entrusting these core adjudicatory functions to administrative expert committees. Expert committees may be appointed to assist the NGT in the performance of its task and as an adjunct to its fact-finding role. But adjudication under the statute is entrusted to the NGT and cannot be delegated to administrative authorities. Adjudicatory functions assigned to courts and tribunals cannot be hived off to administrative committees.

19. The NGT has in the present case abdicated its jurisdiction and entrusted judicial functions to an administrative expert committee. An expert committee may be able to assist the NGT, for instance, by carrying out a fact-finding exercise, but the adjudication has to be by the NGT. This is not a delegable function. Thus, the order impugned in the appeal cannot be sustained. The consequence of the impugned order is to efface the meticulous exercise which was carried out by the earlier Benches. Valuable time has been lost in the meantime and crucial issues pertaining to the environment in the present case have been placed on the back-burner."

14. In a recent landmark decision, ***Madhyamam Broadcasting Limited v. Union of India (2023) SCC Online 366***, the principles of natural justice have been crystalized in the words of Hon'ble CJI-Dr Dhananjaya Y Chandrachud as under:

> "53. …The facet of *audi alterum partem* encompasses the components of notice, contents of the notice, reports of inquiry, and materials that are available for perusal. While situational modifications are permissible, the rules of natural justice cannot be modified to suit the needs of the situation to such an extent that the core of the principle is abrogated because it is the core that infuses procedural reasonableness…."

15. A reading of the above, clearly indicates that the NGT is a judicial body and therefore exercises adjudicatory function. The very nature of an adjudicatory function would carry with it the requirement that principles of natural justice are complied with, particularly when there is an adversarial system of hearing of the cases before the Tribunal or for that matter before the Courts in India. The NGT though is a special adjudicatory body constituted by an Act of Parliament, nevertheless, the discharge of its function must be in accordance with law which would also include compliance with the principles of natural justice as envisaged in Section 19(1) of the Act.

16. In this context, it would be useful to refer to what is known as the 'official notice' doctrine, which is a device used in administrative procedure. Although an authority can rely upon materials familiar to it in its expert capacity without the need formally to introduce them in evidence, nevertheless, the parties ought to be informed of materials so noticed and be given an opportunity to explain or rebut them. The data on which an authority

is acting must be apprised to the party against whom the data is to be used as such a party would then have an opportunity not only to refute it but also supplement, explain or give a different perspective to the facts upon which the authority relies. This has been explained by Schwartz in his work on Administrative Law. The aforesaid doctrine applies with greater force to a judicial / adjudicatory body.

Therefore, applying the aforesaid principle to the cases that come up before the NGT, if the NGT intends to rely upon an expert Committee report or any other relevant material that comes to its knowledge, it should disclose in advance to the party so as to give an opportunity for discussion and rebuttal. Thus, factual information which comes to the knowledge of NGT on the basis of the report of the Committee constituted by it, if to be relied upon by the NGT, then, the same must be disclosed to the parties for their response and a reasonable opportunity must be afforded to present their observations or comments on such a report to the Tribunal.

17. It is needless to observe that the experts' opinion is only by way of assistance in arriving at a final conclusion. But we find that in the instant case the report of the expert Committee as well as the recommendations have been made the basis of the directions and such an approach is improper.

18. We have perused the impugned order of the NGT and particularly paragraph '16' which has been extracted above. It is apparent that the appellant(s) herein who were respondents before the NGT were not given an opportunity to file their objections to the recommendations made by the Committee constituted by the NGT which is apparent by the fact that the recommendations were uploaded on 15.01.2022 and

the final order of the NGT was passed three days later on, i.e. 18.01.2022. Thus, this is a clear case of there being non compliance with the principles of natural justice. On the said ground alone the impugned order is set aside, the matter is remanded to the NGT for re-consideration from the stage of the recommendations filed by the expert Committee constituted by the NGT. The appellant(s) herein are permitted to file their objections, if they are so advised. The NGT shall consider the objections, if any, filed to the recommendations and thereafter dispose of the applications in accordance with law and after giving a reasonable opportunity to all parties.

19. The appeals are allowed and disposed of in the aforesaid terms. Pending application(s), if any, shall stand disposed of.

……J.
(B.V. NAGARATHNA)

……J.
(PRASHANT KUMAR MISHRA)

NEW DELHI;
JULY 05, 2023

Scheme for Accreditation of EIA Consultant Organizations:

Version 3

NATIONAL ACCREDITATION BOARD FOR EDUCATION AND TRAINING

QUALITY COUNCIL OF INDIA

June, 2015

1877

Minister of State, (Independent Charge) for Environment, Forest & Climate Change Government of India

It is Important to ensure ease of doing business without compromising the environmental norms and vigour of Environment Impact assessment. The government wants to simplify processes and increase the emphasis on strict compliance of green norms.

The Ministry has promoted a scheme for accreditation of Consultants involved in preparing Environment Impact Assessment reports for developmental projects. The scheme has improved the timelines in the process of approval of projects and quality of EIA/EMP both at the Central and State levels.

QCI's efforts in Capacity Building of Consultants engaged in preparation of EIA/EMP reports are indeed laudable and will be well supported by our set of legislative and regulatory measures, aimed at the preservation, conservation and protection of the environment.

(Prakash Javadekar)

Chairman, QCI

Change can truly happen if it is affected at the community level.

We must learn to live in a way that will sustain our world, like learn to use our natural resources in an efficient manner. To be honest, what we are doing to the environment is actually a reflection of what we are doing to ourselves.

We know that activities carried out by businesses can exert considerable pressure on the environment. By boosting the competitiveness of businesses that meets environmental standards or helps conserve the environment, is perhaps one way forward.

We must stop in our tracks and examine our surroundings and take a pledge to preserve the beauty that lies around us. Through such initiatives, QCI is actively advocating that there is something each of us can do to preserve the environment while marching towards our cherished aim of making India an economic superpower.

(Adil Zainulbhai)

Secretary Government of India Ministry of Environment, Forest & Climate Change

The Ministry of Environment, Forest & Climate Change, Government of India, is making a coordinated effort for sustainable development and environment protection. It is pertinent that we ethically re-examine our inheritance of this planet and by developing competence in areas of environmental protection we pave way to what we will pass on to the next generation.

The call for the day is to integrate environmental issues into enterprise policy as well as measures aimed at limiting the adverse impact businesses may have on the environment, while at the same time not hampering their development.

QCI's initiative in highlighting and propagating this will go a long way in assisting the Government in its commitment towards the environment and we are duty bound to support such Environmental Impact Assessment initiatives.

I am sure this workshop will be invigorating and interesting and will add value to our efforts.

(Ashok Lavasa)

Acknowledgement

This Scheme for Accreditation of EIA Consultant Organizations is a self -evolved, innovatively designed and purposefully driven national initiative that had no parallels to follow from anywhere in the world.

The journey that started with its conceptualization in 2005 to its implementation now has been an exciting and enriching experience for Quality Council of India (QCI) and its constituent board the National Accreditation Board for Education and Training (NABET).

This venture would not have been so successful without the able guidance received from the each of the successive Secretaries and their teams in the Ministry of Environment, Forest and Climate Change, Govt. of India, all through from the formative years of the scheme to the presently matured form that the scheme has acquired. The scheme additionally benefitted from the professional support provided by the experts in the field of Environment Impact Assessment and the valuable inputs provided by the consultant organizations, and the representatives from industries, academia and research institutions. The unfailing and constant support by the NABET Board, and the Technical and Accreditation Committees of NABET provided the much needed vitality and buoyancy for the successful launch of this national initiative. The constant encouragement and support of the Secretary General, QCI and the Chief Executive Officer, NABET have been a tremendous source of inspiration for NABET team.

QCI/ NABET acknowledge with sincere gratitude, the support and cooperation received from all its peers, well-wishers and partners in the implementation of this Scheme.

Scheme for Accreditation of EIA Consultant Organizations

Background of the current version of the Scheme

The above Scheme has evolved over a period of last 5 years. This is Version 3 as explained below:

- **Version 1– Jan, 2010** containing the Initial Accreditation (IA) process, which was earlier recognized as Rev 6 of the scheme.
- **Version 2 – Aug, 2011** containing the IA and Surveillance Assessment (SA) processes, which was earlier recognized as Rev 9 of the scheme.
- **Version 3 - June, 2015** containing the IA, SA, Re-accreditation processes and the 'Rationalization of Functional Areas as per Sectors'
- **This Version 3 will be effective from Sep 1, 2015**

CONTENTS

1.0 ENVIRONMENTAL CLEARANCE 01
1.1 Environment Impact Assessment 01
1.2 Process of EIA in India 01
1.3 Accreditation of EIA consultants 02

2.0 ABOUT QCI & NABET 02

3.0 ACCREDITATION 03
3.1 Benefits of accreditation 03

4.0 SCHEME FOR ACCREDITATION EIA CONSULT ORGANIZATION 04
4.1 Eligibility for accreditation 05
4.2 Scope of the Scheme 05
4.3 Coverage of the Scheme 06
4.4 Updation of the Scheme 06

5.0 REQUIREMENTS FOR ACCREDITATION 06
5.1 **Human resource 06**
5.1.1 EIA coordinator (EC) 07
5.1.2 Associate EIA coordinator (AEC) for category A 08
5.1.3 Functional area experts (FAEs) 08
5.1.4 Functional area associate (FAA) 10
5.1.5 Team members (TM) 10
5.1.6 Mentors 10
5.1.7 General conditions for experts 11
5.2 **Field investigation and laboratory arrangement 13**
5.2.1 Laboratory arrangement for monitoring physical environment baseline data 13
5.2.2 Field investigation for biotic environment and socio-economic data 14
5.3 Quality management system (QMS) 14
5.4 Quality of EIA report 14
5.5 Organizational commitment 14

6.0 ACCREDITATION CYCLE 15

7.0 ACCREDITATION PROCESS 15
7.1 Application assessment process 15
7.2 Decision making process 17
7.3 Time frame for application and accreditation processes 18
7.4 Accreditation process outcome 18
7.5 Category of accredited consultants 19

8.0 ACCREDITATION FEES 19

9.0 GRANT OF ACCREDITATION 20

9.1 Maintaining accreditation 20
9.2 Changes after accreditation 21
9.2.1 Change in experts and/or in their scope 21
9.2.2 Scope of accreditation 22
9.3 Suspension/cancellation/debarment of accreditation 22
9.4 Actions for misconduct/fraudulent activities 23
9.5 Confidentiality 23

10.0 CHANGEOVER FROM VERSION 2 (REV. 09) TO VERSION 3 OF THE SCHEME 24
10.1 For Fresh applicant organizations (AO's) 24
10.2 For accredited consultant organizations (ACO's) 24

11.0 GRIEVANCE REDRESSAL MECHANISM 26
11.1 Review of decisions 26
11.2 Appeal 27

12.0 CODE OF CONDUCT 27
12.1 Use of QCI & NABET Logo 27
12.2 Undertaking by Consultant Organizations 28

APPENDIX A- QUALIFICATION, EXPERIENCE & FUNCTION OF EXPERTS 31
A 1. EIA coordinators 32
A 1.1 Minimum educational qualification 32
A 1.2 Minimum experience 32
A 1.2.1 EIA related experience 32
A 1.2.2 Sector specific (for each Sector applied for) 33
A 1.3 Expected functions of EIA coordinators 34
A 1.3.1 Prior to the receipt of the work order for tender preparation 34
A 1.3.2 On receipt of the work order 35

A 2.0 Functional area experts 36
A 2.1 Minimum educational qualification 36
A 2.2 Minimum experience 36
A 2.2.1 FAE category A 36
A 2.2.2 FAE category B 36
A 2.3 Specific educational qualification and experience for - each functional areas 37
A 2.3.1 Land use 37
A 2.3.2 Air pollution monitoring, prevention and control 38
A 2.3.3 Meteorology, air quality modeling and prediction 39
A 2.3.4. Water pollution monitoring, prevention and control 39
A 2.3.5. Ecology and biodiversity 40
A 2.3.6. Noise and vibration 41
A 2.3.7. Socio-economics 42
A 2.3.8 Hydrology, ground water and water conservation 43
A 2.3.9 Geology 44
A 2.3.10 Soil conservation 44
A 2.3.11 Risk Assessment and hazard management 45
A 2.3.12 Solid and hazardous waste management 46

A 2.4 Expected functions of functional area experts 47
A 2.4.1 Prior to the receipt of work order 48
A 2.4.2 On receipt of the work order 48
A 2.5 Functional area associates (FAA) 49

A 3. Mentor..... 49

A 4. Team member (TM) 50
A 4.1 Procedure to be followed to work as TM..... 50
A 4.2 Expected functions of team member 50
A 5.0 Requirements of accreditation for the Nuclear Sector 51

APPENDIX B- QUALITY MANAGEMENT SYSTEM 53
B 1. Quality Policy 55
B 2. Control of documents including records..... 55
B 3. Performance measurement and review 55
B 4. Actions taken to address non- conformances..... 55
B 5. Identification, retention and assessment of performance of empanelled experts..... 56
B 6. Collection/measurement of primary data 56
B 7. Collation, synthesis and interpretation of secondary data 56
B 8. Work outsourced 57
B 9. Laboratory work for baseline data..... 57
B 10. Complaints and appeals 57

APPENDIX C- PROCESSES FOR INITIAL ACCREDITATION (IA), SURVEILLANCE ASSESSMENT (SA) AND RE-ACCREDITATION (RA) 59

C 1.0 Accreditation cycle 60

C 2.0 Assessment process..... 60
C 2.1 Stage I – Assessment: Scrutiny for completeness of application and support documents by NABET secretariat 60
C 2.2 Stage II – Technical review of documents by NABET assessor 62
C 2.3 Stage III – Office assessment by NABET assessor..... 62

C 3.0 Assessment Process - Initial accreditation (IA) 63
C 3.1 Human Resources 63
C 3.2 Field investigations and laboratory systems 64
C 3.2.1 Field investigation for primary data..... 64
C 3.2.2 Collation, synthesis and interpretation of secondary data 65
C 3.3 Quality management system (QMS)..... 65
C 3.4 Quality of EIAs..... 65
C 3.5 Organizational commitment 66
C 3.6 Weightage of marks..... 67
C 3.7 Conditions to be fulfilled for Initial accreditation 67
C 3.8 Category of accreditation for organization 67
C 3.9 Submission of complete application..... 68
C 3.10 Self-assessment checklist..... 68

C 4.0 Assessment Process - Surveillance assessment 68
C 4.1 Performance of approved experts 69
C 4.2 Field investigations and laboratory systems 70
C 4.3 Quality Management System 70
C 4.4 Quality of EIAs prepared by the ACO 71
C 4.5 Organizational commitment 71
C 4.6 Compliance to conditions of accreditation 71
C 4.7 Conditions to be fulfilled for continuation of accreditation 72
C 4.8 Category of accreditation of organization and approval of experts 72
C 4.9 Scoring requirements for experts/candidates 72
C 4.10 Submission of application for SA 73
C 4.11 Self-assessment checklist 73

C 5.0 Assessment Process - Re- accreditation 73
C 5.1 Performance of approved experts 74
C 5.2 Quality management system 75
C 5.3 Field investigations and laboratory systems to ensure data integrity 75
C 5.4 Quality of EIAs prepared by the ACO 76
C 5.5 Organizational commitment 76
C 5.6 Improvements achieved 76
C 5.7 Compliance to conditions of SA 76
C 5.8 Weightage of Marks 76
C 5.9 Conditions to be fulfilled for Re-accreditation 77
C 5.10 Category of accreditation/approval 77
C 5.11 Additional points for Re-accreditation 77
C 5.12 Timely submission of application 78
C 5.13 Self-assessment checklist 78

C 6.0 Assessment of candidates for different organizations 78

C 7.0 MOU/ Agreement /NOC 79
C 7.1 Between AO/ ACO and external laboratory 79
C 7.2 Between AO/ ACO and empanelled expert 79
C 7.3 Contents of NOC 79

C 8.0 Further classification of consultants 80
C 9.0 Cases of re-application/ up-gradation from Cat B to Cat A 80

APPENDIX D- ACCREDITATION FEES 81
Accreditation Fee Structure 82

S. No.	Subject	Aspects	Page No.
	Abbreviations		viii
	List of Appendices		30
	Appendix A	Qualifications, Experience & Function of Experts	31
	Appendix B	Quality Management System	53
	Appendix C	Accreditation Process	58
	Appendix D	Fee Structure	81
	List of Annexure		85
1.	Annexure I Annexure IA Annexure IB Annexure IC Annexure ID Annexure IE	Application form for Initial Accreditation Application form for Surveillance Accreditation Application form for Re-Accreditation Application form for addition/modification in scope of accreditation for Accredited Consultant Organization (ACOs) Application for Supplementary assessment Format for information on Team Members	86 92 98 105 110 113
2.	Annexure II	Project sectors	115
3.	Annexure IIA	Sector wise requirement of Functional Areas	117
4.	Annexure III	Deleted	----
5.	Annexure IV	Resume Format	118
6.	Annexure IVA	EIA coordinator-Sectoral experience	122
7.	Annexure IVB	Functional Area Expert -Specific experience	125
8.	Annexure V	Declaration for empanelled experts	127
9.	Annexure VI A1	List of EIAs prepared/completed/ongoing during the period between IA & SA and SA & RA.	130
10.	Annexure VI A2	Status of association of approved experts as on date and their earlier approvals	131
11.	Annexure VI A3	Details of laboratories utilized for baseline data collection	132
12.	Annexure VI A4	EIA Coordinator – Experience since approval	133
13.	Annexure VI A5	Functional Area Expert – Experience since approval	135
14.	Annexure VII	Declaration of association in the EIA	137
15.	Annexure VIII	Self Assessment Checklists	139

Abbreviations

AAQ	Ambient Air Quality
AC	Accreditation Committee
ACO	Accredited Consultant Organization
AO	Applicant Organization
AICTE	All India Council for Technical Education
ASSOCHAM	Associated Chambers of Commerce and Industry of India
B. Tech	Bachelor of Technology
CA	Co-Assessor
CAPA	Corrective Action & Preventive Action
CEO	Chief Executive Officer
CETP	Common Effluent Treatment Plant
CII	Confederation of Indian Industries
CO	Carbon Monoxide
CPCB	Central Pollution Control Board
CRZ	Coastal Regulation Zone
CREP	Corporate Responsibility for Environmental Protection
CSIR	Council of Scientific & Industrial Research
CV	Curriculum vitae
DPR	Detailed Project Report
EAC	Expert Appraisal Committee
EC	EIA Coordinator
EHS	Environment, Health and Safety
EIA	Environment Impact Assessment
EMP	Environmental Management Plan
Emp	Empanelled
ESP	Electrostatic Precipitators
FA	Functional Area
FAA	Functional Area Associate
FAE	Functional Area Expert
FICCI	Federation of Indian Chambers of Commerce and Industry
GIS	Geographical Information System
GLC	Ground Level Concentration
HC	Hydrocarbon
IA	Initial Accreditation
IH	In- house
IIRS	Indian Institute of Remote Sensing
IIFM	Indian Institute of Forest Management
IISWBM	Indian Institute of Social Welfare & Business Management
IIT	Indian Institute of Technology
ISO	International Organization for Standardization

ISRO	Indian Space Research Organization
KRA	Key Result Areas
Lab	Laboratory
LCA	Life Cycle Assessment
MBA	Master of Business Administration
MoEFCC	Ministry of Environment, Forests & Climate Change, Government of India
MOU	Memorandum of Understanding
MSc	Master of Science
MSME	Micro Small and Medium Enterprises
NABL	National Accreditation Board for Testing and Calibration Laboratories
NABET	National Accreditation Board for Education & Training
NGO	Non-Governmental Organization
NOC	No Objection Certificate
NOx	Nitrogen Oxides
NC	Non- conformance
NRSA	National Remote Sensing Agency
Obs.	Observations
PA	Principal Assessor
PC	Public Consultation
PFD	Process Flow Diagram
PM	Particulate Matter
QCI	Quality Council of India
QMS	Quality Management System
RA	Re-accreditation
RPM	Respirable ParticulateMatter
R & R	Resettlement and Rehabilitation
SA	Surveillance Assessment
SEAC	State Expert Appraisal Committee
SEIAA	State Environment Impact Assessment Authority
SIA	Strategic Impact Assessment
SO_2	Sulphur Dioxide
SPCB	State Pollution Control Board
SPM	Suspended Particulate Matter
TC	Technical Committee
TDS	Tax Deduction at Source
TM	Team Member
TOR	Terms of Reference
TSDF	Treatment, Storage and Disposal Facility
UGC	University Grants Commission
VOCs	Volatile Organic Compounds
XLRI	Xavier Institute of Management

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1.0 ENVIRONMENTAL CLEARANCE

1.1 Environment Impact Assessment

Most industrial and other developmental projects/activities/processes would invariably have impacts on the physical, natural and social (socio-economic) environment including the people. It is important that such probable effects of the activities both of the negative and positive kind are identified and assessed for facilitating decision making on the project from environment angle. Such assessments fall within the broad framework of environment impact assessment (EIA). These are essentially multi-disciplinary studies where inputs are required from specialists having domain knowledge of relevant industry/sector for which EIAs to be conducted. Such assessments would require expertise and knowledge in areas such as land use, air pollution control, air quality modelling, water pollution control, noise and vibration, ecology and bio-diversity, socio economic aspects, risks and hazard management. EIAs are, therefore, important planning/decisions support tools to harmonise development and environmental conservation. EIA procedures were originally introduced in the advanced countries and subsequently adopted in many developing countries, India included. Presently, EIA is adopted globally as a regulatory instrument.

1.2 Process of EIA in India

Environment assessments were initiated in India as a generic procedural requirement in response to the Environment (Protection) Act, 1986 (EP Act). Initially, large industrial and developmental projects with public funding required EIAs to be prepared for their approval. The issuance of the Notification on Environment Impact Assessment (EIA) of developmental projects on 27.1.1994 under the provisions of the EP Act, mandated EIAs for 29 categories of developmental projects and with one more sector was added to the list in January, 2000. Based on the experience and practice followed around the world, further process streamlining was undertaken and reengineered Notification was issued on Sep 14, 2006. Notification applies to process of prior environmental clearance of the following categories of project:

a. All new projects listed in the Schedule II to EIA Notification, 2006

b. Expansion and modernization of existing projects or activities listed in Schedule.

c. Any change in product-mix in an existing manufacturing unit included in Schedule.

All projects, based on the potential to impact are categorized into ‘A’ and ‘B’. Category ‘B’ is further divided into ‘B1’ and ‘B2’ depending upon the spatial extent of impacts, on natural and manmade resources and impacts on human health. Category ‘A’ projects are considered at the central level, while those in Category ‘B’ are considered at State level as per the provision in EIA Notification Sep 14, 2006 and subsequent amendments.

1.3 Accreditation of EIA consultants

EIAs being complex, site specific and multi-disciplinary studies, it is important that consultants aspiring to carry out such studies have the requisite expertise both in terms of human resource and facilities to be able to do justice to the task. There has been a long felt need for a system of screening of such consultants through a systematic process of evaluation so that the information on such consultants is available with the prospective project proponents and other stakeholders for their reference and engagement. Quality Council of India, the national accreditation body, took the initiative of evolving a process for accreditation of consultants and has come out with a well-defined scheme for accreditation EIA Consultant Organizations in the country.

2.0 ABOUT QCI and NABET

In pursuance of cabinet decision of Feb 1996, Quality Council of India (QCI) was set up jointly by the Government of India and the Indian Industry represented by the three apex industry associations i.e. Associated Chambers of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII) and Federation of Indian Chambers of Commerce and Industry (FICCI) to establish and operate national accreditation structure and promote quality through National Quality Campaign. QCI is registered as a non-profit society with its own Memorandum of Association. QCI is governed by a Council of 38 members with equal representations of Government, Industry and Consumers. Chairman of QCI is appointed by the honourable Prime Minister on the recommendation of the Industry to the Government. It functions through the Executive Boards in the specific areas i.e. Accreditation for (a) Conformity Assessment Bodies, (b) Healthcare Establishments (c) Education and Vocational training providers. In addition it has an exclusive Board for promotion of Quality.

Each Board works independently and is headed by a Chairman, identified from the prominent people related to industry in India. National Accreditation Board for Education and Training (NABET) is one of the Boards of QCI as per structure shown.

A schematic diagram depicting accreditation areas of NABET is given below -

Figure 1: Structure of QCI

NABET is managed by seventeen honorary members including the Chairman with fair representation from the stakeholders ensuring that no particular interest predominates. The

Chairman of the Board is an eminent person and an ex-officio member of the Quality Council of India. The Chairman of QCI nominates the Chairman of the Board from the proposed names received from the council members. The Board is supported by the NABET secretariat. The policies and procedures for Accreditation by the Board are non-discriminatory and are implemented uniformly to all applicants. A uniform and reasonable fee is charged from all applicants in lieu of the services offered.

Figure 2: Areas covered by NABET

3.0 ACCREDITATION

Accreditation is a process of verification of competency of an organization in delivering good quality service/product in the chosen field, in this case EIA Reports. Accreditation is awarded, after carrying out structured assessment of compliance to the accreditation guidelines. It helps organizations to adopt a holistic approach for preparing EIA reports and to build in system to achieve continual improvement through a transparent and credible mechanism.

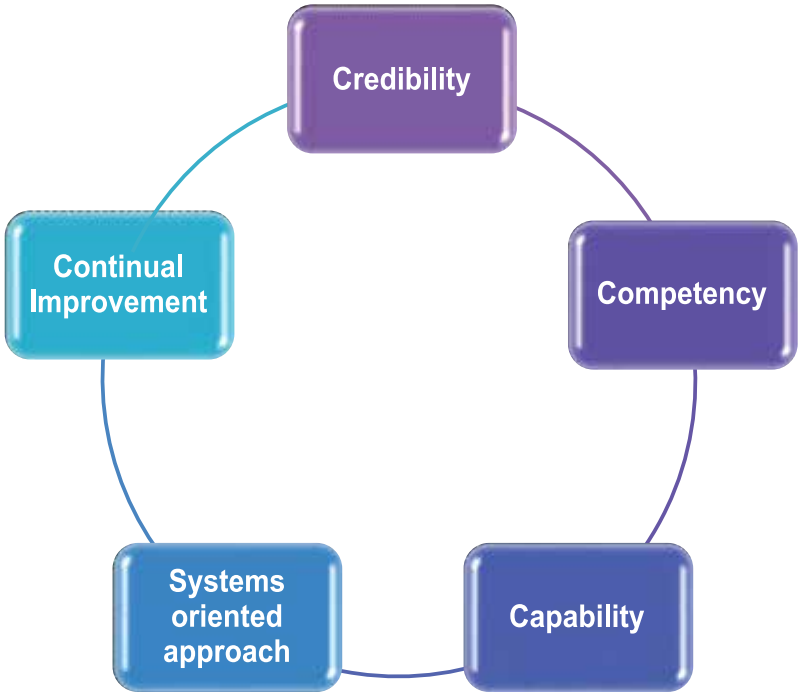

Figure 3: Benefits of Accreditation

3.1 Benefits of accreditation

a. For EIA consultant organizations

   i. Use of QCI- NABET logo - a mark of quality

ii. Recognition of competence and capability

iii. Periodic assessment by NABET paving the way for continual improvement

iv. Publicity through QCI and MoEFCC websites and publications

v. Growth in business through reputational benefits.

vi. Competitive edge.

b. For project proponents and other stakeholders

i. Availability of a list of capability verified consultants for different sectors.

ii. Checks on performance of the consultants through NABET website.

iii. Reduced risks on investments by project proponents choosing capable EIA consultants.

iv. Enhanced acceptability of developmental projects by all stakeholders.

4.0 SCHEME FOR ACCREDITATION EIA CONSULTANT ORGANIZATIONS

NABET, a constituent Board of the QCI, developed a voluntary Accreditation Scheme for EIA Consultant Organizations (hereinafter called 'the Scheme') with inputs from various stakeholders including experts in the field, regulatory agencies and consultants. The scheme was launched in August, 2007 as a voluntary scheme.

Some of the leading consultants in the field obtained accreditation under the scheme. The MoEFCC formally known as Ministry of Environment and Forest (MoEF), Govt of India reviewed the Scheme in September, 2009 and desired that the Scheme should incorporate the learning since its launch in 2007 and be updated. The same was done and the updated version (Version 1 or Revision 6) was posted on the QCI/NABET website (http://nabet.qci.org.in/) in January 2010.

The Scheme was made mandatory for EIA Consultant Organizations by the MoEFCC through an Office Memorandum dated December 2, 2009 http://www.moef.nic.in/divisions/iass/env_Procedure_proposals.pdf. Updates of the MoEFCC office memorandum are published by the MoEFCC at the their website http://environmentclearance.nic.in/

For the implementation of the Scheme, NABET is guided by a group of eminent professionals in the field of environmental management and allied subjects and Secretariat structured into five groups as follows:

a. Technical committee (TC) – comprises 5-7 experienced professionals with proven track record. This committee guides NABET in developing the Scheme as well as the assessment process taking into consideration the feedback received from stakeholders/ Accreditation Committee/ Assessors *et al*.

b. Accreditation committee (AC) – comprises 5-7 eminent persons with vast experience in the field. Apart from approving accreditation, this committee provides clarifications to some aspects of the Scheme as necessary from time to time. AC reserves the right to

take decisions with respect to moderations in recommendations made by Assessors and recording the rationale for the same.

c. **NABET assessors** – they are a group of eminent professionals with long standing experience in relevant field for, carrying out technical assessment of the applications as well as for conducting office assessment/interaction with experts. Assessment reports made by the assessors help the Accreditation Committee to take appropriate decisions on accreditation.

d. **NABET secretariat** – comprises a mix of senior professionals and young energetic technical staff which coordinates the entire process of assessment and accreditation

e. **Specialists** – NABET sometimes requests guidance of specialists for certain aspects of assessment where it does not have expertise.

The Scheme is being operated by QCI/NABET. One complete cycle of accreditation covering 3 year period comprising Initial Accreditation, Surveillance Assessment and Re-accreditation processes has been completed since the launch of scheme. About 170 consultant organizations have been accredited under the scheme.

The current version (Version 3) of the Scheme incorporates –

i. All the three processes - Initial Accreditation (IA), Surveillance Assessment (SA) and Re-accreditation (RA)

ii. Clarifications issued on the Scheme since the last version (Version 2/Rev. 9, August 2011)

iii. Rationalization of requirements of the functional area experts.

4.1 Eligibility for accreditation

Only organizations meeting the eligibility criteria of this Scheme are considered for accreditation.

These consultant organizations can include government bodies, public sectors undertakings and private organizations which could be proprietorship firms, partnership firms or companies (Pvt. & Public Limited), bodies registered under Society Acts, under Section 25 of Companies Act, Research Institutes and the like. All requirements of the Scheme as mentioned in this document are to be complied with for an organization to get accredited. A sole proprietorship owned by an individual or in personal name can also apply in prescribed format as **Annexure I** provided it fulfills all other requirements of the Scheme.

Universities including IITs, CSIR labs, other labs and/or research based organizations conducting EIA studies can also apply for accreditation.

4.2 Scope of the Scheme

The Scheme covers all projects in different Sectors listed in the Schedule attached to the MoEFCC Notification dated September 14, 2006 (http://envfor.nic.in/legis/eia/so1533.pdf) and its

subsequent Amendments. These Sectors, totaling 39, are listed in **Annexure II** of this Scheme. **Annexure II** also includes one additional Sector (No. 40) with 5 sub-sectors. These sub sectors are not a part of the Schedule of the EIA Notification but have been included for reasons other than obtaining environmental clearance.

The scope of the scheme specifically covers EIA-EMP reports required to be prepared for obtaining environmental clearance of all projects covered by the above Notification and its subsequent amendments.

4.3 Coverage of the Scheme

This comprehensive document describes the Scheme's requirements of human resource, quality management systems and procedures to be followed, integrity of primary data, the assessment process, the accreditation criteria and other relevant requirements of the Scheme.

Specific details related to this Scheme have been included in **Appendices (A to D)** and those related to Application form in **Annexure (I to VIII)**.

4.4 Updation of the Scheme

QCI/NABET reserves all rights to amend its accreditation scheme, procedures and fees etc., as it may deem fit. Applicants are requested to refer to the updated scheme on the QCI/NABET website (http://nabet.qci.org.in/) before applying for their accreditation/surveillance/re-accreditation/ expansion or modification of scope.

5.0 REQUIREMENTS FOR ACCREDITATION

The accreditation requirements have been developed for EIA consultants with a view to have system based approach for improving quality of EIAs.

The scheme specifies the following six essential requirements for accreditation:

i. Human resource
ii. Field investigation and laboratory arrangement
iii. Quality management system (QMS)
iv. Quality of EIA reports
v. Organizational commitment
vi. Compliance to conditions of accreditation/ improvements achieved

5.1 Human resource

Preparation of an EIA report is essentially multi-disciplinary activity where inputs are required from specialists having knowledge of the industry/sector for which EIAs are to be carried out, as well as in various aspects of environment like land use, air pollution control, air quality modeling,

water pollution control, noise and vibration, ecology and bio-diversity, socio economic aspects, risks and hazard management etc.

The key persons in developing an EIA report are as follows:

5.1.1 EIA coordinator (EC)

An EC should have broad knowledge about the project, as well as the probable environmental, ecological and social impacts during its construction, operation and the closure phases. The role of the EC includes, but not be limited to, studying and understanding the project, setting-up the team, visiting the site with the team, drawing up the terms of reference (TOR), organizing various activities to meet the requirements of the TOR for EIA, evolving work schedule and ensuring that data are appropriately utilized for generating baseline, interpreting the data, assessment of probable impacts, preparation of mitigation and monitoring plan and maintenance of necessary records. Expected functions of an EC have been detailed in Section 1.3 of **Appendix A** of the Scheme.

The essential requisites for EC includes the following –

- Conceptual understanding of EIA requirements, process and outcome.
- Knowledge of the applicable Acts, Rules and Regulations governing environmental clearance of projects in Sector/s applied for.
- Domain knowledge of the industry/sectors for which EIAs are to be prepared
- Broad understanding of the possible impacts from the industry/sector on physical, ecological and social environments
- Leadership quality in planning, selecting and guiding the EIA team

Thus, for an EIA coordinator emphasis is given on experience and maturity.

a) Minimum educational qualification for an EC

Bachelor's (graduate) degree or equivalent in Technical subjects or Master's (post-graduate) degree in Science and other subjects **Appendix A.**

b) Minimum experience required for an EC

i. EIA related - as defined in **Appendix A**

- Experience for Category A EC – 7 years
- Experience for Category B EC – 5 years

'Category' of a project is defined in Section 7 below.

ii. Sector specific (for each Sector applied)

The EC should also have adequate experience of the Sectors applied for in terms of the processes/ activities involved and its potential impacts on the environment. For details see **Appendix A**.

5.1.2 Associate EIA coordinator (AEC) for category A

An approved EC of category B may be proposed as associate EC category A for being groomed to graduate to category A in the same sector and one additional sector under guidance of approved EC for such sector/s. This provision is available for full time in-house employees of the organization and for two sectors. Details are given in **Appendix C.**

5.1.3 Functional area experts (FAEs)

FAEs are expected to identify and assess in their respective areas of expertise the potential impacts from the proposed development/industrial activity and provide their expert inputs to the EC. The EC oversees the broad findings of impacts and develops the overall framework for EIA and EMP preparation in association with his team.

FAEs should have -

- an in-depth knowledge in their respective areas of specialization
- understanding of the EIA process, legislations and rules/regulations with respect to the functional areas applied for
- the capability of identifying and assessing the potential impacts of the project, throughout its life-cycle, on the physical, biotic and social environment, as applicable
- the knowledge to suggest/vet mitigation measures

In view of the above expected specialized role, the educational background is given emphasis for the FAEs. Expected functions of a FAE are given in Section A.2.4 of **Appendix A.**

a. Areas of expertise

Different EIAs will require inputs from diverse functional areas (FAs) depending on the type and magnitude of the projects and the depth/extent of the anticipated environmental impacts. The following 12 areas of expertise have been identified which are required in various combinations in EIAs for different Sectors **(Annexure II A).**

i.	Land use	LU
ii.	Air pollution monitoring, prevention and control	AP
iii.	Meteorology, air quality modeling and prediction	AQ
iv.	Water pollution monitoring, prevention and control	WP
v.	Ecology and biodiversity	EB
vi.	Noise and vibration[#]	NV
vii.	Socio- economics	SE
viii.	Hydrology, ground water and water conservation	HG
ix.	Geology	GEO
x.	Soil conservation	SC
xi.	Risk assessment and hazards management	RH

xii. Solid and hazardous waste management[#] (comprising hazardous wastes (HW), industrial solid wastes (ISW) and municipal solid wastes (MSW) — SHW

[#]Candidates may also be proposed separately for noise and vibration and SHW components.

The above mentioned functional areas have been categorized into 'Core' and 'Significant' functional areas as per the requirement of a particular group of sector/s as explained in **Annexure II A.** For getting accreditation in a sector/group of sectors, the core functional areas must be covered by eligible in-house experts and significant functional areas by in-house/empanelled experts, as defined in Section 5.1.6 below.

b. Minimum educational qualification for FAEs

Bachelor's degree in specific Engineering/Technology subjects or Master's degrees in specific Science/arts subjects for different functional areas vide **Appendix A** for details.

c. Minimum experience for FAEs

- For category A FAEs (see Section 9 below) minimum 5 years overall experience in the functional area, of which at least 3 years should be EIA related[#].
- For Category B FAEs minimum 3 years overall experience in the functional area of which at least 1 year should be EIA related[#].

  (Vide **Appendix A** for details).

[#]For some functional areas like LU, SE, EB, HG, RH and SC if the work carried out by the candidate is akin to that in an EIA, the same may be considered as 'EIA related' experience as assessed during office assessment by the assessors and put up to the AC for its consideration. However, in such cases the candidate must have adequate understanding of the EIA process and the relevant regulations applicable for it.

d. Sector specific requirements of functional area experts

Requirements of functional area experts for preparation of EIAs for various Sectors have been rationalized under 7 groups as core (to be covered by in-house experts) and significant (to be covered by in-house or empanelled experts) as mentioned in **Annexure II A**. See Section 5.1.7 for details on 'in-house' and 'empanelled' experts.

NOTE:

A candidate proposed as EIA coordinator/Functional area expert is granted approval on fulfillment of **5 steps in the order** as mentioned below:

- Qualification requirement as mentioned
- Overall EIA related experience
- Sectoral experience for ECs/EIA related experience in FAs applied for FAEs

- Recommendation by Assessors based on performance, submission of documentary evidence of experience claimed during interaction in Stage III
- Final Decision on the case by the Accreditation Committee

5.1.4 Functional area associate (FAA)

To encourage entry of fresh graduates and post graduates in engineering/technology/relevant subject as applicable under the scheme, having good knowledge of the subject, young in-house candidates can be permitted to work as Functional Area Associates (FAAs) for category B projects under the guidance of an approved FAE or a Mentor in the respective functional area (vide **Appendix A** for details). The terminology used in version 2 (rev. 09) of the Scheme for FAA was 'Associate Functional Area Expert'.

FAAs can be permitted to be associated only with category B projects under the under guidance of an approved FAE/Mentor.

The objective is to encourage young and fresh candidates with no experience or up to 5 years of professional experience after acquiring minimum qualification as required in the Scheme.

A candidate is approved for maximum two functional areas as a FAA to give her/him adequate opportunity to learn and gain experience.

In order to ensure proper guidance and training to the FAA, an approved FAE/mentor is permitted to guide maximum 3 FAAs at a time. Again, for the same reason of proper guidance, an approved FAE/mentor can guide maximum two FAs.

5.1.5 Team members (TM)

A provision of 'Team Member' has been introduced to:

- Encourage induction of new professionals in the field of impact assessment who are experienced in their respective functional areas but lack direct EIA related experience.
- Give opportunity to professionals in the field of EIA to build their competencies for handling different sectors and functional areas under the Scheme.

This provision is available for in-house employees only. One can opt for two sectors and/or two functional areas.

NABET must be informed about involving professional as team member **prior to actually engaging** her/him for the job. A prescribed methodology has to be adopted for this (vide **Appendix A** for details).

NOTE: Unlike ECs, FAEs and FAAs, no formal approval is accorded by NABET for Team Members.

5.1.6 Mentors

A provision of 'Mentors' has also been introduced in the Scheme for involving the highly experienced professionals who are senior in age and may not be able to visit the sites as demanded by the

Scheme but their experience and expertise may be utilized to train the functional area associates see **Appendix A** for details.

NABET assessors interact with person proposed for mentor during office assessment and make their recommendation on which final decision is taken by the Accreditation Committee. No marks are, however, given to mentors and there assessment performance is not included in organizational score. Effectiveness of mentor is evaluated during the next assessment.

5.1.7 General conditions for experts

a. Experts involved in preparing EIA reports, namely ECs and FAEs, can be both, in-house (full time employee) or empanelled as per requirement mentioned in **Annexure II A.**

b. **In-house (IH) expert**- is a full time employee working on the pay rolls of the applicant organization (AO)/accredited consultant organization (ACO) on regular basis (not on 'time to time basis' or on 'as an when required' basis) and gets appropriately paid as per her/his qualification and experience. All payments to an in-house expert are to be made through bank and are subject to TDS, as applicable.

c. An expert working full time (as per the above definition) in an organization and not working in any capacity, part time or full time, in any other organization, may opt for a designation as **'Consultant'**. Such a person may be considered as an 'in-house expert' after necessary due diligence by NABET assessors during office assessment.

d. **Empanelled expert**–an AO/ACO may also have 'empanelled' experts. An empanelled expert may be a 'freelancer' (not a full time employee of any organization) or may be working with an NGO or Research organization/Academic institute. In the latter case, a No Objection Certificate (NOC) is to be obtained from the Registrar for a University, the Principal for a college and the head of organization for a NGO or a Research organization, as the case may be. The AO/ACO must have an MOU/written agreement with such experts. Details to be included in NOC and MOU/Agreement are mentioned in Section C 7.2 of **Appendix C**.

e. A candidate meeting the requirements of this Scheme may apply for both, EC and FAE. However, to do justice to the role of an EC and a FAE as envisaged in the Scheme, a candidate (IH/Emp.) can apply and be approved for a maximum of 5 sectors as an EC and a maximum of 4 functional areas as a FAE. An AO seeking accreditation must have at least one in-house EC and two other in-house FAEs. The in-house EC is also eligible to be considered as a FAE in those functional areas for which he fulfills the requirements of qualification and experience.

f. A person working in an organization other than a NGO/Research/Academic Institute cannot opt as an empanelled expert for an AO/ACO. A full time Director in a Private/ Public Limited company or a 'Partner' in a partnership firm is considered as a full time employee of the organization/firm and is not eligible to opt as an empanelled expert under the Scheme. However, if a person is an Independent Director in a company, s/he is eligible to be an empanelled expert with a maximum of five AO/ACO. In such cases,

relevant documentary evidence has to be furnished of his/her being an Independent Director in the company.

g. An expert employed with an NGO or a Research/Academic institute may seek empanelment with a maximum 3 AO/ACO. Other eligible empanelled experts may be associated with a maximum of 5 AO/ACOs (subject to condition 5.1.7 i given below)

h. In case an individual wishes to modify her/his approval status for sector/functional areas conforming to her/his business requirements, the request for the same should be made to NABET from the concerned AOs/ACO/s.

i. All empanelled candidates/experts are required to furnish a Declaration of Association in the format given at **Annexure V** signed by the candidate/expert and countersigned by the authorized signatory of the AO/ACO. There should also be a MOU or Agreement between the empanelled candidate/expert stating the tenure and scope of association duly signed by both parties.

j. Empanelled experts may contribute to the EIAs as and when the work is assigned to them. However, their expected functions are same as those for IH experts as detailed in **Appendix A.**

k. In case an empanelled expert is associated with maximum of 5 organizations, the total number of sectors that s/he is approved is limited to 5. Similarly, an FAE associated with a maximum of 5 organizations, the total number of FAs that s/he is approved for is 4.

l. There is no limitation to the number of EIAs that an EC may be associated simultaneously. However, considering the deep involvement required of an EC in an EIA project as envisaged in the Scheme, if an EC (IH/ Emp.) is involved in more number of EIAs simultaneously during a year than given below, s/he is required to maintain a logbook of activities carried out in all EIA assignments. This is required for justification of her/his full contributions in the EIAs to reflect fulfillment of his roles and functions as mentioned in **Appendix A.** The same is assessed during the next assessment.

   i. For category A projects - 6 EIAs*

   ii. For category B projects – 10 EIAs*

   iii. In combination of category A & B projects – 10 EIAs*

   *The above will not include reports prepared for B2 category projects required for obtaining environmental clearance for B2 category projects covered by MoEFCC Office Memorandum No J-13012/12/2013-IA-II (I) dated Dec 24, 2013. For these cases, the number is 30, beyond which maintenance of a log book with justification of time allotted for various EIA/EMP reports, is necessary

m. ECs, AECs, FAEs, TMs and FAAs must maintain field log books of their visits to the site giving the observations, work done etc., for the stated EIA.

n. Submission of any false or misleading information in any of the above aspects, shall lead to the cancellation of approval of such experts and/or application/ accreditation of the organization.

5.2 Field investigation and laboratory arrangement

Collection of quality primary baseline data is of crucial importance for preparing EIA reports. Primary data are collected for

- Physical environment like air, water, soil, noise etc.,
- Biotic environment
- Socio-economic environment including issues of resettlement and rehabilitation (R&R)

A good understanding of the project based on visit to the project site by approved ECs/AECs and FAEs/FAAs is of utmost importance for developing the Terms of Reference (TOR), the scope of EIA study and for primary data collection.

5.2.1 Laboratory arrangement for monitoring physical environment baseline data

The AO/ACO may have an in-house laboratory or agreement/MOU/Work Order with one or more external laboratories for work related to collecting baseline environmental data. If it engages more than one laboratory to cover its requirements of EIAs being carried out in different parts of the country, it should have a clear internal guideline of assigning the work to a particular laboratory and maintaining the necessary record of the same.

Laboratories engaged in the baseline data collection must be NABL accredited, MoEFCC recognized and or GLP certified. The scope of accreditation/ recognition/certification should cover relevant parameters required for collecting baseline data of physical environment for conducting EIA studies for the following –

- Ambient air quality
- Stack emissions
- Water and waste water quality
- Soil characteristics
- Noise

In specific cases, in-house laboratories of a university/ research institute may also be considered, provided their work is akin to that for EIA studies and assessed by the assessors to be appropriate for consideration under the Scheme. Details are given in **Appendix C**.

Wherever such data generation includes collection of samples at the site by the AO/ACO followed by analysis of the same at the laboratory, a detailed written down procedure should be available with the AO/ACO in the QMS, including methodologies for collection, preservation and transportation of such samples to the laboratory (vide **Appendix B** for details). The procedure should specifically address as to who are to be involved in selecting sampling locations, parameters to be analyzed for, collection, preservation/transportation etc. of samples.

5.2.2 Field investigation for biotic environment and socio-economic data

Search from relevant and reliable secondary sources are conducted to collect the biotic and socio-economic background of the proposed site of the EIA. The EIA team must acquaint itself with the ground realities existing at the site through site visits with detailed work plan. Sampling locations, type of sampling, survey regime and protocol for ecological studies, questionnaire/interview/ focused group discussions/other methodologies to be followed for collecting socio-economic data etc., must be specific to the site conditions (refer **Appendix B** for details to be included in the procedures)

5.3 Quality management system (QMS)

One of the long term objectives of this Scheme is to encourage the consultant organizations to adopt system oriented approach for EIA preparation. Ideally, all EIA consultant organizations should have their own EIA preparation manual as well which they may enrich from their learnings' over the years.

To facilitate the above, the applicant organization must maintain a Quality Management Systems (QMS) for the organization. The QMS should be based on the current version of ISO 9001 standards. Although it is not mandatory that the organization should be ISO 9001 certified, the QMS must address the requirements of ISO 9001 and the specific requirements of the Scheme. Details are given in **Appendix B.**

5.4 Quality of EIA reports

One of the important objectives of the Scheme is to assess the quality of EIAs prepared by EIA consultant organizations, give feedback to them on areas of improvement so that over a period of time EIA quality improves. The assessment criteria include accuracy of site description, quality of baseline data, analysis and interpretation of the data, identification of potential impacts and quality of mitigation measures. Details are given in **Appendix C.**

5.5 Organizational commitment

The objective of the Scheme is to identify credible EIA consultant organizations who should contribute towards improving the quality of EIAs in the country. This will be possible when there is a commitment from the accredited consultants towards continual improvement. This has been factored in the Scheme and for Re-accreditation assessment improvements achieved by the accredited consultant since receiving accreditation is also taken into account (see Section 6 below).

Details of assessment criteria for the above requirements are given in **Appendix C**.

6.0 ACCREDITATION CYCLE

Accreditation Cycle in this Scheme is for 3 years and comprises 3 types of assessments:

Initial accreditation (IA): In the IA, the potential of the applicant organization is assessed and based on that accreditation is granted. On successful completion of the initial assessment, an applicant organization is given accreditation for 3 years, subject to a surveillance assessment after 18 months. Details of IA are furnished in **Appendix C.**

Surveillance assessment (SA): This is to assess performance after IA. The basic objective is to judge to what extent the performance along with compliance to the conditions of accreditation has been met. SA falls due 18 months after IA. Details of SA are furnished in **Appendix C.**

Re-accreditation (RA): Following the principle of 'continual improvement', in RA the emphasis is laid on the improvement achieved by the ACO during the period of accreditation. Since, the ultimate objective of the Scheme is to improve the quality of EIA reports being prepared in our country, weightage accorded to it gradually increases from IA to SA to RA.

On completion of three years from initial accreditation, the organization is re-assessed broadly as per the process followed for Initial Assessment with emphasis on improvements achieved. Details of RA are furnished in **Appendix C.**

The weightages assigned for various aspects in IA, SA and RA are mentioned **Table 1** in Section 7.

7.0 ACCREDITATION PROCESS

The accreditation procedure for IA, SA and RA includes three processes:

a. Application assessment process

b. Office assessment process

c. Decision making process

7.1 Application assessment process

There are separate application forms for IA, SA, RA, expansion of scope and supplementary assessment for replacing approved experts who may have left the organization. These can be downloaded from the NABET website www.http://nabet.qci.org.in/.

Detailed information on documents required to be submitted with the application is provided in **Appendix C.**

Applicants are advised to go through the accreditation scheme carefully prior to preparing/ submitting their application. They must complete the Self-assessment given at **Annexure VIII** to know if the applications are ready for submission and whether they are ready for NABET assessment. This would greatly reduce processing time benefiting both, the AO/ACO and NABET. Applications are to be submitted in soft format only. In case, NABET requires hard copy of a document, the same is intimated to the AO/ACO.

Application for SA must be submitted three months prior to when SA is due i.e. on completion of 15 months after date of office assessment for IA. Similarly, RA application should be submitted three months prior to expiry of accreditation period i.e., on completion of 33 months after date of office assessment for IA.

NABET is making efforts to introduce the application process on-line. Whenever the same is implemented, procedure to be adopted for applying on-line will be posted on the QCI/NABET website.

Assessment of the applications is carried out in 3 stages -

Stage I– Checking completeness of the application by NABET secretariat

Applications submitted by an AO/ACO must be complete in all respects and is inclusive of all supporting documents mentioned in the checklist of Application Form (for IA, SA, RA) of this Scheme.

NABET secretariat checks if the

(a) application is complete in all respects,

(b) information submitted is in relevant formats and

(c) application is accompanied by the requisite fee.

In case an application is grossly incomplete in respect of candidates/experts, laboratory arrangement etc., NABET secretariat informs the AO/ACO of the inadequacies. Such applications are processed further once the inadequacies are addressed. For other applications, the NABET secretariat forwards the application to the principal assessor (see below) with its observations for technical scrutiny. The AO/ACO is advised to carefully study the requirements mentioned in **Appendix C**, before filling in the application.

Stage II - Technical review of documents

Assessors with vast experience in the relevant fields conduct technical review of documents of the applications submitted to NABET. For each application two assessors are assigned. The Principal Assessor (PA) carries out the Stage II assessment supported by the NABET staff. The PA is joined by a Co-Assessor (CA) for the office assessment (see below). In case the numbers of sectors applied for by the AO/ACO and/or the number of experts involved is large, NABET may assign more CAs to expedite the process. After Stage II assessment the PA may raise Non-Conformances (NCs) and/or Observations (Obs.) pointing out the areas where the application does not meet the requirements of the Scheme. After the NCs and Obs. are successfully closed by the AO/ACO, further processing of the application i.e. the office assessment is taken up.

Stage III - Office assessment

It involves assessment of an application in the following six aspects:

a. Quality and performance of personnel

b. Quality management system

c. Field investigations and laboratory systems to ensure data integrity

d. Quality of EIA reports

e. Organizational evaluation/commitment

f. Compliance to conditions of accreditation/ improvements achieved (for SA and RA)

Marks allocated for the above aspects in the Office Assessment are mentioned in Table 1:

Table 1: Weightage of marks

S. No.	Aspects	Marks Allotted			Focus in assessment
		IA	SA	RA	
1	Quality and performance of personnel • EIA coordinators • FAEs	 20 20	 15 10	 10 10	**IA** – Potential of the AO
2	Quality management system	15	15	15	
3	Field investigations and laboratory systems to ensure data integrity	25	25	20	**SA** – Compliance and performance of the ACO
4	Quality of EIAs	10	20	30	
5	Organizational evaluation/ commitment	10	10	5	
6	Compliance to conditions of accreditation/ improvements achieved	-	5	10	**RA** – Performance and improvement of the ACO.
	Total	**100**	**100**	**100**	

Although the FAAS are assessed, the marks scored by them are not included in the overall assessment of the ACOs. AEC, TMs and mentors are met by NABET assessors but no marks are given for them.

The assessment process is primarily evidence based and objective in nature. Issues to be assessed for various aspects in office assessment are detailed in **Appendix C.** After obtaining accreditation, an ACO is expected to strictly abide by the conditions of accreditation and make efforts to improve its performance. Efforts towards capacity building and commitment to quality work are given due weightage in SA and RA.

Normally, 10 days prior notice is given to the AO/ACO for office assessment. However, NABET reserves the right to visit the office/site un-announced, if it is deemed necessary.

7.2 Decision making process

On completion of office assessment process, a joint report is prepared by the PA and CA (or CAs) and sent to the NABET secretariat for further processing. The PA is responsible for the final

report. NABET secretariat after checking the completeness of the report, obtains clarifications/ additional information, if required, from the AO/ACO/assessors. The case is then put before the accreditation committee by the NABET secretariat for its consideration, review and decision on accreditation. The final outcome is thereafter uploaded on QCI/NABET website http://nabet.qci.org.in/ accreditation becomes effective from the last date of the office assessment.

7.3 Time frame for application and accreditation processes

Completion of application, assessment and accreditation processes depends on the following:

a. Receipt of complete information at NABET for Stage I and II assessments along with necessary documents and closure action of NCs/Obs., as applicable, for IA, SA and RA applications.

b. Timely submissions of such information by AO/ACO within the time frame stipulated by NABET vide section 10 for SA and RA. For initial accreditation AOs are requested to submit the required details as early as possible.

c. Timely raising of queries by NABET within 15 days for Stage I and one month for Stage II.

Subject to the above, all efforts are made by NABET to complete the process of granting accreditation within 3 months of submission of complete information by AO/ACO.

7.4 Accreditation process outcome

The salient outcomes from accreditation process are as follows:

a. **Accredited** – in case the applicant clears the assessment and accreditation processes successfully, the result is posted on the QCI/NABET website and the AO/ACO is also informed separately, refer **Appendix C** for details.

b. **Not approved** – if the AO/ACO fails to obtain 40% marks in the office assessment or does not fulfill any other requirements of the Scheme, the application is not approved and accreditation is not granted, refer **Appendix C** for details.

c. **Cancellation** - in case an ACO does not fulfill conditions of accreditation or does not submit complete application for SA or RA in time, a reminder is given to do the same in the next 15 days. If complete application is not submitted even after 15 days, a final notice is served for responding giving another 15 days' time.

   In the event of non-compliance after the final notice as well, the accreditation granted to the ACO is cancelled and its' name is removed from the list of accredited consultants. In case it wishes to get considered again under the Scheme, it is required to submit a fresh application with requisite fee. Fresh assessment is then carried out as per IA norms

d. **Incomplete applications** – If an AO submits an incomplete application in which requisite details are not provided or it does not meet the requirements of the Scheme in respect of eligible candidates for EC and FAEs, QMS, Laboratory details etc., the same is put

in the 'incomplete applications' list. NABET intimates the AO of the deficiencies in the application. If it is an application for IA, the same is processed further once all requirements are fulfilled.

e. **Cancelled/ Debarred/Suspended applications** – see Section 9.3 below.

7.5 Category of accredited consultants

EIA consultant organizations are granted accreditation in categories 'A' or 'B. Experts are also approved in categories A or B under this Scheme. Specific conditions applicable for categorization of organization and experts in IA, SA and RA are detailed in **Appendix C.**

EIA consultant organizations accredited as category A can carry out EIAs for both, category A and category B projects as defined in the EIA Notification of the MoEFCC dated September 14, 2006 and its subsequent amendments. This accreditation would apply for sectors of which the consultant organizations have an approved category A EIA coordinator. If a category A consultant has only a category B EIA coordinator in a sector, it can take only category B projects in that Sector till the time it has an approved category A EC for the Sector. An ACO approved as Cat. B organization can only take up projects in Cat. B only. Taking up EIAs in sectors and/or category for which the consultant organization has not been accredited will attract a non-conformance. Repeat NC on the same issue may invite strict action including cancellation of accreditation/ approval against the ACO as well as the expert concerned.

Experience for EIAs carried out for sectors not accredited contravenes the requirements of the Scheme and is not given any weightage. In fact, an NC is issued to the ACO for such cases. EIAs in unaccredited sector/s initiated prior to receiving accreditation are not covered for raising NCs.

If an approved category A expert scores less than 50% marks in SA, s/he is issued an alert and her/ his approval status may be changed to Cat. B. A category B expert is upgraded to category A if -

a. S/he meets the experience requirements stated in the Scheme/has addressed the shortfalls of earlier assessment in the re-application

b. Scores 60% or more in SA/RA/Supplementary assessment and

c. Recommended for up-gradation by the assessors on fulfillment of point a, b above and final decision of Accreditation Committee.

8.0 ACCREDITATION FEES

QCI/NABET does not get any financial assistance from any agency for operation of this Scheme. Hence, to offset the costs involved in the implementation of the Scheme by NABET, fees are charged for organizing the assessment and accreditation processes and annual fees for updating and maintaining the Scheme. Details are given in **Appendix D**.

Timely payment of dues to NABET by the AO/ACO is crucial to the Scheme. Processes of IA, SA and RA can proceed to the next stage only if all pending bills to NABET are cleared by the AO/ACO. All invoices raised by NABET are to be paid within one month of date of dispatch/mailing of the invoices.

In case of delay in payment of applicable fees at any stage beyond one month from the date of issuance of NABET's invoice, penalty @1.5% per month of delay is applicable.

Failure to pay the applicable dues by the deadline given in invoices may result in removal of sectors against the ACOs' name. This may be followed by cancellation of accreditation if the dues remain unpaid.

9.0 GRANT OF ACCREDITATION

Results of the accreditation committee meeting are uploaded on the QCI/NABET website within a month of the AC meeting in which the relevant case is discussed. A formal letter from NABET is sent within one month from the date of approval by the accreditation committee mentioning the approved sectors with category, experts approved with category, detailed conditions of accreditation and NCs and Obs., if any. NABET's certificate of accreditation is issued on successful closure of all NCs and Obs.

9.1 Maintaining accreditation

Accreditation of an EIA consultant organization is subject to compliance to the requirements of the QCI – NABET Scheme. These include, but are not limited to:

a. Implementation of systems/procedures documented in the QMS manual of the ACO including the corrective and preventive actions for the NCs and Obs. of IA, SA, RA, as applicable.

b. ACOs are encouraged to prepare their own 'EIA preparation manual' detailing the procedures followed right from the time of placing quotes for the work to completion of the project.

c. Timely replacement of experts - in case any approved EC or FAE leaves the ACO, s/he needs to be replaced with in a specific time mentioned in Section 9.2.1.

d. Intimation of changes – in case of any change in the organization related to systems, procedures, laboratory and other facilities, the same is to be intimated to NABET in the within one month.

e. Payment of fees, as applicable, to NABET as per the terms of accreditation and detailed in **Appendix D.**

f. At the beginning of the EIA reports prepared by the ACO a declaration is to be given by the ACO in the prescribed format as given in **Annexure VII** mentioning the names of the EC and FAEs involved. This form must be duly signed by them and countersigned by the CEO of the organization.

g. EIA reports prepared by accredited consultants must mention the total cost of the EIA and the cost of monitoring for baseline data in the beginning of the report in Chapter 1.

h. Familiarity with the site conditions is a fundamental requirement for preparing an EIA. The concerned EC and relevant FAEs are expected to visit the site for appropriate

duration prior to commencing the work as well as during the period of primary data collection and for ground validation of secondary data.

i. All ECs, AECs, FAEs, FAAs and team members involved in an EIA project should maintain a field logbook with notings done at the site. NABET's assessors may verify these during the office assessment. It is worthwhile to maintain other documentations on the expert's site visits viz., expert's report, authorization of tours, travel documents etc.

j. In case, during SA or RA, it is found that an EC and relevant FAEs have prepared/ contributed to the EIA without visiting site, their approval status is liable to be cancelled.

k. Experts (EC/FAE) approved for Cat. A should be utilized only for Cat. A projects.

l. The ACO is to strictly avoid practices/actions mentioned in Section 9.3 to ensure that accreditation granted to it is not cancelled.

m. The ACO is to maintain the following records (in soft or hard format)

   i. A register of attendance of employees involved in EIA assignments.

   ii. Names of the experts (both in-house and empanelled) involved in various EIA projects handled by the consultant organization.

   iii. Details of involvement of empanelled experts, in terms of time devoted to various EIA projects.

   iv. Updated declaration of empanelled experts indicating the number of organizations they are associated with.

   v. All documents related to laboratory work and implementation of QMS

9.2 Changes after accreditation

The changes after accreditation can be in two respects as follows:

a. Change in experts and /or in their scope

b. Scope of accreditation

9.2.1 Change in experts and/or in their scope

Since accreditation of a consultant organization is based on the experts approved for specific sectors and functional areas, an ACO must inform NABET if an approved expert leaves the organization and propose a replacement in accordance of the Scheme's requirements within one month. NABET would arrange assessment of such candidate/s either during the next assessment due or earlier. Failing to propose a replacement on time is a non-conformance, viewed seriously and may also result in cancellation of approval of concerned sector for the organization.

If a replacement candidate proposed for an EIA coordinator does not clear NABET's assessment and happens to be the only EIA coordinator for the concerned sector; such sector will stand cancelled from the scope of accreditation of the ACO.

A new candidate may be proposed as an EC or a FAE for assessment at any time. However, for a person already assessed and not approved may be proposed only after a gap of 3 months enabling her/him to address the shortfall.

Applications (as per **Annexure IE**) proposing replacement or new candidates should accompany requisite application fee as per **Appendix D**.

9.2.2 Change in scope of accreditation:

Requests for modification/expansion in scope of accreditation may be included with the applications of SA or RA. No additional fee is to be paid for the purpose apart from the applicable application fee for SA or RA as mentioned in **Appendix D**.

Separate applications may also be made at any point of time accompanied with the requisite fees as detailed in **Appendix D**.

Assessment fees for expansion/modification in the scope, if made in a separate application, are as per the initial assessment process. All necessary documents, as required for initial assessment, are to be submitted along with the application for change in scope.

9.3 Suspension/cancellation/debarment of accreditation

NABET may suspend or cancel an accreditation or even debar an organization on account of any or more grounds during accreditation process or after, but not limited, to the following:

a. Non-compliance or violation of the NABET's requirements and conditions of accreditation and deviation from facts as stated in application and enclosures

b. In case an approved expert leaves the organization, the ACO is required to inform NABET of the same within one month and get a replacement approved within the next two months, if s/he was the only expert in that sector or functional area. In case of EC, if the replacement expert fails to get approved, accreditation to specific sector/sectors is cancelled.

c. Submission of false or misleading information in the application or in subsequent submissions

d. Improper use of NABET's accreditation mark, letter of accreditation from NABET or the QCI/NABET logo

e. Carrying out changes in EIA coordinators/experts for accredited sectors without NABET's approval

f. Failure to report any major legal (mandatory compliance) changes and evident conflict of interest

g. Using fraudulent practices by the ACO in respect of its submission/interaction with NABET which include, but not limited to, deliberate concealment and/or submission of false or misleading information, suppression of information, falsification of records or

data, unauthorized use of accreditation, and non-reporting of completed EIAs to NABET. The fraudulent practices covering the above aspects would also include the consultant organization's interaction with the project proponent and the EIA reports prepared by them.

h. Non- payment of applicable fees.

i. Violation of the Code of Conduct for the consultant organizations (see Section 12.0)

j. Any other condition deemed appropriate by NABET.

The decision for the suspension/cancellation/debarment is taken by the NABET accreditation committee.

In case of concealment of facts or misrepresenting facts in EIA reports by an ACO that has been confirmed by statutory bodies, courts, National Green Tribunal (NGT) and other such authorities, appropriate action is taken against the ACO by accreditation committee. Same applies if any feedback/complaint is received by a stakeholder about work related to an EIA project carried out by an ACO is brought to the notice of NABET. A clarification may be sought and put up to the accreditation committee for final decision on the matter.

9.4 Actions for misconduct/fraudulent activities

Submission of false or misleading information or use of fraudulent practices, an AO/ACO may be disqualified for up to one year, to be decided by the accreditation committee depending on the seriousness of the action. Such AO/ACO will be able to re-apply only after expiry of the disqualification period. The application is to be accompanied with an undertaking from the CEO of the organization that, if such practices are repeated, it will render the organization ineligible to participate in the NABET accreditation scheme any further. The same approach is applicable for individual experts (ECs and FAEs) as well.

9.5 Confidentiality

All information, documents and reports submitted by an AO/ACO to NABET are utilized by the NABET, assessors, members of accreditation and technical committees for the purpose of assessment and accreditation. These may also be used for research purpose or shared with MoEFCC, Govt. of India and other members of the International Personnel Certification Association. However, the identity of the accredited EIA consultant organizations would be masked for sensitive information related to business whenever it is called for/appropriate. In case an AO/ACO wants the information to be kept confidential, a communication must be sent to NABET citing reasons for the same. NABET reserves the right to take appropriate decision in this regard. NABET also reserves the right of taking appropriate action against an ACO for deliberate breach of confidentiality.

The ACO is required to have adequate arrangements consistent with applicable laws to safeguard confidentiality of all information provided by its clients. These arrangements are extended to include organizations or individuals acting on its behalf and as its representatives.

10.0 CHANGEOVER FROM VERSION 2 (REV. 09) TO VERSION 3 OF THE SCHEME

One of the main features of Version 3 is rationalization of the requirement of FAs as per sectors. This is expected to reduce the load of experts, both in-house and empanelled for most of the ACOs/AOs without compromising the availability of relevant experts for conducting an EIA study. However, for getting the benefits of Version 3, it is essential that all AOs and ACOs are assessed as per the Version 3 of the Scheme as early as possible.

Version 3 of the Scheme will become effective from Sep 1, 2015. The following process will be applicable:

10.1 For fresh applicant organizations (AOs):

10.1.1 Applications received after implementation of Version 3 on Sep 1, 2015 will be assessed as per Version 3. Same approach is applicable for applications received after uploading of the Version 3 of the Scheme on QCI/NABET website. If the application does not meet any requirements of Version 3, the AO is informed of the shortcomings. The application is taken up for further processing once the AO addresses the shortcomings at the earliest but not later than 3 months' time from the date of NABET informing the AO of the shortcoming.

10. 1.2 Applications received until the end of June, 2015 will be assessed as per Version 2 (Rev 9). Such AOs are needed to meet the requirements of FAs and QMS as per Version 3 by Dec 31, 2015. In case an AO falls short of requirements of FA as per **Annexure II A**, suitable candidates meeting the qualification and experience requirements of the Scheme may be proposed. QCI/NABET organizes assessments in its office every month to consider such proposals.

Some aspects of QMS have been marginally modified in Version 3 to meet the requirements of the Scheme e.g. laboratory work. AOs are required to modify the QMS and send the same to QCI/NABET by the above deadline. The revised QMS including its implementation are assessed during the scheduled next assessment.

10.2 For accredited consultant organizations (ACOs):

10.2.1 ACOs for whom RA has been carried out, thereby completing first accreditation cycle as per Version 2 (Rev. 9) of the Scheme, their next accreditation cycle as per Version 3 starts from the date of office assessment of RA. Such organizations must submit their application for next assessment i.e., surveillance assessment SA as per Version 3 within 15 months from the date of commencement of fresh accreditation cycle and get the

accreditation continued prior to expiry of 18 months from date of RA assessment. **It is to be noted that under Version 3, as per the standard principle of accreditation, onus of submitting timely application and getting the same processed till accreditation within the timeframe lies with the ACOs, failing which QCI-NABET shall be constrained to remove their name from the list of accredited consultant organizations.**

10.2.2 In case, their next assessment (SA/RA) falls due prior to Dec 31, 2015, a complete application meeting the requirements of Version 3 is to be submitted to NABET. However, for the ACOs where the next assessment falls due after Dec 31, 2015, they are required to meet the minimum requirements of Version 3 in the following aspects at the earliest but not later than Dec 31, 2015:

a. Coverage of core and significant FAs as per **Annexure II A**. In case of any shortfall, suitable candidates meeting the qualification and experience requirements of the Scheme may be proposed. QCI/NABET organizes assessments in its office every month to consider such proposals.

b. QMS meeting the requirements of Version 3. The ACOs are required to modify the QMS and send the same to QCI/NABET by the above deadline. The revised QMS including its implementation will be assessed during the scheduled next assessment.

For such ACOs the next assessment will be as per SA of Version 3.

10.2.3 For ACOs whose first accreditation cycle is yet to be completed and the next assessment (SA/RA) is likely to fall prior to Sep 1, 2015 the following are applicable -

a. ACOs whose RA is due – for such ACOs RA is carried out as per Version 2 (Rev. 9). However, they must comply with the requirements of Version 3 (point i and ii) latest by Dec 31, 2015. Their fresh accreditation cycle as per Version 3 starts from the date of RA assessment.

b. ACOs whose SA is due - for such ACOs SA are carried out as per Version 2 (Rev. 9). However, they must comply with the requirements of Version 3 (point i and ii) latest by Dec 31, 2015. Their fresh accreditation cycle as per Version 3 starts from the date of SA/ RA (as applicable) assessment which is within 36 months of their IA.

Note: In case of ACO's as defined in 10.2.3 above, wish to get assessed as per Version 3, NABET informs the ACO about the shortfalls to meet the requirements of Version 3.

10.2.4 ACOs, whose first accreditation cycle is yet to be completed and the next assessment falls due after Sep 1, 2015, must submit the complete application meeting the requirements of Version 3. The fresh accreditation cycle as per Version 3 for such ACOs starts from the date of RA assessment as per note given below.

Note: For some ACOs, the assessments have been greatly delayed due to non-submission of complete application. Such ACOs shall be assessed as per Version 2 prior to Sep. 01, 2015. The subsequent assessment for these ACOs must be as per Version 3 and not later than 6 months of the last assessment to complete their first accreditation cycle, failing which QCI-NABET shall be constrained to remove their name from the list of accredited consultant organizations.

11.0 GRIEVANCE REDRESSAL MECHANISM

There are two methodologies available under the Scheme for addressing the grievances of AOs and ACOs–

a. Review of Decisions

b. Appeal

11.1 Review of decisions

In case an AO/ACO wishes for review/reconsideration of any decision taken by NABET, they may send a request for same to NABET.

The following procedure is applicable:

a. Request received from AO/ACO by NABET is recorded in the same serial as date of receipt

b. Request must mention specific complaints (not generic in nature) and supported by documentary evidence.

c. Anonymous/ pseudonymous requests are not be entertained.

d. Each request must be accompanied with an ECS/ Demand Draft of Rs. 25,000/ plus Services Tax and other relevant cess as applicable, payable in favor of "Quality Council of India" to partially offset the cost of hearing of such requests.

e. Only substantial errors/mistakes on procedural matters are taken up for consideration. Re-assessment of any aspect of assessment or request for deviation from the Scheme cannot be considered.

f. Such 'Reviews' are taken up for consideration in a meeting of the relevant accreditation committee as early as possible.

g. Agenda of such meetings is intimated to the AO/ACO.

h. AOs/ACOs making the request may present their case in person to the AC, if they so desire.

i. Decision of the AC is intimated to the concerned organizations as well as posted on QCI website.

11.2 Appeal

An AO/ ACO may apply for Appeal in case it is not satisfied with the 'Review' decision.

An 'Appeal' must include the specific issues on which the appellant is filing the appeal accompanied by supporting documents and fees for appeal. The following information is to be provided while submitting the appeal -

S.No	Specific issue/s submitted in Review	Supporting documents submitted in Review	Decision of Review Committee	Additional/ new issues submitted in Appeal now	New supporting documents added now
1	-	-	-	-	-

The following procedure is applicable:

i. Formation of 3-member Appeals committee by NABET, chaired by a member of NABET Board and comprising one more member from NABET Board and one subject specialist.

ii. The Appeals committee proposed is approved by the Chairman, NABET Board.

iii. The documents received from the appellant are submitted to the members of the Appeals committee by NABET secretariat.

iv. Process of hearing by the committee - the committee fixes a date for the hearing which is intimated to the appellant by NABET secretariat. A reasonable notice period is given for the appellant to appear in the hearing. The committee gives due opportunity to the appellant and the NABET secretariat to present their cases. The committee gives its decision after hearing both the sides and based on deliberation within it.

v. The decision of the Appeals committee is intimated to the appellant by NABET secretariat.

Each request for appeal must be accompanied with an ECS/ Demand Draft of Rs. 25,000/ plus Services Tax and other relevant cess as applicable, payable in favor of "Quality Council of India" to partially offset the cost of hearing of such appeals vide **Appendix D**.

12.0 CODE OF CONDUCT

All ACOs are obliged to improve the standing of the consultancy profession by rigorously observing the Code of Conduct. Failure to do so may result in the suspension or cancellation of accreditation.

12.1 Use of QCI and NABET logo

a. The QCI and NABET logo and NABET accreditation mark are the property of NABET and their use is controlled. Compliance to the guidelines and conditions is required for using these

i. Whenever an EIA consultant organization is accredited, NABET informs the relevant entity about the conditions of the use of logo and accreditation mark.

ii. Accreditation mark can be used by NABET accredited EIA consultant organizations only.

b. Guidelines and conditions of use of accreditation mark

i. Accreditation mark as appears on NABET accreditation certificates can be printed as colored image or black and white

ii. Accreditation mark shall not be used to suggest any approval or sponsorship of NABET other than the organization accredited.

iii. Accreditation mark shall not be used in any way that misleads the reader about the accreditation status of the consultant organization

iv. Accreditation mark is not transferable and is to be used only by the accredited consultant organization as described in its application.

v. Accredited consultant organization upon suspension or withdrawal or expiry of its accreditation (however determined), shall discontinue the use of NABET accreditation mark on all media of communications by the organization including promotional material, letter head, newsletters, brochures, annual reports, business cards , websites and advertisements etc.

vi. NABET reserves the right to change the conditions as and when considered necessary and the same shall be communicated to consultant organization.

vii. Use of accreditation mark is applicable for consultant organizations only and not for individual expert/s.

c. Verification

i. NABET may, at its discretion, carry out verification of proper use of the accreditation mark.

ii. If any misuse of the accreditation mark is noticed, NABET initiates actions as per procedure for suspension and/or cancellation of its accreditation.

12.2 Undertaking by consultant organization

The consultant organization undertakes to:

a. Act professionally, accurately and in an unbiased manner.

b. Be truthful, accurate and fair to the assigned work, without any fear or favor.

c. Judiciously use the information provided by or acquired from the client in carrying out the EIA and to maintain the confidentiality of information received or acquired in connection with the assignment.

d. Use the expertise of only approved experts of relevant category in the preparation of EIA reports.

e. Avoid and/or declare any conflict of interest that may affect the work to be carried out.

f. Not accept any favour from the clients, or their representatives.

   Not act in a manner detrimental to the reputation of any of the stakeholders including NABET and the client.

g. Co-operate fully in any formal enquiry procedure of NABET.

Prior to accreditation, the AO signs the "Code of Conduct for EIA consultant organizations" and sends it to the NABET secretariat

LIST OF APPENDICES

Appendix A : Qualifications, Experience and Functions of Experts

Appendix B : Quality Management System

Appendix C : Accreditation Process

Appendix D : Fees Structure

Appendix A

QUALIFICATION, EXPERIENCE AND FUNCTIONS OF EXPERTS

Appendix A

QUALIFICATION, EXPERIENCE AND FUNCTIONS OF EXPERTS

Experts involved in the EIA preparation comprise EIA coordinators (EC) and functional area experts (FAE). They may be helped by associate EC, functional area associates and team members. The qualification and experience requirements of the experts and their expected functions are detailed below-

A 1. EIA coordinators

A 1.1 Minimum educational qualifications

Bachelor's (Graduate) degree or equivalent in technical subjects such as Engineering, Technology, Architecture, Environmental Planning, Town Planning and the like from a UGC /AICTE recognized university/ institution.

or

Master's (Post-graduate) degree in Science/Arts and other subjects - Physical Sciences, Earth Sciences, Environmental Sciences, Life Sciences, Social Sciences, Economics, and Management from a UGC/AICTE recognized university/ institution.

or

Diplomas/Certificates conferred by institutions like the Institution of Engineers (India), Indian Chemical Society, Indian Institute of Metals, Indian Institute of Chemical Engineers and Indian Institute of Social Welfare and Business Management (IISWBM) which are recognized as equivalent to the above degrees in respective fields by the Central or State Governments will also be accepted.

In exceptional cases, the accreditation committee may waive off the minimum educational qualification for an EC based on the report and recommendation of the assessors recording the rationale for the same.

A 1.2 Minimum experience

An EC should have an overall knowledge of the concerned sector/s and a clear understanding of environmental, biotic and socio-economic aspects related to those sectors. Minimum requirements of experience for an EIA coordinator are given as under:

A 1.2.1 EIA related experience

Work experience after acquiring eligible qualification of minimum 7 years for an EC for category A projects and 5 years for an EC for category B projects as -

- an EIA coordinator
- a Functional area expert assisting the EIA team
- a team member supporting the EIA coordinator
- a professional in the EHS or the concerned department of the project proponent getting EIAs conducted by external consultants
- person in the role of appraisal of EIA reports as a regulator/appraiser/ academician.

EIA related experience during teaching and/or EIA related work during Ph.D./M Tech (dissertation) may be considered, if found relevant by accreditation committee.

A 1.2.2 Sector specific experience (for each sector applied for)

EC must have sector specific experience as follows:

i. 3 completed EIAs* in the applied sector, or

ii. 3 Environmental assignments** (monitoring, auditing, performance evaluation etc.) in the sector, which should involve spending a total of at least one month's time in an industry in the sector concerned. Environmental monitoring carried out for an EIA study cannot be separately shown as an 'assignment' over and above the concerned EIA, or

iii. A total of three in combination of (i) and (ii). or

iv. 2 years' industry experience in the Sector applied as an employee in their EHS/ operations/ maintenance/ projects departments

*'Completed' EIAs mean those approved by the concerned regulatory agency or submitted to the regulatory agency for approval or those which have been put up for public hearing but the same is not complete for reasons not attributable to the EIA consultant. In case, the project has been shelved/withdrawn by the project proponent (PP) or is held up for other reasons, then the 'Draft final report' submitted to the PP by the AO/ACO is also considered as a completed EIA.

**Environmental assignments are further clarified as under:

Environmental monitoring

i. Must include monitoring of physical environmental parameters (ambient air/ stack/ water/ soil/ noise) in an existing industry and not in green field site for a proposed industry.

ii. must have spent at least one month at the site and should have been involved in designing of monitoring network, collection, of samples and related procedure. Documentary evidence to be provided for having spent a total of minimum one month at site

Auditing/ performance evaluation

i. Should have conducted environmental auditing of the industry or performance evaluation of the process plants/pollution control facilities.

ii. Should have spent cumulatively minimum one month at the site for such assignment/s (preferably supported by documentary evidence)

For being eligible as EIA coordinator for category A projects (as defined in MoEFCC Notification dated Sep 14, 2006) in a sector, s/he should have been involved as EC or team member with an EC with prior information to NABET as required by the Scheme (see Section 2.2 below) in at least one EIA for a project of category A, in that sector.

Although, experience is only considered after obtaining minimum eligible qualification, for persons who are involved in EIA preparation before the implementation of the Scheme and have acquired minimum qualification in due course, prior experience may be considered, if relevant. The accreditation committee takes the final decision on such cases, provided all documents related to experience claimed are submitted by the AO/ACO and it corroborates with specific recommendation of assessors.

A 1.3 Expected functions of EIA coordinators

The EIA coordinator should be thoroughly aware of national and global environmental concerns and be familiar with all relevant environmental regulations, the EIA Notification and its Amendments, the CRZ Notification and the public hearing / consultation procedures. S/he must have a clear concept of EIAs and thorough knowledge of the environmental clearance process in the country. S/he should also be knowledgeable on issues like carrying capacity, life cycle assessment, strategic impact assessments, multi-lateral environmental agreements, relevant national/international standards, global environmental issues and must be updated with relevant literature, international protocols etc. S/he should share this information with other EIA team members.

The expected functions of ECs through the project cycle must include all of the following;

A 1.3.1 Prior to the receipt of the work order for tender preparation

a) Complete understanding about the project specification

b) Having an understanding of the environmental settings in respect of topography, hydrology streams, habitations, vegetation, land use etc., based on spatial data

c) Visiting the site with one or more FAEs,

d) Develop broad scoping of the EIA project taking into consideration site specific requirements

e) Framing the methodology to be followed for preparing the EIA report on award of job.

A 1.3.2 On receipt of the work order:

a. Meeting the project proponent, preferably with key FAEs, for an in-depth understanding of the activities during construction, operation and phasing out/ closure phases (if applicable).

b. Obtaining information like the Pre-Feasibility/Feasibility report that provides the essential project related information for the EIA purpose.

c. Explaining to the client the local environmental issues (physical, ecological, socio-economic, cultural, historical, and aesthetical).

d. Selecting the team to be involved in the EIA.

e. Compiling Form I/IA of the EIA Notification, 2006 based on personal understanding and from inputs from project proponents/FAEs.

f. Developing the 'Terms of Reference' (TOR) and Form I as required by the MoEFCC Notification dated Sept 14, 2006 and its subsequent Amendments in consultation with the Project Proponent and attending the TOR presentation along with the client.

g. Coordinating the presentation to be made before the EAC/SEAC

h. Allocating specific TORs to each FAE and informing the accredited laboratory about baseline data collection for the project on receipt of the TOR from the MoEFCC/SEACs.

i. Interacting with EIA team members explaining the responsibility of each individual for the common objective of carrying out the EIA and preparing the EIA report including highlighting specific issues

j. Visiting the site for appropriate duration for the selection of sampling locations and deciding the type of samples in consultation with the FAEs.

k. Ensuring the quality of baseline data through FAEs by following standard procedures

l. Collating and reviewing the reports of the FAEs which must include analysis and interpretation of data, and identification of potential impacts and assessment of their significance.

m. Guiding the FAEs on the development of the Environment Management Plan (EMP) including its implementation the monitoring plan.

n. Reviewing the process write–up and mitigation costs in DPR for adaptation in the EIA.

o. Developing the draft EIA report and circulating the same amongst EIA team members for final feedback and ensuring coverage of the respective functional areas FA in report.

p. Developing the Executive Summary in English and the vernacular language.

q. Sending the draft EIA report to the project proponent for comments.

r. Providing necessary help to project proponents during the public hearing and briefing them on specific site and project related issues, if any.

s. Incorporating the outcome of Public Hearing (PH) in the final EIA report.

t. Presenting the EIA report to the EAC/SEAC along with project proponent for clearance.

A 2.0 Functional area experts

A 2.1 Minimum educational qualifications

Bachelor's (graduate) degree or equivalent in technical subjects such as Engineering, Technology, Architecture, Environmental Planning, Town Planning and the like from a UGC /AICTE recognized University/ Institution in specific disciplines as mentioned against each functional area vide Section 2.3

or

Master's (post-graduate) degree in Science and other subjects - Physical Sciences, Earth Sciences, Environmental Sciences, Life Sciences, Social Sciences, Economics and Management from a UGC/ AICTE recognized University/ Institution in specific disciplines as mentioned against specific functional areas vide Section 2.3

or

Diplomas/Certificates conferred by institutions like the Institution of Engineers (India), Indian Chemical Society, Indian Institute of Metals, Indian Institute of Chemical Engineers and IISWBM and which are recognized as equivalent to the above in respective fields by the Central or State Governments, are also accepted.

In exceptional cases the accreditation committee may waive off the minimum educational qualification for a FAE based on the report and recommendation of assessors recording the rationale for the same.

A 2.2 Minimum experience (general)

Different EIAs require inputs on diverse functional areas depending on the type, location and the magnitude of the projects and the depth/extent of anticipated environmental impacts on e.g. air and water quality, ecology and biodiversity, socio-economic aspects and other areas.

Ph.D/M Tech (Dissertation) experience, if relevant, may be considered by accreditation committee on recommendation by assessors.

A 2.2.1 FAE category A

FAEs for category A projects need to have a total experience of minimum 5 years in the relevant area/s after acquiring minimum qualification for eligibility as specified A.2.1 Out of the 5 years' experience, 3 years should be in EIA related in the functional area/s.

A 2.2.2 FAE category B

FAEs for category B projects need to have a total experience of minimum 3 years in the relevant area/s after acquiring minimum qualification for eligibility as specified A.2.1 Out of the 3 years' experience, 1 year should be in EIA related in the functional area/s.

Experience in the relevant functional area for category A and B acquired during teaching and/or Ph.D. related to EIA, may be considered by the assessors, if found relevant and mention the same in their report. All FAEs should have in-depth knowledge and understanding of the relevant Acts and Rules pertaining to their areas of expertise.

'EIA related experience in the functional area' cover experience in the functional area for an EIA project or work akin to EIA, as assessed and recommended by the assessors.

A 2.3 Specific educational qualification and experience for each functional area

A 2.3.1 Land use

a. Educational qualifications specific to functional area

i. Technical subjects - Civil Engineering / Physical Planning / Architecture / Town Planning/ Environmental Planning/ Environmental Engineering

or

ii. Science subjects - Geo Informatics or Remote Sensing or Geographic Information System / Environment Management / Geo-Engineering / Geography / Geophysics / Geology/Applied Geology

or

iii. Other than those stated above, Post graduate degree in science subjects, or a Bachelor's degree in technical subjects followed by specialized training in GIS/ Remote Sensing/ Cartography (not less than 2 months duration) from an University/ recognized institutions like NRSA, ISRO, IIRS, IIFM and the like

b. Experience specific to functional area must include

i. Understanding of policies, guidelines and the legislation related to land use

ii. Generation and analysis of data related to land use pattern

iii. Developing land use map of urban, semi-urban, rural and mixed areas using GIS

iv. GIS based land use analysis and development

v. Integration of land use related data/ information for assessing environmental impacts of developmental projects

vi. Adequate knowledge of EIA legislation process in India

vii. Contribution to EIA documentation

c. Training (preferable)

Specialized training in site description, preparation of land use map, cartography and spatial planning (GIS and other computer application, remote sensing, etc)

A 2.3.2 Air pollution monitoring, prevention and control

a. Educational qualifications specific to functional area

i. Engineering–Environmental/Chemical/Mechanical/Civil/Mining/Chemical technology,

or

ii. Master's (post graduate) degree in Science subjects/Environmental Sciences/ Environment Management/Environmental Studies/ Industrial Pollution Control/ Chemical Technology/Physics / Chemistry and the like.

b. Experience specific to functional area

i. Air pollution monitoring

- Meteorology - measurement of wind speed, wind direction, relative humidity, wet and dry bulb temperature, rainfall etc.
- Air quality monitoring – selecting locations of sampling stations, monitoring/ supervision of monitoring of suspended and respirable particulate matter (PM 2.5 and PM 10), SO_2, NOx, CO, hydrocarbons and other relevant parameters as per NAAQ standards, including handling of relevant equipment, collection and preservation of the samples
- Stack monitoring - particulate matter, SO_2, NOx, and other relevant parameters
- Inventorization of greenhouse gas emissions

ii. Air pollution prevention and control

- Reduction in process emissions at source
- Reduction in fugitive emissions
- Identifying and assessing quantum of emissions
- Identification of probable impacts of the different air emissions from the plants/facilities proposed
- Identifying the most suitable control device e.g. condensers, chillers, spray systems, scrubbers, cyclones, ESPs, bag filters etc.
- Knowledge/experience on design consideration of air pollution control systems and their efficiencies
- Interlocking control systems with production plants, where possible
- Adequate knowledge of EIA Legislation process in India
- Contribution to EIA documentation
- Understanding of policies, guidelines and the legislation related to air pollution
- Knowledge of international treaties related to emissions and preparing cost estimates for control systems will be an added advantage.

c. Training (preferable)

Specialized course/training in air pollution measurement, prevention, monitoring, air pollution or control equipment.

A 2.3.3 Meteorology, air quality modeling and prediction

a. Educational qualifications specific to functional area

i. Engineering - Environmental/ Civil/ Chemical,

or

ii. Master's (post graduate) degree in Meteorology/Environmental Sciences/ Environment Management/ Environmental Studies/ Industrial Pollution Control/ Physics/ Chemistry/ Mathematics/ Statistics/ Atmospheric Sciences and the like.

b. Experience specific to functional area must include :

i. Developing micro meteorological data for use in modeling

ii. Collecting and using secondary data on meteorology like cloud cover, inversion related data, mixing heights etc., for modeling

iii. Application of relevant air quality models in prediction of dispersion of pollutants, plotting of isopleths of GLCs representing incremental pollution levels, worst case scenarios on suitable maps showing both, the sources of pollution as well as the environmentally sensitive receptors.

The models used should be able to address source to receptor scenarios for point sources, area sources and line sources. The models should also conform to the requirements of CPCB.

The following are the additional expectation from the expert:

- Adequate knowledge of EIA Legislation process in India
- Contribution to EIA documentation
- Understanding of policies, guidelines and the legislation specifically related to air pollution

c. Training (preferable)

Specialized course/training on air quality modeling, air pollution meteorology, atmospheric sciences and impact prediction.

A 2.3.4. Water pollution monitoring, prevention and control

a. Educational qualifications specific to functional area

i. Engineering - Environmental/ Chemical/ Civil/ Mechanical,

or

ii. Science Subjects - Public Health/ Environmental Sciences/ Environment Management/ Environmental Studies/ Natural Resource Management/ Industrial Pollution Control/ Chemistry/ Biochemistry/ Biotechnology/ Toxicology/ Microbiology/ Hydrology/ Geo-hydrology and the like.

b. Experience specific to functional area must include

i. Water and waste water monitoring

- Designing sampling network for water and waste water
- Techniques and requirements of sampling of water and waste water for EIAs including type of samples and parameters to be monitored.
- Supervision/monitoring of water and waste water parameters required for EIA studies including preservation od samples

ii. Water conservation and prevention and control of pollution

- Water use auditing, water balance, water budgeting, water conservation, and developing schemes for cascading use (recycle, reuse) of water
- Identification, characterization and segregation of effluent streams
- Knowledge/experience on design consideration of various types of treatment systems to achieve 'zero liquid discharge' from different types of industries.
- Performance evaluation of water and waste water effluent treatment systems including physico-chemical and biotic treatment.
- Identification of probable impacts of effluent/waste water discharges in to the receiving environment/water bodies.
- Water quality modeling for prediction of impacts of effluent discharge into receiving water bodies
- Adequate knowledge of EIA Legislation process in India
- Contribution to EIA documentation
- Understanding of policies, guidelines and legislations related to Water Pollution

c. Training (preferable)

Specialized course/ training on water pollution and control technologies.

A 2.3.5. Ecology and biodiversity

a. Educational qualifications specific to functional area

i. Master's (post graduate) degree in life-sciences like Zoology/ Botany/ Forestry/ Environmental Science/ Ecology/ Natural Resource Management/ Ecology & Environment/ Ecology & Biodiversity/ Geography and the like.

b. Experience specific to functional area must include

i. Basic knowledge of the application of taxonomy in resource inventory (flora and fauna) of the project area

ii. Conducting ecological/wildlife surveys and preparation of status reports for rare, endangered and threatened species of animals and plants and also species protected under national laws

iii. Experience of providing guidance and support for conservation of species and their habitats

iv. Adequate knowledge of EIA legislation process in India

v. Understanding of policies, guidelines and legislations related to ecology biodiversity conservation

vi. Specialized training in the field of impact assessment and ecological monitoring will be an added advantage

vii. Contribution to EIA documentation

c. Training (preferable)

Training on Ecosystem analysis and evaluation, landscape ecology, assessment of impacts on ecological and biodiversity impact assessment on ecology/ biodiversity from development projects in all sectors.

A 2.3.6. Noise and vibration

a. Educational qualifications specific to functional area

i. Engineering - Mining/ Mechanical/ Electrical/ Instrumentation/ Civil/ Environmental /Aeronautical

or

ii. Master's (post graduate) degree in Acoustics/Environmental Sciences/ Environment Management/ Environmental Studies/ Physics/ Geophysics/ Statistics or in any other subject covering noise/ vibration measurement, prediction and control

b. Experience specific to functional area must include

i. Monitoring of noise/vibration levels using specific instruments, processing and analysis of data

ii. Prediction of noise/vibration isopleths using relevant models in residential, sensitive (hospitals, educational institutions, religious places etc.), commercial and industrial areas form traffic on urban roads, highways and railways; aviation and noise due to commercial, industrial and community activities,

iii. Probable impacts of noise on communities and of vibration on buildings, structures, archeological monuments etc

iv. Impacts of noise and vibration on fauna from projects in ecologically sensitive areas

v. Control of noise emanating from mining operations, vehicles, airport, industries, machines, community activities, highways, railways etc. along with knowledge on design and optimization of noise/vibration attenuation devices.

It is also expected that the expert has the following knowledge/experience:

- Adequate knowledge of EIA legislation process in India
- Contribution to EIA documentation
- Understanding of policies, guidelines and the legislation related to noise pollution

c. Training (preferable)

Noise - Specialized training on measurement of noise levels, impacts on human health and behaviour, noise modeling and prediction, protection devices against high noise levels, design and review of noise reduction/control systems.

Vibration – Measurement, analysis and prediction of vibrations from mining operations, vibration studies in industrial operations, protection measures etc.

A 2.3.7. Socio-economics

a. Educational qualifications specific to functional area

Master's (post graduate) degree in

i. Social Welfare / Sociology/ Political Science/ Psychology/ Geography/ Anthropology/ Economics/Environmental Economics/Urban Planning/Regional Planning/ Environmental Planning, Developmental Sciences

or

Rural Development and Management – rural economics/ Economic Sociology/ Demographic Studies

or

ii. MBA (Rural Management)

or

iii. Any other social science related subject

or

iv. 2 years Post Graduate Diploma in Sociology from recognized institution like Tata Institute of Social Sciences, Xavier Institute of Social Sciences, Ranchi/Xavier Institute of Management, Bhubaneswar/XLRI, Jamshedpur and other reputed institutes.

b. Experience specific to functional area must include

i. Conducting baseline socio-economic surveys through interviews/ questionnaire/

focused group discussions/participatory rural appraisal (PRA)/rapid rural appraisal (RRA)

ii. Methodologies on extrapolation of census data to project an up-to-date status including selected ground validation of the same

iii. Conduct social needs assessment studies

iv. Evaluation of socio-economic status of both tribal and non-tribal areas

v. Demonstrated capacity to interact and develop rapport at community level will be an added advantage

vi. Conduct Rehabilitation and Resettlement (R & R) studies for people displaced due to developmental projects and development for R & R plan

vii. Assessment of social changes arising out of development projects

The following are the additional expectation from the expert:

- Adequate knowledge of EIA legislation process in India.
- Contribution to EIA documentation.
- Understanding of policies, guidelines and the legislation related to R & R issues

c. Training (preferable)

Training on Social Impact Assessment of development projects in Rural/ Urban areas.

A 2.3.8 Hydrology, ground water and water conservation

a. Educational qualifications specific to functional area

i. Engineering - Civil/Mining/Mechanical/Hydraulic

or

ii. Master's (post graduate) degree in Geology/Applied geology/ Geophysics / Hydrology / Surface hydrology / Hydrogeology / Water resources management.

b. Experience specific to functional area must include

i. Analysis of surface hydrological data pertaining to flow fluctuation, estimation of flows at 10, 50 and 90 percentile levels; setting up and interpretation of gauging station readings, designing of ground water table measurement and monitoring network, computation of ground water recharge, flow rate and direction.

ii. Plotting of ground water contours.

iii. Analysis and description of aquifer characteristics e.g. permeability, transmissivity, storage coefficient etc., estimation of groundwater potential and recharge phenomenon, determination of impact of withdrawal of groundwater.

iv. Preparation of water budget for an area.

v. It is also expected that the expert has the following knowledge /experience:

- Adequate knowledge of EIA legislation process in India.

- Contribution to EIA documentation.
- Understanding of policies, guidelines and the legislation related to ground water

c. Training (preferable)

Specialized training/course on impacts on hydrology and ground water from/by developmental projects.

A 2.3.9 Geology

a. Educational qualifications specific to functional area

i. Engineering – Mining/ Earth Resource Engineering

or

ii. Master's (post graduate) degree in Geology/Applied Geology/ Geophysics/ Earth Sciences

b. Experience specific to functional area

i. Geology and Geo morphological analysis/description.

ii. Stratigraphy/Lithology.

iii. Vibration analysis in relation to mining operations.

iv. Developing geological maps.

v. Development of Mining plan incorporating environmental aspects like top soil preservation, waste dump management, reclamation/rehabilitation of mined out areas, run off management etc.

vi. Environmental impacts of 3 phases of mining – exploration, exploitation and post mining stages

vii. It is also expected that the expert has the following knowledge/experience:

- Adequate knowledge of EIA legislation process in India
- Contribution to EIA documentation
- Understanding of policies, guidelines and the legislation related to Mining.

A 2.3.10 Soil conservation

a. Educational qualifications specific to functional area

i. Engineering – Agricultural/Civil Engineering

or

ii. Master's (post graduate) degree in Agricultural Sciences/Soil Sciences/ Earth Sciences/Forestry/Chemistry/Botany/Natural Resource Management and the like

b. Experience specific to functional area must include

i. Sampling, analysis and characterization of soil

ii. Assessment of fertility/productivity of soil, nutrient availability

iii. Assessment of impact of gaseous, liquid and solid pollutants on soil

iv. Management of soil salinity

v. Remediation of soil pollution/contaminated soils

vi. Controlling degradation of soil/soil conservation

vii. It is also expected that the expert has the following knowledge/experience:

- Adequate knowledge of EIA legislation process in India
- Contribution to EIA documentation
- Understanding of policies, guidelines and the legislation related to the subject area

c. Training (preferable)

Assessment of soil contamination and remediation techniques

A 2.3.11 Risk assessment and hazard management

a. Educational qualifications specific to functional area

i. Engineering- Chemical/ Mechanical /Fire Engineering/Chemical Technology, Mining (for Mining EIAs only)

or

ii. Master's (post graduate) degree in Toxicology/ Chemical Technology/ Industrial Safety/ Chemistry or in subjects dealing with identification, assessment and management of risk and hazards, Seismology(for River valley projects only), Dam Break Analysis (for River valley projects only

or

iii. Post graduate diploma (1 year or above) in Industrial Safety from a University/ recognized Institute after graduation in engineering/technical subjects or post-graduation in a science subject

b. Experience specific to functional area must include

i. Identification of hazards and hazardous substances

ii. Risks and consequences analysis using latest software such as Phast Micro, SAFETI, ALOHA or other relevant software.

iii. Preparation of impact diagrams

iv. Vulnerability assessment

v. Preparation of on-site Emergency Preparedness Plan

vi. Preparation of off-site Disaster Management Plan

vii. It is also expected that the expert has the following knowledge/experience:

- Adequate knowledge of EIA legislation process in India
- Contribution to EIA documentation
- Understanding of policies, guidelines and the legislation related to emergency response, off-site and on-site emergency plans, safety and occupational health etc

A 2.3.12 Solid and hazardous waste management

a. Educational qualifications specific to functional area

i. Engineering - Chemical/ Civil/ Environmental, Mining (for Mining EIAs only)

or

ii. Master's (post graduate) degree in Chemical Technology/Chemistry/ Toxicology/ Environmental Sciences/Natural Resource Management/ Natural Science

This functional area comprises three parts

- Municipal Solid Wastes (MSW)
- Non-hazardous industrial Solid Wastes (ISW)
- Hazardous Wastes including biomedical waste (HW)

b. Experience specific to functional area must include

i. Handling municipal solid wastes

ii. Methodologies for segregation and collection of MSW

iii. Methodologies of gainful utilization of MSW

iv. Designing of landfill sites for safe disposal of MSW

v. Familiarity with MSW Rules

vi. Handling non-hazardous industrial solid wastes

vii. Recycling and reuse of solid wastes

viii. Handling and disposal methodologies of high volume non-hazardous solid wastes

ix. Handling hazardous wastes

x. Knowledge of Hazardous Wastes (Management, handling and trans boundary movement) Rules, Basal Convention and other relevant legislations

xi. Identification of hazardous wastes

xii. Incineration, neutralization, stabilization, treatment, storage and disposal of hazardous wastes

xiii. Knowledge/experience in designing of Treatment Storage and Disposal Facility (TSDF) for hazardous solid wastes

xiv. It is also expected that the expert has the following knowledge/experience:

- Adequate knowledge of EIA legislation process in India
- Contribution to EIA documentation
- Understanding of policies, guidelines and the legislation related to Municipal, Industrial solid and Hazardous waste management

Experts having experience on all the three above will be considered for FAE – SHW (solid and hazardous wastes). Those having experience in a specific area out of above, will be considered for the respective field e.g: FAE (HW), FAE (MSW) etc.

c. Training (preferable)

Training on identification, inventorization, collection, handling, storage, treatment and disposal of Hazardous wastes/ Solid wastes/ Municipal Solid wastes

General note –

a. *'And the like'* – this expression has figured with reference to qualification requirement of the Scheme. The following explains the justification for use of this phrase

b. 'If a particular qualification addresses the requirements of a functional area as mentioned in this Scheme but is not included in the list, the Accreditation Committee would take a view of such course curriculum and supporting documents for confirming to its equivalence to B. Tech/ M. Sc.

c. Degrees from Foreign Universities may be considered if found equivalent to Degrees given in respective domains by Indian universities based on a detailed study of the respective curriculum by the assessors. Such cases are then put up to the accreditation committee for its consideration.

d. Training should be relevant to the sector/s for ECs and area/s of expertise for FAEs. The duration of the training should be minimum 3 days and conducted/organized by Universities, Research Institutes, Professional Bodies, Industry Associations or other recognized organizations.

A 2.4 Expected functions of functional area experts (FAEs)

The FAEs should keep updated with the latest technological information and relevant publications in the concerned area of expertise. S/he should also have broad concept of life cycle assessment (LCA), strategic impact assessment (SIA), carrying capacity, ecological/ carbon footprint, energy analysis, corporate sustainability reporting (CSR).

The expected functions of FAEs to include:

A 2.4.1 Prior to the receipt of work order

a. Understanding of the overall project configuration with special reference to her/his concerned functional area/s

b. Visiting the site with the EC.

A 2.4.2 On receipt of the work order

a. Review and understanding the project from Pre-feasibility report (PFR)/ Feasibility report (FR).

b. Interacting with the EC and other FAEs to get a holistic view of the EIA.

c. Focused efforts on her/his specific functional area to identify the gaps and subsequently work towards addressing with other team members.

d. Visiting sites and assisting the EC/s in the selection of sampling locations and deciding the type of samples by FAEs involved in bio-physical aspects such as air, water, soil, bio-diversity, HG, Geo etc.

e. Visiting the site and the laboratory periodically to ensure the quality and validity of baseline data (for FAEs dealing with bio-physical aspects, this includes assessing the quality of sampling, preservation, transportation and analysis of samples).

f. Direct involvement of FAEs specially of the functional areas such as EB and SE - in the development of methodologies/formats to be adopted for the collection of baseline data or validation of secondary data.

g. Analyzing and interpreting the baseline data collected; identifying and assessing potential impacts arising due to various project activities, products and services during different stages of the project.

h. Ensuring that all potential impacts including those under abnormal/accidental conditions for various stages of the project are addressed with quantification, where applicable.

i. Interacting with other FAEs to make sure that potential impacts on the other functional areas

j. Developing the EMP and post project monitoring plan and their associated costs in consultation with the EC.

k. Ensuring compliance to all TOR issued by MoEFCC/SEIAA pertaining to her/his area of expertise.

l. Discussing, developing and submitting the functional area report with supporting tables, figures and photographs to the EC.

m. Addressing the issues raised during the public hearing in the specific functional area report.

n. Suggesting alternatives of location and designs for the project, if required.

o. Attending the review meeting to finalize the draft EIA report pertaining to her/his area of expertise

A 2.5 Functional area associate (FAAs) –

The Scheme provides opportunity for encouraging fresh and young persons as functional area associates (FAAs) provided, they meet the following requirements.

i. In-house employees of an AO/ACO,

ii. Persons who meet the requirements of educational qualification and not the experience criteria for an FAE in a specific functional area,

iii. Persons who have not completed 5 years after their qualifying examination and overall professional experience of not more than 5 years

Candidates proposed as FAA should have reasonable knowledge in respective fields and score at least 40% marks during interaction with the assessors. Such FAAs may be permitted to work as FAEs in EIAs for category B projects under the guidance of an approved FAE (as the senior expert) or a mentor in the concerned functional area/s. The senior expert/mentor (see below) should draw a plan for guiding the FAAs and should verify his/her understanding before her/his performance is evaluated in a formal assessment by NABET assessor in every assessment.

In order to ensure that a FAA gets proper induction into the profession, s/he is considered for maximum two functional areas.

The ACO should clearly define the specific function to be assigned to the FAAs during various stages of his development and training. The FAAs should preferably be exposed to all aspects of the concerned functional area/s including site visits, sampling mechanisms, testing and analyses and interpretation of data and identification and quantification of impacts. There should be continuous assessment of the FAAs to ensure development in his level of knowledge and expertise in the FA/s.

A 3. Mentor

EIA consultant organizations may also have highly experienced in-house or empanelled persons but are unable to undertake frequent site visits. Such persons may be assigned the role of a 'Mentor' for guiding FAAs. Mentors must have minimum 20 years' experience in the relevant field and meet the qualification requirements of the FAE. Mentors will be required to keep updated in their knowledge of the subject and EIA for effectively guiding the FAAs/EIA team. NABET assessors will interact with such mentors during the assessment of the organization to assess their suitability for the role but they will not be evaluated and given marks. However, mentors will not be replacement for FAEs. If empanelled, s/he can be associated with maximum 3 ACOs. A mentor can guide maximum 2 FAAs in each ACOs.

A 4. Team Member (TM)

A provision of 'Team Member' has been included in the Scheme to provide opportunity to

a. experienced professionals in their own fields but lacking in EIA related experience to enter the EIA profession
b. existing experts to expand the field of association
c. persons who have completed 5 years after obtaining eligibility qualification but do not meet the experience requirements of FAE or EC
d. this provision is available only for in-house experts

A 4.1 Procedure to be followed to work as TM

a. As the concept of TM has been introduced to enable experts to gain necessary experience in the EIA process, NABET **should be informed prior to engaging the team member in each of the EIA projects** for his/her experience to be counted as EIA experience.
b. The person to be proposed as a TM should meet the educational requirements of the Scheme for EC or FAE, as applicable.
c. The TM has to get involved in the various functions of the EC and or FAE for obtaining the relevant experience.
d. TM may be attached with an EC and/or a FAE for an EIA. The name of the TM(s) must appear in the list of experts associated in the EIA in the beginning of the EIA report.
e. Information for associating a TM is to be submitted to NABET in a prescribed Format vide **Annexure I E** with following details :
    i. Declaration by the CEO/ authorized signatory of the AO/ ACO confirming the involvement of the team member in the project giving name of the EIA, name of approved EC/ FAE with whom s/he is attached and the duration of involvement
    ii. Specific nature of work in which the TM will be involved with the EC or FAE.
f. List of the persons being used as TM must accompany the application giving the name of the EC/FAE with whom the TM is attached, the sectors/FAs concerned and the EIAs involved in.

A 4.2 Expected functions of team member

The team member is expected to be involved both in field work as well as in the discussions amongst the EC and the FAEs during the entire course of the EIA preparation. Since s/he is expected to be knowledgeable in area of expertise, emphasis should be given to acquaint her/him on aspects like environmental, social and ecological features of the site, rationale for selection of sampling locations, interpretation of baseline data, identification and quantification of possible impacts, developing the management plans and finally in report writing for her/his part of association in the study.

A 5.0 Requirements of accreditation for the Nuclear sector –

EIA consultant organizations taking up EIAs for nuclear power plants and processing of nuclear fuel should have an EIA coordinator knowledgeable about the industry with a broad knowledge and understanding of EIAs and regulatory requirements of the same. The consultants should also have specialized functional area experts in the nuclear field having experience in nuclear safety, risks involved and monitoring of radiation parameters in the fields of human health related to radiation risks, radiation impacts on biodiversity, radioactive waste management, nuclear catastrophic risk management, radiation related monitoring and analysis and dispersion modeling.

The qualification and experience requirements for these experts would be as follows:

Expert	Qualification	Experience
EIA Coordinator (EC)	Bachelor's degree in Engineering in Nuclear, Mechanical, Civil, Chemical, Electronics and Instrumentation, Mining and Environment Master's degrees in Physics, Chemistry, Biology	Experience of nuclear industries of not less than 5 years and familiarity with EIA process and practices.
Functional Area Experts (FAE)		
Radiation risk - human health (RRHH)	Bachelor's degree in Engineering in Nuclear, Mechanical, Civil, Chemical, Mining, Environment or MBBS/degree in human physiology. Master's degrees in Physics, Chemistry, BiologyTraining- radiation biology	Minimum 5 years' experience in: • In radiation biology issues/effects of radiation on human health. • Exposure pathways and food chain. • Internal and external dosimetry • Epidemiology • Knowledge of state of the art and also relevant AERB codes, guides, standards, manuals and national statutes.
Radiation risk – biodiversity (RRBD)	Bachelor's degree in Engineering in Nuclear, Mechanical, Civil, Chemical, Mining or Environment. Master's degrees in Physics, Chemistry, Biology Training- radiation ecology	Minimum 5 years' experience in: • In radiation biology issues/effects of radiation on biodiversity. • Exposure pathways and food chain. • Dose assessment • Knowledge of relevant national and international stipulations.
Radioactive waste management (RWM)	Bachelor's degree in Engineering in Nuclear, Mechanical, Civil, Chemical, Mining or Environment. Master's degrees in Physics, Chemistry Training- radio-active waste management	Minimum 5 years' experience in: • In radiation biology issues/effects of radiation on biodiversity. • Exposure pathways and food chain. • Dose assessment • Knowledge of relevant national and international stipulations.
Radioactive waste management (RWM)	Bachelor's degree in Engineering in Nuclear, Mechanical, Civil, Chemical, Mining or Environment. Master's degrees in Physics, Chemistry	Minimum 5 years' experience in: • Characterization of radioactive wastes. • Treatment processes and methodologies for disposal.

Expert	Qualification	Experience
	Training- radio-active waste management	• Management of radioactive hazardous wastes. • Knowledge of state of the art and also relevant AERB codes, guides, standards manuals and national statutes.
Nuclear catastrophic risk management (NCRM)	Bachelor's degree in Nuclear Engineering Or Master's degrees in: Physics, Chemistry/ Bachelor's degree in Engineering in Mechanical, Civil, Chemical, Mining or Environment. Additional requirement: Should have undergone a special course/ training programme on nuclear Engineering of minimum one year duration Training- catastrophic nuclear risk management	Minimum 5 years' experience in: • Accident analysis of NPP • Design / operation of NPP • Dispersion modelling- atmospheric, water (marine, surface and ground water) and soil. • Safety analysis and risk assessment. • Emergency management • Knowledge of state of the art and also relevant AERB codes, guides, standards manuals and national statutes.
Radiation related monitoring and analysis (RRMA)	Bachelor's degree in Engineering in Nuclear, Mechanical, Civil, Chemical, Electronics and instrumentation, Mining or Environment Master's degrees in Physics, Chemistry Training- development of radiation monitoring systems and analysis of radiation monitoring data.	Minimum 5 years' experience in: • In development of radiation monitoring systems and analysis of radiation monitoring data. • Radio- active releases from NPP and their characteristics. • Knowledge of state of the art and also relevant AERB codes, guides, standards manuals and national statutes.
Dispersion modelling for discharges into air, soil, surface water and ground water (DM)	Bachelor's degree in Engineering in Nuclear, Mechanical, Civil, Chemical, Mining or Environment Master's degrees in Physics, Chemistry, Meteorology Training- dispersion modelling.	Minimum 5 years' experience in : • Characterization of the radioactive releases with knowledge of various sources and modes of radioactive releases in NPP • Dispersion modelling for air, marine, surface and ground water. • Knowledge of state of the art and also relevant AERB codes, guides, standards manuals and national statutes.

Note:

- The above experts may be in-house or empanelled.
- An expert may be the EC and can cover maximum 4 FAs mentioned above
- An FAE can cover 4 FAs mentioned above

Apart from the above specialized functional areas in the nuclear field, the consultants should also have approved experts for conventional functional areas of LU, EB and SE.

Appendix B

QUALITY MANAGEMENT SYSTEM

Appendix B

QUALITY MANAGEMENT SYSTEM

EIA Consultants are advised to establish and maintain a Quality Management System (QMS) for their organization as the same offers the following benefits;

- Creates a culture of doing things right, the very first time.
- Inculcates the culture of "saying, what we do and doing, what we say"
- Increases system orientation and reduces person specific dependence.
- Encourages uniform knowledge sharing and develops skilled work force.
- Helps develop team spirit
- Reduces duplicate work and minimizes wastages.
- Improves quality of work and brand image.

QMS should be based on ISO 9001 while addressing specific requirements of NABET Scheme. Please note that if an organization is already ISO 9001 certified, guidelines B1 to B4 and B10 are normally addressed (which may please be checked). It is then required to develop procedures for the NABET specific items i.e., B4 to B9 and integrate them with the system meaning that these should also come under the ambit of auditing, document control, management review etc.

If an organization has not been initiated into the system oriented approach of working which is documented, audited and reviewed, it needs to acquaint itself of ISO 9001 requirements. Such organizations may initially take the help of a consultant but **MUST NOT OUTSOURCE THE WORK OF ESTABLISHING THE QMS** to him to meet the requirements of the NABET Scheme. Such an approach will be counterproductive as the system so developed is less likely to be owned by the working team and would remain a standalone document. **THE BEST WAY IS TO GET THE GUIDANCE OF A CONSULTANT BUT LET THE WORKING TEAM ESTABLISH THE SYSTEM.**

A QMS is supported by a 3 tier documentation system

- The Quality Management System manual
- Procedures
- Work instructions/forms/formats/checklists to implement the procedures

Some organizations have included 'Reference materials' to their documentation system. Further explanation is given in B 2 below.

Guidelines for developing the QMS -

B1. Quality policy-should:

a. Be appropriate to the Organization's business
b. Show commitment for continual improvement
c. Provide a framework for setting objectives and a review mechanism
d. Be communicated and understood within the organization
e. Focus on customer satisfaction

B2. Control of documents including records-should give procedures for:

a. Uniquely identifying documents and records
b. Approving documents prior to issue
c. Reviewing and updating of documents, as required
d. Ensuring quick availability of relevant revision of the document
e. Storage, protection and retrieval of documents and handling of outdated/superseded documents

B3. Performance measurement and review-should give procedures for:

a. Fixing Key Performance Indicators (KPI) of experts involved in EIA, which should include quality of the EIAs they are associated with and annual appraisal of the same
b. Assessing / ensuring the quality of EIA reports prepared
c. Improving skill level of experts through training
d. Periodic and systematic audit, both internal and external and follow up action for closure of Non conformances NCs/ observations.
e. Management review giving periodicity and issues to be taken up including feedback from project proponent/public hearing/environment appraisal committee/state environment appraisal committee on quality of EIA reports prepared and necessary follow up action.

B4. Actions taken to address Non-conformances- should give procedures for:

a. Analyzing the NCs/ Obs. of internal audits as well as external audits including NABET to identify the causes and the actions (corrective and preventive) to be taken,
b. Identifying resources and other inputs required for such actions,
c. Fixing the time frame and the responsibility for the actions,
d. Ensuring the completion of the actions to be taken,
e. Ensuring amendments in the procedure for the prevention of the recurrence of such NCs.

B5. Identification, retention and assessment of performance of empanelled experts-should give procedures for:

a. Specifying qualifications and experience requirements of the experts,

b. Assessing the work done by the prospective experts prior to their retention

c. Framing the "terms of reference" for retention of the expert, including preparation of the report for her/his portion of the work,

d. Assessing performance of the work done by the experts for the organization,

e. Ensuring updation of the knowledge level of the expert (a suitable procedure should also be included for updating the knowledge level of in-house experts).

B6. Collection and measurement of primary data-should give procedures for:

'Primary' data cover all forms of data collected through the field work, for assessing the impacts on physical, biotic and the socio-economic. The procedures for collecting primary data should include:

a. Site visits by the EIA team to familiarize about site conditions to plan for the EIA, selecting the number and location of monitoring stations, the type of sampling and parameters to be monitored

b. Interpretation of data including statistical analysis to arrive at meaningful information

c. Specifying the type of biotic environment data to be collected as appropriate for the scope of EIA, methodologies to be followed and interpretation of the data.

d. Specifying the type of socio-economic environment data to be collected as appropriate for the scope of EIA, methodologies to be followed and interpretation of the same.

B7. Collation, synthesis and interpretation of secondary data-should give procedures for:

Authenticity, credibility, appropriateness and relevance of the secondary data are the cornerstones of a good EIA. Minimum secondary data should be used to supplement the primary data and under no circumstances this should be used as a replacement of primary data. This procedures should include information on:

a. When secondary data would be resorted to

b. Relevant secondary data to be collected as appropriate for EIA requirements

c. Sources of secondary data ensuring their reliability and age

d. Validation of important secondary data by cross verification at the site or from other sources

e. Ensuring the brevity of the data (eliminating irrelevant information)

It is a good practice to give reference to the source when secondary data is used.

B8. Work outsourced-should give procedures for:

Sometimes it may be necessary to outsource some specific studies for an EIA like a biodiversity study or a socio-economic study or R& R study. The manual should mention procedures for:

a. Defining the conditions when outsourcing would be resorted to
b. Assessing the capability of the agency to take up the work to be outsourced
c. Drawing up the terms of reference for the outsourced work
d. Identifying steps to be taken to ensure the quality of the outsourced work
e. Extracting the relevant portions of the outsourced work for inclusion in the EIA report

B9. Laboratory work for baseline data-should give procedures for:

a. Assessing a laboratory for its capability to analyze the parameters required for collection of baseline physical environment data for EIA studies
b. Identifying the scope of work to be assigned to the lab and those to be done by the EIA consultant organization
c. Collection, preservation and transportation of samples from site to the laboratory
d. Quality assurance by the EIA team of the primary data collection work including supervision at site
e. Type of records to be maintained by the laboratory and the EIA team on the baseline data collection work

B10. Complaints and appeals-should give procedures for:

a. Informing the clients about the provision of complaints and appeals
b. Accepting complaints/ appeals
c. Handling and disposal (including authority and responsibility) of the same within reasonable time
d. Maintaining records of complaints/ appeals

Ensuring implementation of preventive/ corrective actions

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Appendix C

PROCESSES FOR INITIAL ACCREDITATION (IA), SURVEILLANCE ASSESSMENT (SA) AND RE-ACCREDITATION (RA)

Appendix C

Process for Initial Accreditation, Surveillance Assessment and Re-Accreditation

C1.0 Accreditation cycle

In a 3 years cycle of accreditation 3 types of assessments are carried out. These are:

Initial Accreditation (IA): In the IA, the potential of the applicant organization is assessed and based on that accreditation is granted. On successful completion of the initial assessment, an applicant organization is given accreditation for 3 years, subject to a surveillance assessment after 18 months. Details of IA are furnished below.

Surveillance Assessment (SA): SA is to assess performance after IA for continuation of accreditation. The objective is to judge to what extent the potential has been fulfilled i.e. its performance along with compliance to the conditions of accreditation. SA falls due 18 months after IA. Details of SA are furnished below.

Re-accreditation (RA): Following the principle of 'continual improvement', in RA the stress is on improvement achieved by the ACO during the period of accreditation. Since, the ultimate objective of the Scheme is to improve the quality of EIA reports being prepared in our country, RA accords progressively higher weightage to the same. RA comes 18 months after SA i.e., on completion of 3 years after IA. Details of RA are furnished below.

C2.0 Assessment process

All the 3 types of accreditation mentioned above have the following 3 stages;

i. Stage I assessment: scrutiny for completeness of applications and supporting documents by NABET secretariat

ii. Stage II assessment: technical review of the documents is done by NABET assessor called the principal assessor (PA).

iii. Stage III assessment: the office assessment is jointly conducted by PA and a co-assessor (CA) at the premises of the applicant.

These are explained in detail in following sections:

C2.1. Stage I Assessment: Scrutiny for completeness of applications and support documents by NABET secretariat

Applications submitted by an AO must be complete in all respects including the support documents as mentioned in the checklist in **Annexure I** of the Scheme. The main points to be kept in mind by the AO/ACOs are -

a. Ensure that proposed candidates meet the requirements of the Scheme both in respect of qualification and experience for all ECs, FAEs, AECs, Mentors, FAAs and TMs. An EC can be proposed for a maximum of 5 Sectors, AEC for maximum 2 sectors, FAE for a maximum of 4 functional areas and a FAA for a maximum of 2 functional areas.

b. An expert may be proposed both as an EC and FAE, provided s/he meets this Scheme's requirements.

c. The application must have at least three eligible in-house experts - one EIA coordinator and two other FAEs.

d. CVs of experts must be submitted in Formats given in **Annexure IV, IV A, IV B**, as applicable. AOs/ACO are advised to provide specific experience separately for each sector and functional area. An incomplete CV can delay the processing of the application or may also result in non-approval of candidate.

e. Empanelled candidates must submit MoU, Declaration **(Annexure V)**, and NOC, where applicable, as per requirements of the Scheme

f. Application must include proposal for eligible candidates to cover core and significant functional areas as per requirements of the Scheme. Requirement of functional areas to be covered for different Sectors is explained in **Annexure II A**.

g. The QMS should address the procedures mentioned in **Appendix B** of this Scheme. The application must be accompanied by the QMS Manual of the organization.

h. The consultant organization must have an arrangement with a NABL accredited and/or MOEF recognized laboratory to be used for environmental base line data generation. It can be an in-house or external laboratory. For NABL accredited laboratories, the certificate and scope of accreditation and for MOEF recognized laboratories copy of the application must be submitted.

i. In case of applications from Universities and Research Institutes, their in-house laboratory may be considered provided it carries out work akin to EIA. Such laboratories should be equipped with necessary equipment and instruments to carry out analyses of parameters required for EIA studies and have proper systems and staff for the same. These are visited by NABET assessors and based on their report a decision is taken by the accreditation committee.

j. For external laboratory, a copy of the MoU between the AO/ACO and the laboratory must be submitted with the application for accreditation indicating clearly the duration and scope along with other relevant details (see section C 7.0).

k. Candidates seeking approval as EC, FAE and FAA based on her/his experience must submit relevant documents in support as specified in Scheme. The AO/ACO needs to submit similar documents for persons being proposed as AEC and TM.

l. Check lists of documents to be submitted with the application are given in **Annexure I, IA** and **IB** for IA, SA and RA respectively.

C2.2. Stage II – Technical review of documents by NABET assessor

Once the application is checked for its completeness by the NABET secretariat, the technical contents of the documents are assessed by the principal assessor for conformity with the Scheme. After the evaluation, NABET informs the AO of the non- conformances (NC) and/or observations, if any, in the specific format. The closure actions submitted by the AO/ACO are assessed for completeness by the principal assessor. Candidates not fulfilling the requirements of Scheme in Stage II in terms of qualification and experience are not eligible for Stage III assessment.

For NABET to proceed further to stage III assessment, the following must necessarily be available in the application:

a. Eligible in-house and empanelled EIA coordinator for applied sector/s.

b. Proposed FAEs must meet the qualification and experience requirements for core and significant functional areas for the sectors applied for as given in **Annexure II A** of the Scheme.

c. Experience details of all proposed candidates as per prescribed formats.

d. Completed QMS manual and laboratory details as per requirements of Scheme

Note: An assessment fee is charged for the documentation review, as per details in **Appendix D**. In case the verification of the closure action proposed/submitted needs assessment of more than two proposed FAEs or one proposed EC, additional fee is applicable.

C2.3. Stage III – Office assessment by NABET assessors

a. After the successful closure of NCs and observations as mentioned above by the AO, NABET undertakes at least one full office assessment by a team of two or more Assessors. This includes interactions with the experts, verification of compliance to systems and procedures submitted with the application, field investigation practices, records, laboratory and office/support structure and the reports prepared by the AO

b. Members of AC, TC, new assessors and NABET secretariat may also visit AO/ACO premises as observers, at NABET's cost, in case need arises.

c. During the Stage III assessment all in-house and empanelled EIA coordinators, associate EIA coordinators, functional area experts, functional area associates, team members and mentors proposed and fulfilling the requirements of the Scheme, interact with NABET assessors. Interaction may also become necessary with laboratory staff and personnel associated with QMS.

d. NABET informs the AO/ACO, at least 10 days in advance, the date of the office assessment. Sometimes, office assessment may have to be conducted with a notice of less than 10 days, if it is feasible for AO/ACO.

e. To keep the schedule of assessments, it is not possible to accept any postponement of assessment dates unless it clashes with public hearing, EAC/SEAC meetings or some extra-ordinary situation at the applicants' end which cannot be avoided.

f. If any candidate proposed for EC and/or FAE is not available during the office assessment without formal intimation to NABET, the sectors and functional areas proposed with his/her name respectively are not considered for approval. If leave of absence is sought from NABET in advance, such candidates may appear for interaction at a later date to be communicated by NABET.

g. During the interaction with experts, relevant documentary evidences of educational qualifications and experience are examined by the assessors. Hence, such documents should be kept readily available. The work experience may not be considered, if the candidates are unable to produce documentary evidence in support of their claim of experience.

h. In case the organization has offices at multiple locations, it must be clearly mentioned in the application giving address, location, services, staff etc. A partial assessment of a few selected locations may be conducted by NABET. The choice of locations is at the discretion of the NABET assessment team.

i. NABET assessors may inspect the laboratory or an on-going base line data collection work, if required.

j. During the office assessment many documentary evidences are put up by the applicant in original. Also, certain clarifications/additional information are sought by the assessors from the applicant. All such documents in soft format (scanned copies, if applicable) must be submitted to NABET by the applicant within one week of the stage III assessment.

k. Non-conformance and observations may be raised by the assessors after the assessment or later, which are communicated to the AO/ACO by NABET. Closure actions on such NCs/Obs. must be sent to NABET by the AO within two weeks of the communication.

   On receipt of closure of NCs/Obs. from the AO and clarifications/additional information from the assessors, if any, the case is put up to the accreditation committee for its review and decision.

C3.0 Assessment process - Initial Accreditation (IA)

This is the first step of approval in the accreditation cycle. There are five key requirements for accreditation. The assessment criteria for these are elaborated in section C 3.1 to 3.5.

C3.1. Human resource

The candidates meeting the qualification and experience requirements specified in the Scheme are assessed by the principal and co-assessors broadly on following aspects -

a. **EIA coordinators**– must have

   i. knowledge of the sector/s and its probable impacts on the physical, ecological and social environments and their mitigation measures

   ii. clarity on concept of EIAs, role of an EC and knowledge of relevant legislations, policies, practices and guidelines

   iii. ability to plan for EIAs and coordinate the EIA team to achieve the best results

b. **Functional area experts** – must have :

   i. knowledge of the functional area/s applicable in EIA context

   ii. ability to identify and quantify impacts, where applicable

   iii. ability to suggest/vet mitigation measures and clarity of role as FAE.

c. **Functional area associates**

   i. Knowledge of the functional area

d. **Associate EC, team member, mentor**

   They are met by the assessors during office assessment to assess their suitability for the role proposed, but not given any marks.

Note: Documentary evidences in support of work experience claimed would help assessment process.

C3.2 Field investigations and laboratory systems

To ensure data integrity, this section covers assessment of the following:

a. Collection, quality assurance and interpretation of primary data for physical, ecological and social environment, and

b. Collation, synthesis and interpretation of secondary data for ecological and social environment.

C3.2.1 Field investigation for primary data

Assessment for this section covers the following for quality assurance:

i. verification of the scope of accreditation/recognition of the lab which should include AAQ, stack emission, water and waste water, soil and noise monitoring required for EIA study.

ii. methodology for collection of primary data of physical environment including involvement of ECs and FAEs in selection of sampling locations, type of samples, parameters to be tested quality assurance of data collected, preservation and transportation of samples and interpretation of the data for use in EIA

iii. methodology for collection of primary data of ecological environment including methodology followed, field equipment used, maintenance of field log book, quality assurance of data for seasonality, timing and duration of investigation identification of species; laboratory testing of field samples where applicable; interpretation of data in respect of impact on biological receptors(rare/ threatened/endangered/endemic species, and their habitat).

iv. methodology for collection of primary data on socio economic aspects including the type of data to be collected; involvement of concerned FAEs; planning the scope for field based socio economic surveys, design of questionnaire for interviews and maintenance field log book.

C3.2.2 Collation, synthesis and interpretation of secondary data

For secondary data on ecological and socio-economic environment assessment covers the following;

i. methodology for identification of sources,

ii. ground validation and

iii. interpretation of data

C3.3 Quality management system (QMS)

Since the use of QMS in developing EIAs is a comparatively recent approach, the emphasis is on the content and coverage of the systems and procedures developed and understanding of the same in the organization.

Assessment includes verifying whether all the requirements of **Appendix B** of the Scheme have been covered by documented procedures backed by forms/formats/check lists for implementation of the same; the quality of the content of the procedures developed; understanding of the system including organizational awareness of the QMS and action plan/status of implementation.

C3.4 Quality of EIAs –

In IA the EIAs are examined for assessment of the quality of EIAs prepared by an applicant organization prior to getting accredited as a baseline reference. The assessment, interalia, covers following parameters –

i. Site and project description with photographs, layout maps, process flow diagrams of the manufacturing processes, material balance, environmentally sensitive receptors like water bodies; wetlands and estuaries, forests, wild life sanctuaries, national parks, biosphere reserves; human habitations, school and hospitals; archaeological and historic monuments; croplands industries and the like.

ii. Consideration of alternative of sites, technology and processes.

iii. Methodology for collection of -

a. Primary baseline data for physical environment (sampling location, preservation, analysis)

b. Secondary data (reference, relevance, authenticity, period, ground validation).

iv. Interpretation of data for identification of environmental impacts and quantification, where applicable.

v. Interpretation of ecological and social baseline conditions and assessment of potential impact and mitigation measures.

vi. Risks assessment and consequence analysis including emergency plan

vii. Environmental management plan and its monitoring

viii. Duly signed declaration of experts' involvement in EIA preparation.

ix. Compliance to TOR and public hearing

For a fresh applicant organization which has not carried out any EIA, this section is not applicable.

C3.5 Organizational commitment –

The following requirements aim to ensure the commitment from the accredited consultants towards continual improvement

a. Capacity building

i. System of assessing performance of experts,

ii. Identification of training needs and

iii. Providing necessary training for enhancement of skill and competence to deliver quality EIA.

b. Commitments towards quality of EIAs

i. Preparation of clear activity chart (with milestones) from start to completion for the EIA projects;

ii. Meeting/s with project proponent and feasibility report/detailed project report (FR/DPR) consultants to ensure better coordination for the EIA project and recording the same;

iii. System of learning from the comments of the EAC/SEAC meetings and public hearing to improve the quality of EIAs

c. Facilities –

i. Use of appropriate tools and software for impact assessment

ii. Provision of computing and internet and video conferencing facilities,

iii. Library, documentation center

C3.6 Weightage of marks

The weightage of marks for various aspects of assessment are given below:

S. No	Aspects	Marks allotted	Focus in assessment in IA
1	Quality and performance of personnel EIA coordinators FAEs	 20 20	Potential of the AO
2	Quality management system	15	
3	Field investigations and laboratory systems to ensure data integrity	25	
4	Quality of EIA	10	
5	Organizational commitment	10	
	Total	**100**	

NOTE:

- An AO must score a minimum of 40% in each aspect of assessment (S. No 1 to 5 of the table) for being considered for accreditation.
- For a candidate to get approved as an EC, s/he must score minimum of 40% in knowledge about the sector and its EIA related issues as also overall. Similarly, for a candidate to get approved as FAE, s/he has to score minimum 40% or more in knowledge of the functional area/s applicable in the EIA as also overall.
- For approval of FAA, a minimum score of 40% must be obtained during interaction. Approval will be granted to FAA only for Cat B EIA projects.

C3.7 Category of accreditation for organization and approval of experts

Accreditation for organizations and approval of experts is granted under the following two categories of the Scheme:

EIA consultant organization, EIA coordinators and functional area experts	
Category A Those scoring 60% or above overall in stage III assessment	**Category B** Those scoring 40% & above but less than 60% overall in stage III assessment

C3.8 Conditions to be fulfilled for initial accreditation

a. If the shortfall relates to the quality of EIA, the AO is informed of the shortcoming but accreditation is not withheld up as the EIA was prepared by the AO prior to getting accredited. However, in case of complaints about any specific EIA prepared by an AO prior to applying for accreditation, NABET reserves the right to seek clarification on the same from the AO.

b. In case the short fall concerns the QMS (item No 2) the AO is given 15 days' time to improve the QMS to meet the requirements of the Scheme

c. NABET conducts one a day assessment at the premises of the AO within 3 months to find out level of understanding of the QMS in the organization and the action plan for implementation.

C3.9 Submission of complete application

An AO is required to submit a complete application meeting requirements of the Scheme. In case the application is incomplete, the AO is informed by NABET of the aspects in which the same is incomplete. The AO is required to submit all details to make the application complete as early as possible for further processing of application. If the application remains incomplete even after six month from the date of initial application, it is treated as closed and the AO needs to submit a fresh application with requisite fees, should it wishes to be considered for accreditation under the Scheme.

C3.10 Self-assessment checklist

It is important that the application submitted by an applicant organization is complete in all respects, which would facilitate quick processing of the same. Also, it helps the organization in facing office assessment by NABET assessors if it is well prepared for the same. To help the consultant organizations on the above, self-assessment formats have been developed both for completeness of application and for preparedness for assessment by NABET for IA, SA and RA and are given in **Annexure VIII**.

C4.0 Assessment process - Surveillance Assessment (SA)

Surveillance assessment (SA) falls due after 18 months of initial accreditation (which is effective from the date of office assessment for initial accreditation). Application for SA in prescribed format, accessible from QCI/NABET website, is required to be submitted to NABET at least 3 months before the due date i.e. 15 months after IA. The application must be complete with all relevant documents which include a list of EIAs carried out after IA, list of experts involved in the EIAs, copy of the QMS manual, details about laboratory arrangements, etc. A checklist of the documents to be submitted is given at **Annexure I A**.

SA cannot proceed in the following cases

i. Non-submission of satisfactory response to NC/ Obs. of initial accreditation
ii. MoEFCC recognized or NABL accredited labs have not been used after IA (provisions of section 2.1 i are applicable for universities and research institutes)
iii. Non-compliance to conditions of accreditation and non-payment of pending dues
iv. Non-fulfillment of requirements of core and significant functional areas
v. Non-fulfillment of requirements of 3 in-house experts (one EC plus two other FAEs)

Note:

i. In the event, an approved expert has left the ACO three months prior to the date of application for SA, an ACO can put up a proposal for approval of an alternative eligible In-house/emp. candidates for the applicable core and significant FAs.

ii. In event of resignation of any of the approved EC/FAE, earlier than 3 months prior to the date of application of SA, replacement to be proposed by the ACO within defined timeline.

There are five key requirements in SA for continuation of accreditation. These are detailed in C 4.1 to C 4.5.

C4.1. Performance of approved experts

The ECs and FAEs experts approved in the SA are assessed by the principal and co-assessors on the following aspects -

a. EIA coordinators must have

i. Site familiarity through visit to the site to plan for EIAs

ii. Completeness of impact assessment covering all aspects in respect of physical, ecological, social and risk related issues.

iii. Completeness of EMP addressing all impacts along with budgetary projections and monitoring plan

b. Functional area experts must have

i. Visited the site for familiarization and involvement in selection of sampling locations, collection and supervision of sampling for primary data

ii. Identified and quantified impacts, where applicable

iii. Made contribution to EIA report in its functional area and EMP.

Note:

a. For the experts seeking up-gradation in category of approval, in addition to the performance, the efforts made by them to improve/excel in approved sectors/ functional areas are also reviewed carefully.

b. Documentary evidences in support of work carried out during period under SA must be available for ECs/FAEs

c. In case an approved expert was not involved in any EIA for the period after IA and up to SA, s/he may be allowed to 'continue by default' for the concerned sector or functional area as per recommendation of Assessors.

C 4.2 Field investigations and laboratory systems

Implementation of the methodologies developed in the initial accreditation process is assessed in respect of the following:

a. **Physical environment –**
   i. involvement of ECs and FAEs in sampling protocols,
   ii. quality assurance of data in collection, preservation and transportation of samples
   iii. interpretation of the data for use in EIA.
   iv. information relevant to the baseline data including name, address of laboratory, analysts, type of sample; duration/dates of analysis, method of analysis; no of samples analyzed.
   v. the analysis report must be signed by the analyst and the head of the lab.

b. **Ecological environment –**
   i. involvement of concerned FAE in field investigation; field equipment used; observations recorded in field log book for collection of primary data as well as validation of secondary data,
   ii. quality assurance of data for seasonality; timing and duration; and identification of species;
   iii. laboratory testing of field samples, as applicable; interpretation of data in respect of impact on biological receptors (rare/ threatened/endangered/endemic species, and their habitat).

c. **Socio-economic environment –**
   i. methodology for collection of primary data on socio economic aspects including the type of data to be collected;
   ii. involvement of concerned FAEs in planning the scope for field based socio economic surveys, design of questionnaire for interviews, and maintenance field log book.
   iii. quality assurance- including customization of the methodology, sample selection etc

Note: Documentary evidences in support of above would help the assessment process.

C4.3 Quality management system

This includes compliance to the various procedures developed during the initial accreditation process in the Quality manual of the ACO.

Address various elements of QMS as required under the NABET Scheme **Appendix B**.

The ACO is also expected to demonstrate corrective action and preventive action taken for deficiencies pointed out in QMS during initial accreditation with relevant documents, if applicable.

C4.4 Quality of EIAs prepared by the ACO –

Assessment criteria for this are similar to that in IA. In addition, the efforts made by the ACO to improve quality of EIA will also be assessed.

C4.5 Organizational commitment

Assessment criteria for this are similar to that in IA namely capacity building for ECs/FAEs/FAAs/AECs/TMs, commitments towards quality of EIAs and facilities provided, with stress on implementation since being accredited.

C4.6 Compliance to conditions of accreditation

Assessment to cover the conditions of accreditation mentioned in the NABET's letter of IA. It broadly includes timely information and replacement by the ACO of approved experts leaving the organization; utilizing only approved experts of appropriate category for preparing EIAs; providing statement countersigned by ECs and FAEs involved in preparation of EIA in prescribed Format at the beginning of the EIA report and after timely payment of all dues to NABET.

S. No.	Aspects	Marks allotted	Focus in assessment in SA
1	Performance of EIA Coordinators FAEs	 15 10	Compliance and performance of the ACO
2	Quality management system	15	
3	Field investigations and laboratory systems to ensure data integrity	25	
4	Quality of EIAs	20	
5	Organizational commitment	10	
6	Compliance to conditions of accreditation	5	
	Total	**100**	

Note:

a. An ACO must score minimum 50% in each of the 6 aspects as mentioned above for continuation of the accreditation/approval status (for experts) in the same category.

b. If the score is 40% to less than 50% in any of the aspects, accreditation is continued with an alert to the effect that the ACO must improve its performance in the concerned aspect/s.

c. If an ACO scores less than 40% marks in any of the above aspect/s, the accreditation cannot be continued.

d. In case of shortfall in marks i.e. below 40%, the following provisions apply–

- considering that QMS is a new concept in the EIA profession, if the ACO scores less than 40% in QMS, it is given 15 days' time to address the shortfalls and submit the revised QMS to NABET meeting the requirements of the Scheme. Awareness of

the revised QMS and implementation status is assessed by NABET assessors at the premises of the ACO. The ACO needs to score 40% or more in this assessment to retain the accreditation granted to it.

- if the ACO scores less than 40% marks in any aspect other than QMS, it may be given an opportunity of personal hearing by the AC to explain its case before the final decision on the case.

C4.7 Conditions to be fulfilled for continuation of accreditation -

a. In case a major non-compliance/discrepancy/mis-representation of facts is observed in EIA reports prepared by ACO during period under surveillance, the accreditation may not be continued. However, the ACO may be given an opportunity of personal hearing before final decision is taken by accreditation committee

b. The ACO is informed of the scores of Stage III assessment for the organization as well as individuals with comments on areas of improvements, if any. In case an ACO is not approved and wishes to re-apply or upgrade from category B to category A, it may do so after a gap of 3 months and on ensuring that the shortcomings mentioned have been adequately addressed. The organization is subsequently assessed as per SA norms. Fees as per SA are applicable.

C4.8 Category of accreditation of organization and approval of experts

Accreditation for organizations and approval of experts is granted in following two categories under the Scheme:

EIA consultant organization, EIA coordinators and Functional area experts	
Category A Those having category A in initial accreditation and scoring 50% or above overall, in stage III assessment Those having category B in initial accreditation and scoring 60% or above overall in stage III assessment	**Category B** Those having category B in Initial accreditation and scoring 50% and above but less than 60% overall in stage III assessment

C4.9 Scoring requirements for experts/candidates -

i. If a candidate/expert assessed for an EC or FAE scores less than 40% in stage III assessment, s/he will not be approved under the Scheme.

ii. If an approved expert assessed in SA scores 40% and above but less than 50%, s/he will be issued an 'Alert'. If s/he was approved for category A in IA, her/his approval category may be revised to category B, depending on the seriousness in shortfall in performance.

iii. If an approved expert assessed in SA gets 50% or more, her/his approval gets continued in the same category as in IA. If s/he scores 60% or more and was earlier approved as cat B, s/he is up-graded to cat A, provided s/he fulfils the requirements of scheme.

iv. An expert approved in category B seeking up-gradation to category A may be proposed by the ACO for the same either in the next assessment (RA) or after a gap of 3 months

from the date of last assessment provided s/he meets the qualifications and experience requirements for cat. A for an EC/FAE or has addressed the shortfalls of earlier assessment, as applicable

v. To upgrade from category B to A, the expert may work as team member under an approved expert of category A. Necessary documents on additional experience for up-gradation since last assessment are to be submitted along with the application. Such an expert needs to score 60% or above in assessment to be upgraded from category B to A.

C4.10 Submission of application for SA

- An ACO is required to submit its application for surveillance assessment three months in advance from the date on which SA falls due. In case the application is not received till the date when SA falls due, the ACO is given a 15 days' notice followed by a reminder notice of another 15 days. In case the application is not received even after the reminder notice, sectors approved for the ACO are removed from the list of accredited consultants.
- If the ACO does not submit the complete application for SA even on expiry of 3 months after the SA falls due, the case is treated as closed and the name of the organization removed from the ACO list. The ACO needs to apply afresh with requisite application fees if it wishes to be considered for accreditation under the Scheme and is assessed as per IA norms.
- In case an ACO submits the application in time but the same is incomplete in terms of details to be submitted, the ACO is given a 15 days' notice followed by a 2nd notice of 15 days. In case the application is not complete even after the 2nd notice, same procedure as in a) and b) above applies.
- In case recruitment of expert/s is needed for completeness of the requirement of the Scheme, the ACO is given 3 months' time for recruitment of new expert. If the application remains incomplete after 3 months, same procedure as in a) and b) above applies.
- For an ACO falling under a), b) and c) above, irrespective of when the complete SA application is submitted the next assessment namely re-accreditation falls due as scheduled i.e. 36 months after IA.

C4.11 Self-assessment checklist

Self-assessment checklist for completeness of application and for preparedness of the ACO for assessment by NABET for SA is given at **Annexure VIII**.

C5.0 Assessment process: Re- accreditation

Accreditation cycle under the Scheme is 3 years and re-accreditation (RA) falls due after 3 years of initial accreditation. Application for RA in prescribed format, posted on QCI/NABET website, is required to be submitted to NABET three months before the due date i.e. 18+15=33 months after IA. The application must be complete with all relevant documents which include a list of EIAs carried out since SA, list of experts involved in the EIAs, copy of the QMS manual, details about

laboratory arrangements, etc. A checklist of the documents to be submitted is given at **Annexure I B**.

For becoming eligible for RA, an ACO must meet the following requirements –

i. All NCs/Obs. issued in SA have been closed satisfactorily

ii. Only MoEFCC recognized or NABL accredited labs have been used after SA (provisions of section C2.1 i are applicable for universities and research institutes)

iii. The ACO has at least one in-house EC and two other in-house FAEs

iv. All core and significant functional areas, as applicable as per **Annexure IIA**, are covered as per requirements of the scheme

v. The ACO has made all the payments due to NABET

Note

i. Considering a situation that an approved expert may have left the ACO in recent past (3 months prior to the date of application) and it did not have enough time to get an alternate candidate approved, if an ACO puts up in its application eligible in-house/emp. candidates for the applicable core and significant FAs, it may be accepted.

ii. In event of resignation of any of the approved EC/ FAE more than 3 months prior to the date of application, replacement is to be proposed by the ACO within defined timelines

Re-assessment broadly follows the criteria of initial assessment with emphasis in improvements achieved. This includes performance of approved experts, implementation of QMS, integrity of field investigation and laboratory work, quality of EIAs completed since accreditation and organizational commitment towards developing quality EIAs.

There are six key requirements in RA assessment for re-accreditation. These are detailed in C5.1 to C5.6.

C5.1 Performance of approved experts

a. EIA coordinators –

i. Updation in knowledge about sector, regulations & development in EIA field

ii. Site familiarity to plan for EIAs

iii. Completeness of impact assessment (including for ecological, social, risk related) and quantification, where applicable

iv. Completeness of EMP addressing all impacts with budget & monitoring plan

b. Functional area experts –

i. Updation about regulations & on latest developments in the concerned FA

ii. Site familiarity and role in collection/ supervision of primary data

iii. Identification of all impacts and quantification, where applicable

iv. EMP addressing all impacts and monitoring plan.

Note:

- Documentary evidences in support of work carried out during period under RA must be available for ECs/FAEs.
- Fresh EC/FAE proposed during RA for approved EC/FAE seeking change in scopewill be assessed as per IA norms.

C5.2 Quality management system

This includes implementation and compliance to the updated QMS including NC/Obs. issued in SA, if any. The stress is on assessing improvements in implementation of QMS across the organization and whether all requirements of **Appendix B** of the Scheme are addressed.

C5.3 Field investigations and laboratory systems to ensure data integrity

Issues to be covered are similar to that in SA which is described below with stress of improvements achieved since SA.

a. Physical Environment

i. involvement of ECs & FAEs in sampling protocols,

ii. quality assurance of data in collection, preservation and transportation of samples

iii. interpretation of the data for use in EIA.

iv. information trail (for identified EIA project) is checked for the baseline data including name & address of laboratory, analysts, type of sample, duration/dates of analysis, method of analysis, no of samples analyzed, whether the analysis report signed by the analyst and the head of the lab.

b. Ecological Environment –

i. involvement of concerned FAE in field investigation, field equipment used, field log book maintained,

ii. quality assurance of data for seasonality, timing, correctness in identification of species;

iii. laboratory testing of field samples, as applicable;

iv. Interpretation of data in respect of stress on habitat, species, and endangered/ endemic including conservation/preservation.

c. Socio-economic Environment –

i. involvement in collection of primary data of socio economic environment including identifying the type of data to be collected;

ii. field questionnaires used, maintaining field log book etc;

iii. quality assurance- including customization of the methodology, sample selection etc.

C5.4 Quality of EIAs prepared by the ACO

Assessment criteria for this are similar to that in IA with a stress on efforts made by the ACO to improve quality of EIA since IA.

C5.5 Organizational commitment –

Assessment criteria are similar to that for SA. Stress is on how effective is the implementation of the systems adopted and improvements achieved since SA.

C5.6 Improvements achieved –

Assessment would include improvements made since IA in the areas of

i. Performance of approved experts

ii. Quality of baseline data

iii. Enabling factors including facilities provided

iv. Quality of EIA

C5.7 Compliance to conditions of SA

During stage II and stage III assessments, compliance to the conditions given after SA for continuation of SA is seen for the ACO to be eligible for RA but no marks are given.

C5.8 Weightage of marks

S. No.	Aspects	Marks allotted	Focus in assessment in RA
1	Quality & performance of personnel EIA coordinators FAEs	 10 10	Performance and improvement of the ACO
2	Quality management system	15	
3	Field investigations and laboratory systems to ensure data integrity	20	
4	Quality of EIAs	30	
5	Organizational evaluation/commitment	5	
6	Improvements achieved	10	
7	Compliance to conditions of accreditation	-	
	Total	**100**	

C5.9 Conditions to be fulfilled for re-accreditation

i. An ACO needs to score 40% or more in each aspect of assessment as mentioned above for being considered for re-accreditation.

ii. In case the ACO scores less than 40% marks in any aspect it may be given an opportunity of personal hearing by the AC to explain its case.

iii. Requirements for laboratory arrangement, minimum IH employees and experts to cover the functional areas shall be same as those mentioned for IA and SA above.

iv. In case a major non-compliance/discrepancy/mis-representation of facts is observed in EIA reports prepared by ACO during period under assessment, renewal of the accreditation may not be considered. However, the ACO may be given an opportunity of personal hearing before final decision is taken by Accreditation Committee

v. Above conditions are in addition to requirements of initial accreditation, which are also applicable.

C5.10 Category of accreditation/approval -

Accreditation for organizations and approval for experts are given in two categories as in IA and mentioned in Section 3.7 above.

C5.11 Additional points for re-accreditation

Additional points for EIA coordinators and functional area experts: category A and B-

a. If a candidate/expert assessed for an EC or FAE scores less than 40% in stage III assessment, s/he is not approved under the Scheme.

b. Up-gradation of ECs and FAEs from cat. B to cat. A – an expert approved in category B and seeking to be upgraded to category A may be considered with the SA or RA application provided s/he meets the qualifications and experience requirements for Cat. A EC/ FAE, as applicable. Such an expert needs to score 60% or above overall in Stage III to be upgraded from category B to A. To meet the requirements of a cat. A expert or to upgrade from B to A, a candidate may work as team member under an approved expert as per TM provision of the Scheme. Necessary documents on additional experience since last assessment are to be submitted along with the application.

c. The AO/ACO is informed of the scores of stage III assessment for the organization as well as individuals with comments on areas of improvements, if any. In case an AO/ACO is not approved and wishes to re-apply, it may do the same after a gap of 3 months ensuring the shortcomings mentioned have been adequately addressed. The same applies for individuals as well. A similar approach is followed if a consultant organization accredited in category B wishes to upgrade itself to category A. Assessment is carried out as per RA/ SA/IA norms, as applicable.

C5.12 Timely submission of application

Similar approach as in SA is followed in case the application from an ACO for RA is not received 3 months prior to the date when the RA falls due.

C5.13 Self-assessment checklist

Self-assessment checklist for completeness of application and for preparedness of the ACO for assessment by NABET for RA is given at **Annexure VIII**.

C6.0 Assessment of candidates for different organizations

Organizations are accredited mainly on the basis of quality of their personnel, apart from other facilities/ capabilities available. An individual's contribution in the EIA process is assessed in the context of overall capability and resources of the organization. The conditions for approval of individual in-house and empanelled experts are explained below:

a. **For in-house experts** –Approval of in-house experts (EC or FAE) would be 'co-terminus' with her /his leaving the parent consultant organization, where the expert is assessed i.e. approval status of any 'approved' expert leaving the parent organization ceases. However, such an expert may be proposed as a fresh candidate by a new AO/ ACO and would undergo assessment as per the Scheme

b. **For empanelled experts** –The number of AO/ACOs that an empanelled expert may be associated with is explained at section 5.1.7 of Scheme above. In case an empanelled expert applies on behalf of a fresh AO/ACO, s/he would undergo assessment as per the Scheme once again for the sector/FA applied for. The new AO/ACO proposing her/his candidature need to enclose the current empanelment status of the expert and also prior history of empanelment, if any, duly signed by both, the expert concerned and the CEO/ authorized signatory of the AO/ ACO.

   Assessment of a candidate for an organization is carried out in context of the sectors applied for, the documentary evidence submitted in support of the experience, performance/ quality of work carried out for other AO/ACOs with whom the expert is/ was associated, and how s/he fares in the interaction with the NABET assessors during stage III assessment. It is, therefore, not guaranteed that if one is approved for certain sectors and/or functional areas with an ACO, automatically gets approved for such sectors/functional areas for another AO/ACO.

   The candidates (in-house or empanelled) who were approved earlier and have shifted organization, can be utilized in EIA preparation process by the new organization wherein they have joined, only after following the defined approval process.

C7.0 MOU/Agreement /NOC

C7.1 Between AO/ACO and external laboratory

In case an AO/ACO utilizes an external NABL accredited or MoEFCC recognized laboratory, there must be an MOU/ Agreement between them addressing the following –

a. Name of the ACO & Labs
b. Scope of services covered by NABL accreditation/ MoEFCC recognition
c. Name of parameters covered by the agreement
d. Duration of association
e. Name of project/s (preferably)
f. Financial terms including rates for specific items of work (all payments to the laboratory for services rendered to be made through Bank)
g. Signature of CEO/ Head of ACO & authorized signatory of lab

C7.2 Between AO/ACO and empanelled expert –

In case an AO/ACO utilizes an empanelled expert, there must be an MOU/Agreement between them addressing the following to be submitted with the application–

a. Name of the expert & AO/ ACO
b. Name of sectors/ functional areas for which services are provided
c. Scope of services covered
d. Duration of association
e. Specific roles & responsibilities of empanelled expert
f. Signature of empanelled expert & CEO/ Head of ACO
g. All payments to the empanelled experts for services rendered to be made through Bank.

C7.3 Contents of NOC

All empanelled experts associated with an NGO or a Research/Academic institute need to furnish a No Objection Certificate (NOC) from the Registrar of the university, Principal of the college or the Head of the NGO/Research/Academic institute, respectively. The NOCs must address -

a. Name of the expert
b. Name of the Scheme and EIA project/s for which the NOC is granted
c. Validity of the NOC
d. Name of sector and/ or functional area for which services are offered

C8.0 Further classification of consultants

It may be noted that initially the EIA consultant organizations are being accredited under two categories. – A & B. However, going forward, it is proposed to further classify the consultants in more detail to afford the project proponents to select the right consultant with right degree of expertise, experience, systems and facilities. The accredited consultants are, therefore, advised to keep the QCI – NABET informed of EIA projects carried out by them, the number of EIAs approved by the Govt., improvements in their organization and other relevant information, on yearly basis.

Clients wishing to get EIAs carried out for reasons not covered by the MoEFCC Notification dated September 14, 2006 and its' subsequent amendments, are welcome to use the identification of capable consultants on a scientific basis by NABET and posted on QCI website.

C9.0 Cases of re-application/up-gradation from Cat B to Cat A

i. **For consultant organization/s** – the consultants who fail to get category A classification or any category of accreditation, are informed by NABET of the areas in which they need to improve to get desired accreditation. Such consultant organizations may re-apply to QCI/NABET with the requisite application fee after a gap of at least 3 months from last assessment for accreditation or up-gradation, once they feel confident of having fulfilled the necessary requirements. The assessment is carried out on IA/SA/RA norms, as applicable.

ii. **For individuals** – the cases of individual candidates who fail to get approved in category A or in any category, may be applied by the ACO after 3 months of earlier results being put up on QCI-NABET website, making sure that the shortcomings of the assessment have been addressed. Details of experts as per requirements of IA/SA/RA norms are to be submitted by the ACO, as applicable and they undergo assessment accordingly, either at ACOs premises or at NABET office. Requisite fees are applicable.

Appendix D

ACCREDITATION FEES

Appendix D

Accreditation fees structure

S. No.	Aspect	Fees
1	Application Fee	Not exceeding 10 proposed candidates[1] –Rs. 30,000/ Not exceeding 15 proposed candidates – Rs. 40,000/ Not exceeding 25 proposed candidates – Rs. 50,000/ More than 25 proposed candidates – Rs. 60,000
2	Stage II (technical review of documents) by assessors	Up to 15 candidates[2] – 2 person days 16 to 30 candidates – 3 person days 31 to 45 candidates – 4 person days 45 and above candidates – 5 person days
3	Stage III (office assessment)	IA Up to 15 candidates[3] – 2x2 person days 16 to 30 candidates – 2x3 person days 31 to 45 above – 2x4 person days 46 and above – As appropriate SA & RA would have 1x2 additional person days to check compliance to conditions of accreditation & QMS
4	Analysis of office assessment and preparation of the final assessment report by assessors	Up to 30 candidates[3] – 1x1.5 person days More than 30 candidates – 2x1.5 person days
5	Annual fee including accreditation cost	
	a. Annual fee – -operation and administrative costs.	Rs. 8,000/ sector
	b. Accreditation costs incl. organizing AC meeting/s	As per slabs mentioned in 1 above (for application fee). Only approved experts are considered for billing
6	Supplementary assessment for FAEs and expansion of scope	**At QCI/NABET – (up to 6 candidates)** • *Document assessment – ½ person day up to 6 candidates • Interaction and report making – 2 x ½ person days up to 6 candidates **At AO/ACO's premises – (7 -12 candidates)** • *Doc assessment :7 – 12 candidates – 1 person day 13 - 25 candidates – 2 person days • Interaction and report making – 2 x 1 person days for 7 to 12 candidates * applicable for cases of expansion of scope If, more than 12 candidates, appropriate fees are applicable

S. No.	Aspect	Fees
7	QMS implementation assessment	2 x ½ person days
8	Request for review of decision/ appeal by AO/ACO to NABET	25,000/-
Travel and stay of assessors – at actual		

Note:

a. Applicable service tax (14% at present) payable by the AO/ACO

b. 'Person days' charges are Rs. 18,000/ at the present. Numbers of days for assessment are estimated based on the number of candidates to be interviewed, size of the organization, documents/laboratory to be seen etc. QCI/NABET reserves the right to revise the person day rate, if deemed necessary.

c. 'Accreditation costs' in 5b above cover the costs of compiling the assessment reports, organizing Accreditation Committee meetings, presentation of the cases to the AC etc.

d. Fees charged towards accreditation for sectors (5a above) partially cover the costs of operating the Scheme.

e. 'Candidates' mean personnel proposed/assessed as EIA coordinator, FAEs and FAAs

- Candidate[1] – refers to all candidates proposed as ECs, FAEs and FAAs in application
- Candidate[2]- refers to all candidates as a part of application in Stage I & II
- Candidate[3] – refers to all candidates assessed during office assessment

f. If a candidate has been proposed as EC and FAE both, it is counted as 2.

g. 'Experts 'in 5b above mean candidates approved as EIA coordinators, FAEs and FAA.

h. Economy class air fare/organization's guest house or Hotel (boarding and lodging, equivalent to 3 star facility), local travel by AC car/ taxis are paid at actuals by the applicant to NABET. The consultant organization may also make the ticketing & other arrangements as per the requirements, if requested by NABET.

i. The fee is to be paid by a demand draft payable at Delhi or a local cheque of Delhi in favour of "Quality Council of India".

j. Only the application fee is to be sent along with the application. Applications not accompanied by the application fee are not considered.

k. The annual fee for the first year is to be sent only after the receipt of confirmation from NABET of the applicant having been approved for accreditation. Certificate is sent after receipt of full fees and expenses at NABET.

l. Continuation of accreditation after SA and re-accreditation are given only on payment of all dues to NABET.

m. The fees paid are not refundable.

n. **Bank details for RTGS**

- Name of bank — AXIS BANK LTD
- Address of the bank — 6/83, Padam Singh Road, WEA Karol Bagh, New Delhi – 110005
- Account No — 223010100053020
- IFSC Code — UTIB0000223

LIST OF ANNEXURE

Application Forms		
1	Annexure I	Application form for IA
2	Annexure IA	Application form for SA
3	Annexure IB	Application form for RA
4	Annexure IC	Application for expansion of scope
5	Annexure ID	Application for supplementary assessment
6	Annexure IE	Format for team member
Sectors Details		
7	Annexure II	Project sectors
8	Annexure IIA	Grouping of sectors with functional areas requirements
Annexure III- Deleted		
Proposed Candidates		
9	Annexure IV	Resume format
10	Annexure IVA	Sectoral experience of ECs
11	Annexure IVB	Specific experience of FAEs
12	Annexure V	Declaration for empanelled experts
Organizational Experience		
13	Annexure VI A1	List of EIAs prepared during the period between IA and SA or between SA & RA
14	Annexure VI A2	Status of association of approved experts as on date and their earlier approval
15	Annexure VI A3	Details about laboratories utilized
Approved Candidate		
16	Annexure VI A4	EIA coordinators – experience since approval
17	Annexure VI A5	Functional area experts – experience since approval
Others		
18	Annexure VII	Format for signed declaration of experts involved in the EIA
19	Annexure VIII	Self-assessment checklist

Annexure – I

Application Form for Initial Accreditation

(Kindly attach separate sheets if necessary for more information)

1) Name and address of the consultant organization

   a. Head Office

   _____

   b. Branch Office/s

   _____

Affix passport size photograph of the contact person

2) Name of the head of the consultant organization with designation

   _____

3) Contact details with the name of the contact person

   Name : _____

   Address: _____

   _____

   Tel No. _____ Mobile _____

   Email_____ Alternate Email_____

   Website: _____

4) Legal Status of the organization (please mark (✓) the appropriate status)

   a. Public/Private/Government ☐

   b. Company/ Partnership/ Proprietorship/ Registered Society ☐

   c. Research/Academic Institute ☐

   d. Industry Association ☐

   e. Others (please specify and attach necessary evidence) ☐

5) Date of registration/Incorporation

   (Attach copy of certificate of incorporation/registration) (DD/MM/YYYY)

   ☐☐ ☐☐ ☐☐☐☐

6) Year of establishment ☐

7) Services provided by the organization .....

8) EIA related activities initiated from

   Month.....Year.....

9) Number of Employees

- Total number of employees .....
- Employees engaged in EIA / environmental activities .....

10) Annual income of the organization in Indian Rupees (attach balance sheet and IT returns for the last 3 years)

- Total income
- EIA related income
- Income from other environmental services

11) Organizational structure (with details of locations/associates etc.). For multi-functional organizations, the organizational structure of the stream(s) related to EIA work may be detailed out **(attach organization chart and other details).**

12) Indicate the project sectors and their numbers for which accreditation is sought.

S. No.	Name of Sector	Sector No as per Annexure II.

13) Candidates proposed –

Qualifications and professional experience of candidates proposed as in-house or empanelled experts to be given as in table below. Attach CVs as per **Annexure IV, IV A and IV B.** in support of experts' qualification, experience and exposure. Also, in case of empanelled experts, attach declarations of their involvement as EIA coordinators/unctional area expert in applicant organization and others, in the format given in **Annexure V**

S. No.	**Name**	**IH/Emp**	**Annexure**		
			IV (Y/N)	**IVA (Y/N)**	**IVB (Y/N)**
EIA coordinators					

S. No.	Name	IH/Emp	Annexure		
			IV (Y/N)	IVA (Y/N)	IVB (Y/N)
Associate EIA coordinators (IH only)					
		IH			
		IH			
		IH			
		IH			
Functional area experts					
				NA	
				NA	
				NA	
				NA	
Functional area associates (IH only)					
		IH		NA	
		IH		NA	
		IH		NA	
		IH		NA	

Documentary evidence in support of the stated experience, exposure and training of the proposed EIA coordinators and functional area experts to be provided to NABET assessors during office assessment.

Abbreviation for the functional areas

S. No.	Functional area	Abbr	Sl	Functional area	Abbr
1	Land Use	LU	7	Socio economics	SE
2	Air pollution monitoring, prevention and control	AP	8	Hydrology, ground water and water conservation	HG
3	Meteorology, air quality modelling, and prediction	AQ	9	Geology	GEO
4	Water pollution monitoring, prevention and control	WP	10	Soil conservation	SC
5	Ecology and bio-diversity	EB	11	Risk assessment and hazard management	RH
6	Noise and vibration	NV	12	Solid and hazardous wastes	SHW*
*SHW comprises Municipal Solid Wastes (MSW), Industrial Solid Wastes (ISW) and Hazardous Wastes (HW)					

14) Please confirm if the proposed In-house/empanelled candidates for ECs and FAEs meet the Scheme's requirements for the sectors applied for as per **Annexure II A**.

Fill in the information below:

S. No	If applied for sectors falling in group (Y/N)	If in-house/empanelled candidates proposed for the relevant functional areas as per Annexure II A												
		In-house (Y/N)				In-house or empanelled (Y/N)								
1	Gr1	AP	AQ	WP	-	LU	N	EB	SE	HG	HW, ISW	RH		
2	Gr 2	AP	AQ	-	-	LU	WP	EB	SE	N	ISW	RH		
3	Gr3	WP	SE	EB	-	LU	AP	AQ	NV	Geo	HG	SC	HW, ISW	RH
4	Gr4	AP	WP	ISW	-	LU	AQ	Geo	SE	RH	HW	EB		
5	Gr5	WP	EB	SE	-	LU	AP	AQ	NV	SC	SHW	HG	RH	
6	Gr 6	SHW	WP	-	-	LU	AP	AQ	EB	SE	Geo	HG	RH	
7	Gr 7	WP	MSW	-	-	LU	AP	N	EB	SE	HG	SC		

15) Field monitoring for collection of baseline physical environmental data done by:

In-house laboratory ☐ External laboratory ☐

a. Whether the laboratory is NABL accredited or MoEFCC recognized –

b. If the laboratory is NABL accredited – whether it covers the scope (water & waste water, ambient air quality, stack emission, soil, noise)

Also, attach the NABL Certificate with scope of accreditation

c. If the laboratory is MoEFCC recognized, please attach the relevant Gazette Notification.

d. For all external laboratories, please submit the copy of the agreement/MoU as per section C 7.1 of **Appendix C** with the laboratory mentioning the scope of work to be handled by them.

16) Furnish details of prediction model/software available in respect of

a. Air environment _____

b. Water environment_____

c. Noise environment _____

d. Any other _____

17. Organization's experience in EIA Studies;

No of EIAs in last 3 years - (provide details below)

Sector no. of EIAs as per Annexure II	Name of the project (name maximum 5)	Category A/B	Clearance status	Cost of project and cost of EIA

18. Enclose soft copy of one EIA report prepared by the organization in the preceding two years from the date of application. In case an AO has not yet prepared any EIA under its banner, it may send a soft copy of an EIA prepared earlier by one of the candidates proposed as EIA coordinator.

19. Enclose a copy of Quality Management System manual

20. The application must be submitted along with the fee as applicable (see **Appendix D**) of the Scheme. The details (Demand Draft/Cheque should be provided as under,

a. Amount paid.....

b. Mode of payment and number.....(DD/cheque)

e. Date of issue.....

Drawn in in favour of in favor of **Quality Council of India**, payable at New Delhi towards the application fee.

21. **Declaration**

We have carefully read all requirements of NABET's scheme for accreditation of EIA consultant organizations. The conformity of eligibility of the experts proposed, to the requirements of the Scheme, has been verified by us at our end. We confirm that the information provided in the application in support of the application is correct to the best of our knowledge and belief.

We authorize NABET to make any enquiry as deemed fit as part of the reviewing process. We understand that in case any information is found to be incorrect; it may result in rejection of this application and/or disqualification. We authorize NABET to utilize the information provided in this application for legal purpose, research, training, sharing with MoEFCC and IPC members and/or for any other purpose as maybe deemed fit by NABET.

If accredited, we commit to notify NABET immediately of any changes in the status where information regarding such changes, if declared may affect the consideration for accreditation of the organization.

Signatures _____

Name (authorized signatory) _____

Designation _____

Organization _____

Date _____

Checklist of Enclosures – for IA Application

Ensure that the following are enclosed with the application:-

	Documents to be enclosed	Yes/ No
1.	Filled in Application form with the photograph of the contact person **(Annexure I)**	
2.	Application fees	
3.	Copy of the legal Status of the organization including the date of registration/ incorporation	
4.	Organization's Balance Sheet and Income Tax Returns, for the last three years (depending on date of registration of organization)	
5.	Organizational structure with respect to the people involved in EIA as well as in other activities	
6.	**Annexure IV** and **Annexure IV A** - signed resume of EIA coordinator/s and associate EIA coordinator with photographs	
7.	**Annexure IV** and **Annexure IV B -** signed resume of Functional area experts and Functional area associates with photographs	
8.	**Annexure V** - Declaration of empanelled EIA coordinator/s and Functional Area Expert/s of their association with applicant organization AO or other organizations, if applicable. Also, an NOC, as applicable.	
9.	Copy of the certificate, scope of accreditation for NABL accredited laboratories and MoU/ Agreement	
10.	Gazette Notification and the copy of application for MoEFCC recognized laboratories	
11.	QMS Manual meeting the requirements of **Appendix B** of the Scheme	
12.	Names of models/ software being used for generation/interpretation of data and impact assessment	
13.	List of EIAs prepared in last 3 years	
14.	Soft copy of one EIA report prepared in preceding two years.	
15.	Copies of promotional material, if any.	

Application to be submitted in soft only. Hard copies of documents to be submitted only if specifically asked for by NABET.

Annexure – IA

Application Form for Surveillance Assessment

(Attach separate sheets if necessary for more information)

Affix passport size photograph of the contact person

1) Name and Address of EIA Consultant Organization

   a. Head Office

   _____

   b. Branch Office/s

   _____

2) Name of the head of the consultant organization with designation

   _____

3) Contact details with the name of the contact person

   Name : _____

   Address: _____

   _____

   Tel No. _____ Mobile _____

   Email_____ Alternate Email_____

   Website: _____

4) Status of sectors and functional areas

   a. Sectors:

      i. Approved in initial assessment and prior to application for Surveillance assessment (SA):

      ii. Additional proposed with SA application:

   b. Functional areas:

      i. Approved in initial assessment and prior to SA application

      ii. Proposed with SA application

5) Services provided by organization

   a. Before accreditation

   b. After accreditation (new field ventured in)

6) Date of accreditation

Date..... Month..... Year..... .

7) Annual income of the organization in Indian Rupees (attach balance sheet for last financial year)

a. Total income (INR)

b. EIA related income (INR)

c. Income from Other environmental services (INR):

8) Compliance to following conditions of accreditation

S. No.	Description	Yes/ No	If yes, attach reference letter/ email/ document
1	Timely information of changes in approved experts and their timely		
2	Inclusion of names of EC & FAEs involved in EIA reports in the prescribed format		
3	Timely payments to NABET		

9) Status of employees/experts

a. Overall strength of organization (No. of employees) .....

b. Experts approved in initial assessment

Status	EIA coordinators		Functional area experts		Total
	In-house	Empanelled	In-house	Empanelled	
Number					
Number of approved experts retained after initial accreditation					
Number of approved experts inducted after initial assessment					

Note: Submit **Annexure V** to specify the period of engagement of all empanelled experts, (clearly specifying the period).

c. New candidates proposed

S. No.	Name	In-house/ emp.	Sector/s or functional area/s as per Scheme
New experts			
EIA coordinator/s			
1			
2			

Functional area expert/s			
1			
2			

Note: For all experts mentioned above, provide details as per **Annexure IV, IVA, IVB** and **Annexure V**, as applicable

d. List of approved experts (as per point 9b above)

S. No.	Name	IH /Emp.	Current status (with organization	Sectors/ functional areas applied in IA	Sectors/ areas approved in IA	Sectors/ Areas dropped now	New sectors/ areas proposed in SA
Approved experts							
EIA coordinator/s							
Functional area expert/s							

Note: Organization must provide details of approved experts seeking addition/change in the sectors/functional areas as per **Annexure IV, IV A, IV B** and **Annexure V**, if applicable.

e. Functional area associates (FAA) proposed

S. No.	Name of proposed FAA	FA applied for	Name of senior approved expert	Reference MoM
1				
2				
3				
4				

10) Please confirm if the proposed in-house/empanelled candidates for ECs and FAEs meet the Scheme's requirements for the sectors applied for as per **Annexure II A**.

Fill in the information below:

S. No.	If applied for sectors falling in group (Y/N)		If in-house/empanelled candidates proposed for the relevant functional areas as per Annexure II A												
			In-house (Y/N)				In-house or empanelled (Y/N)								
1	Gr1		AP	AQ	WP	-	LU	N	EB	SE	HG	HW, ISW	RH		
2	Gr 2		AP	AQ	-	-	LU	WP	EB	SE	N	ISW	RH		

S. No.	If applied for sectors falling in group (Y/N)		If in-house/empanelled candidates proposed for the relevant functional areas as per Annexure II A												
			In-house (Y/N)				In-house or empanelled (Y/N)								
3	Gr3		WP	SE	EB	-	LU	AP	AQ	NV	Geo	HG	SC	HW, ISW	RH
4	Gr4		AP	WP	ISW	-	LU	AQ	Geo	SE	RH	HW	EB		
5	Gr5		WP	EB	SE	-	LU	AP	AQ	NV	SC	SHW	HG	RH	
6	Gr 6		SHW	WP	-	-	LU	AP	AQ	EB	SE	Geo	HG	RH	
7	Gr 7		WP	MSW	-	-	LU	AP	N	EB	SE	HG	SC		

11) Arrangement with laboratories

a. **Laboratories being used since IA**

S No	Name of the laboratory*	NABL accredited/ MoEFCC recognized / Not approved	Copy of MoU with laboratory/ agreement, defining scope of work (Y/N)
1			
2			

*the Following details are to be provided for each laboratory being used:

For NABL accredited laboratories

a. Copy of accreditation certificate

b. Scope of accreditation

For MoEFCC recognized laboratories

a. Copy of Gazette Notification and application form

b. For external laboratory provide quality assurance procedures followed by applicant organization to ensure quality check QC and integrity of data generated by the external laboratory.

c. Provide details of all laboratories utilized during the year as per **Annexure VI A3**.

12) Enclose a copy of current Quality Management System manual.

13) Enclose a List of :

a. EIAs carried out/completed (as per clause 1.2.2 of **Appendix A1**) during the period between IA & SA as per **Annexure VI A1**

b. Ongoing EIAs as per **Annexure VI A1**.

14) To provide status of association of approved experts (in-house/ empanelled) with the organization as on date and their earlier approval/s as per **Annexure VI A2**

15) In case the organization or any expert proposed by it did not get approved in an earlier assessment, indicate the corrective measures taken to address the shortcomings.

16) The application must be submitted along with the fee as applicable (see **Appendix D**). The details (Demand Draft / Cheque, payable in New Delhi only) should be provided as under,

a. Amount paid.....

b. Mode of payment and number.....(DD/cheque)

c. Date of issue.....

DD/cheque to be drawn in in favour of **Quality Council of India**, payable at New Delhi.

17) Application of Surveillance Assessment is to be submitted in Soft Copy only– through email followed by 1 CD.

18) **Declaration**

We have carefully read all requirements of NABET's scheme for accreditation of EIA consultant organizations. The conformity of eligibility of the experts proposed, to the requirements of the Scheme, has been verified by us at our end. We confirm that the information provided in the application in support of the application is correct to the best of our knowledge and belief.

We authorize NABET to make any enquiry as deemed fit as part of the reviewing process. We understand that in case any information is found to be incorrect; it may result in rejection of this application and/or disqualification. We authorize NABET to utilize the information provided in this application for legal purpose, research, training, sharing with MoEFCC and IPC members and/or for any other purpose as maybe deemed fit by NABET.

If accredited, we commit to notify NABET immediately of any changes in the status where information regarding such changes, if declared may affect the consideration for accreditation of the organization.

Signatures _____

Name (authorized signatory) _____

Designation _____

Organization _____

Date _____

Checklist of Enclosures – Surveillance Assessment

Ensure that the following are enclosed with the application:-

Documents to be enclosed		Yes/ No
1.	List of prepared/ongoing EIA Reports during the period between IA and SA giving requisite details as mentioned **as Annexure VI A1**	
2.	Updated Quality Management System manual	
3.	**Annexure IV, IVA and IV B** of all proposed experts and candidates as applicable	
4.	Declaration of empanelled EIA coordinator/s and functional area expert/s of their association with applicant organization or other organizations, if applicable, as per **Annexure V**. NOC from university/college/NGO where associated with, as applicable.	
5.	Details of laboratories used along with the scope and work orders as per **Annexure VI A3**	
6.	Soft copy of 2 EIA Reports (as identified by NABET*) including declaration with names and signatures of experts involved (in the EIA/s)	
7.	Copies of the minutes of EAC/SEAC meetings for the EIA identified by NABET	
8.	Status of experts as per **Annexure VI A2**	
9.	Soft copy of the complete application document	

Note:

10. Refer checklist of enclosures for IA application for inclusion with SA application
11. *NABET selects two EIAs for detailed assessment by assessors from the list of EIAs submitted by the ACO

Annexure – IB

Application Form for Re-accreditation

(Attach separate sheets if necessary for more information)

Affix passport size photograph of the contact person

1) Name and address of EIA consultant organization

   a. Head Office

   _____

   b. Branch Office/s

   _____

2) Name of the head of the organization with designation

   _____

3) Contact details with name of the contact person

   Name : _____

   Address: _____

   _____

   Tel No. _____ Mobile _____

   Email_____ Alternate Email_____

   Website: _____

4) Legal Status of the organization (please mark (✓) the appropriate status)

   a. Public/Private/Government ☐

   b. Company/Partnership/Proprietorship/Registered Society ☐

   c. Research/Academic Institute ☐

   d. Industry association ☐

   e. Others(specify and attach necessary evidence) ☐

   Has it changed since initial accreditation, if so, please give details

5) Date of Registration/Incorporation

   (Attach copy of certificate of incorporation/registration) (DD/MM/YYYY)

   ☐☐ ☐☐ ☐☐☐☐

6) Status of sectors and functional areas

S. No.	Sectors					Functional Areas			
	Approved in IA, SA or prior to RA			Presently applied		Approved in IA, SA or prior to RA			Presently applied
	Sector	Category	Ref. AC MoM	Sector		FA	Category	Ref. AC MoM	FA
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

7) Services provided by organization

a. Before SA

b. After SA (new field ventured in)

8) Date of initial assessment (DD/MM/YYYY) : _____

9) Date of surveillance assessment (DD/MM/YYYY) : _____

10) EIA activities started from (Month/Year) : _____

11) Number of Employees

a. Total no of employees : _____

b. No of employees engaged in EIA / Environmental activities : _____

12) Annual income of the organization in Indian Rupees (attach balance sheet and IT returns for last 3 years from the date of this application)

Income	FY	FY	FY
Total Income (INR)			
EIA related Income (INR)			
Income from Other environmental services (INR)			

13) Organization structure

a. Overall organization set up and detailed organizational structure for the wing/ division involved in EIA preparation including deployment of personnel

b. For multi-location organizations, role and functions of the various units with their organizational strength and addresses

14) Indicate the Sl. Nos. and the sectors (as per **Annexure II**) for which Re-accreditation is sought.

S.No.	S. No. as per NABET Scheme	Name of sector
1		
2		
3		

15) Compliance to the following conditions of accreditation

S. No.	Description	Whether action taken Yes/No	If yes, attach reference letter/email/ document
1	Submission of closure actions for Major NCs/ NC/ Obs./ Alerts issued in Surveillance Assessment as per NABET format		
2	Timely information of changes in approved experts and their timely replacement to NABET		
4	Inclusion of names and signatures of EC, FAEs and the CEO of the organization in the EIAs completed after IA/SA (as applicable)		
5	Timely payments to NABET		

16) Experts/ candidates that are included in this application;

a. Experts approved in IA, SA or subsequent assessments

S. No.	Name	IH/Emp	Sectors/ FA ap-proved	Category	AC MOM Ref.	Sectors/ FAs presently applied for, if changed *	Sectors/ FAs presently applied for, if changed*			
							Annexure			
							IV	IV A	IV B	V
Approved experts										
EIA coordinator/(s)										
Functional area expert/(s)										

*Maximum 5 sectors and 4 functional areas for one expert

b. New candidates presently proposed

Sl. No.	Name	IH/emp.	Sector/(s) or Functional Area/(s) as per scheme	Whether relevant Annexures attached, as applicable (Yes/ No)			
				Annexure			
				IV	IV A	IV B	V
New experts							
EIA coordinator/(s)							
1							
2							
Functional area expert/(s)							
1							
2							

c. Functional Area Associates (FAA) proposed

Sl. No.	Name of proposed FAA	FA applied for	Name of senior approved expert	Reference MoM
1				
2				
3				
4				

Note – use abbreviation for the functional areas

Sl. No.	Functional Area	Abbrv.
1	Land use	LU
2	Air pollution control	AP
3	Air quality modeling	AQ
4	Water pollution control	WP
5	Ecology and biodiversity	EB
6	Noise/ vibration	NV
7	Socio economics	SE
8	Hydrology and ground Water	HG
9	Geology	GEO
10	Soil conservation	SC
11	Risks and hazards	RH
12	Solid and haz. waste (MSW/ISW/HW)	SHW

Note - Please refer to scheme document (section 3.2) for the scope of each of the above functional areas

17) Please confirm if the proposed in-house/empanelled candidates for ECs and FAEs meet the Scheme's requirements for the sectors applied for as per **Annexure II A**.

Fill in the information below:

Sl No	If applied for sectors falling in group (Y/N)	If in-house/empanelled candidates proposed for the relevant functional areas as per Annexure II A											
		In-house (Y/N)				In-house or empanelled (Y/N)							
1	Gr1	AP	AQ	WP	-	LU	N	EB	SE	HG	HW, ISW	RH	
2	Gr 2	AP	AQ	-	-	LU	WP	EB	SE	N	ISW	RH	
3	Gr3	WP	SE	EB	-	LU	AP	AQ	NV	Geo	HG	SC	HW, ISW RH
4	Gr4	AP	WP	ISW	-	LU	AQ	Geo	SE	RH	HW	EB	
5	Gr5	WP	EB	SE	-	LU	AP	AQ	NV	SC	SHW	HG	RH
6	Gr 6	SHW	WP	-	-	LU	AP	AQ	EB	SE	Geo	HG	RH
7	Gr 7	WP	MSW	-	-	LU	AP	N	EB	SE	HG	SC	

18) Arrangement with laboratories

a. Whether laboratories utilized after surveillance assessment for field monitoring to collect baseline data on physical environment are NABL Accredited/ MoEFCC recognized – Yes/ No.

b. If no, please mention the EIA project or parameters for which baseline data was collected by laboratory/(s) that were not NABL accredited/ MoEFCC recognized.

c. Details of laboratories utilized after SA

Sl	Name of laboratory with address	IH/ external	MoEFCC recog-nized/ NABL ac-credited	Whether relevant documents attached* (Yes/ No)		
				Certificate of accredita-tion/Gazette Notification.	Scope of accredita-tion	Copy of MoU with Lab with scope of work
1						
2						
3						
4						
5						

i. For MoEFCC recognized laboratories(s), confirm if the scope of analysis includes all 5 parameters namely water, waste water, ambient air, stack emission, noise and soil characteristics.

ii. Also, for external NABL accredited/MoEFCC recognized laboratory(s), mention if scope of work includes collection of all samples as well.

iii. Complete details of all laboratories(s) utilized during the year (from SA till date) to be provided as per **Annexure VI A3**.

19) Enclose a copy of current Quality Management System manual fulfilling the requirements of **Appendix B** of Scheme. Also confirm if NC/Obs. issued during SA on QMS have been addressed including closure action on each of these.

20) Enclose a list of :

a. EIAs carried out/completed (as per clause 1.2.2 of **Appendix A**) since SA till date of application for re-accreditation as per **Annexure VI A1**

b. Ongoing EIAs as per **Annexure VI A1**

21) To provide status of association of approved experts (in-house/ empanelled) with the organization as on date and their earlier approval/s as per **Annexure VI A2**

22) In case an organization or any expert proposed by it did not get approved in an earlier assessment, mention the corrective measures taken to address the shortcomings.

23) The application must be submitted along with the fee as applicable (**see Appendix D**) of the Scheme. The details (Demand Draft/Cheque) should be provided as under,

a. Amount paid.....

b. Mode of payment and number.....(DD/cheque)

c. Date of issue.....

Drawn in in favour of in favor of **Quality Council of India**, payable at New Delhi towards the application fee.

24) Application is to be submitted in soft copy only – through email followed by 1 CD

25) **Declaration**

We have carefully read all requirements of NABET's scheme for accreditation of EIA consultant organizations. The conformity of eligibility of the experts proposed, to the requirements of the Scheme, has been verified by us at our end. We confirm that the information provided in the application in support of the application is correct to the best of our knowledge and belief.

We authorize NABET to make any enquiry as deemed fit as part of the reviewing process. We understand that in case any information is found to be incorrect; it may result in rejection of this application and/or disqualification. We authorize NABET to utilize the information provided in this application for legal purpose, research, training, sharing with

MoEFCC and IPC members and/or for any other purpose as maybe deemed fit by NABET.

If accredited, we commit to notify NABET immediately of any changes in the status where information regarding such changes, if declared may affect the consideration for accreditation of the organization.

Signatures _____

Name (authorized signatory) _____

Designation _____

Organization _____

Date _____

Checklist of Enclosures – Re-accreditation

Ensure that the following are enclosed with the application:-

	Documents to be enclosed	Yes/ No
1.	List of EIA Reports prepared/completed during the period between SA and RA giving requisite details as mentioned **Annexure VI A1**	
2.	To provide status of approved experts as per **Annexure VI A2**	
3.	Updated Quality Management System manual	
4.	**Annexure IV, IV A, IV B** of all proposed candidates, as applicable	
5.	Declaration of empanelled EIA coordinator/ s and Functional Area Expert/s of their association/ Agreement/ NOCs with ACO and declaration of their association with other organizations, as applicable. **Annexure V**	
6.	Details of laboratories(s) used along with the scope and work orders as per **Annexure VI A3**	
7.	Soft copy of 2 EIA Reports (as identified by NABET) having declaration with names and signatures of experts involved (in the EIA/s)	
8.	Copies of the minutes of EAC/SEAC meetings for the EIA identified by NABET	
9.	Soft copy of the complete application document	

Note: Refer checklist of enclosures for IA application for inclusion with RA application

Annexure – IC

Application for Addition/ Modification in Scope of Accreditation for Accredited Consultant Organization(ACOs)

1) Name and address of the consultant organization:

_____

_____

_____

_____

Affix passport size photograph of the contact person

2) Name of the head of the organization:

_____

_____

_____

_____

3) Contact details with name of the contact person

Name : _____

Address: _____

_____

Tel No. _____ Mobile _____

Email_____ Alternate Email_____

Website: _____

4) Technical expertise already available with ACOs (i.e. approved experts):

EIA coordinator/s (EC)

S. No.	Name	Status (In- house/ Empanelled)	Sector/(s) approved	Category approved	Reference AC MoM

Functional area expert/s (FAE)

S. No.	Name	Status (In- house/ Empanelled)	Sector/(s) approved	Category approved	Reference AC MoM

5) Status of sectors/ functional areas approved for consultant organization, as on date of submission of application

Sectors

S. No.	Name of Sector	Sector No. as per EIA Scheme	Category	Reference. AC Minutes of Meeting
1				
2				
3				
4				
5				

Functional area/(s) approved:

S. No.	Functional area	Abbrv.	Yes/No	Category	In-house or empanelled
1	Land use	LU			
2	Air pollution prevention, monitoring and control	AP			
3	Meteorology, air quality modelling and prediction	AQ			
4	Water pollution prevention, control and prediction of impacts	WP			
5	Ecology and biodiversity	EB			
6	Noise and vibration	NV			
7	Socio-economics	SE			
8	Hydrology, ground water & water conservation	HG			
9	Geology	GEO			
10	Soil conservation	SC			
11	Risk assessment and hazard management	RH			

S. No.	Functional area	Abbrv.	Yes/No	Category	In-house or empanelled
12	Solid and hazardous waste management a. Municipal solid waste (MSW) b. Hazardous waste (HW) c. Industrial solid waste (ISW)	SHW			

6) Additional sectors for which accreditation is sought:

S. No.	New sectors to be added (sector number as per NABET Scheme)	Name of the sector

7) Candidates proposed as:

a. Fresh experts

EIA coordinator/s (EC)

S. No.	Name	Full Time (in-house)/ empanelled	Sector/(s) applied	Annexure IV, IV A, V and MoU* attached (Y/N)

*For empanelled experts only

Functional area expert(s)/s (FAE)

S. No.	Name	Full Time (in- house)/ empanelled	Functional area/(s) applied	Annexure IV, IV B, V and MoU* attached (Y/N)

*For empanelled experts only

Functional area associates (FAA)

S. No.	Name of proposed FAA	FA applied for	Name of senior approved expert	Reference MoM
1				
2				
3				
4				

b. Approved experts

EIA coordinator/(s) (EC)

S. No.	Name	Full time(in-house)/ empanelled	Function-al area/s approved	Functional area(S)/s to be dropped	New func-tional area(s)/s to be added	Annexure IV, IV A, V and MoU* attached (Y/N)

*For empanelled experts only.

Note: The proposed candidates who were assessed earlier and not recommended must give a separate note on additional experience/ training/ knowledge acquired since last assessment with relevant documents.

8) Assessment of the organization for compliance to the conditions of NABET's accreditation letter, observations of AC MoM and/or other communication from NABET, as applicable.

9) Brief details (status of approval & scope) of in-house/ external laboratories, as applicable

10) The application must be submitted along with the fee as applicable (**see Appendix D**) of the Scheme. The details (Demand Draft/Cheque should be provided as under,

a. Amount paid.....

b. Mode of payment and number.....(DD/cheque)

c. Date of issue.....

Drawn in in favour of in favor of **Quality Council of India**, payable at New Delhi towards the application fee.

11) Application is to be submitted in soft copy only through email followed by 1 CD

12) **Declaration**

We have carefully read all requirements of NABET's scheme for accreditation of EIA consultant organizations. The conformity of eligibility of the experts proposed, to the requirements of the Scheme, has been verified by us at our end. We confirm that the information provided in the application in support of the application is correct to the best of our knowledge and belief.

We authorize NABET to make any enquiry as deemed fit as part of the reviewing process. We understand that in case any information is found to be incorrect; it may result in rejection of this application and/or disqualification. We authorize NABET to utilize the information provided in this application for legal purpose, research, training, sharing with MoEFCC and IPC members and/or for any other purpose as maybe deemed fit by NABET.

If accredited, we commit to notify NABET immediately of any changes in the status where information regarding such changes, if declared may affect the consideration for accreditation of the organization.

Signatures _____

Name (authorized signatory) _____

Designation _____

Organization _____

Date _____

Annexure – ID

Application form for Supplementary Assessment

(For change in scope of approved experts, proposing new experts, replacements of approved experts etc)

1) Name and address of the organization

_____

_____

_____

_____

Affix passport size photograph of the contact person

2) Name of the head of the organization

_____

_____

_____

_____

3) Contact details with name of the contact person

Name : _____

Address: _____

_____

Tel No. _____ Mobile _____

Email_____ Alternate Email_____

Website: _____

4) Indicate the status of the application as per recent/last assessment

Assessment (IA/ SA/ RA)	Final result of approval, sectors approved/ category and minutes of AC meeting)	Shortfalls noted in earlier assessment, if any	Reason for proposing the candidate for supplementary assessment

5) Candidates proposed for

EIA coordinator –

(Enclose **Annexures IV/IVA** for in-house and **Annexures IV/IVA/V** for empanelled experts)

S. No.	Name of the candidate	IH/ Emp	Sector and group applied for as per Annexure II A	Sector approved earlier	Whether FA requirements as per Annexure II A, fulfilled

Functional Area Expert –

(Enclose **Annexure IV/IVB** for in-house and **Annexures IV/IVB/V** for empanelled experts)

S. No.	Name of the candidate	IH/ Emp	FA approved earlier	Functional areas applied for	Core or significant FA as per Annex II A	Reason for proposing the candidate

Note: The proposed candidates who were assessed earlier and not recommended/ approved must give a separate note on additional experience/training/knowledge acquired since last assessment with relevant documents.

6) **Declaration**

We have carefully read all requirements of NABET's scheme for Accreditation of EIA consultant organizations. The conformity of eligibility of the experts proposed, to the requirements of the Scheme, has been verified by us at our end. We confirm that the information provided in the application in support of the application is correct to the best of our knowledge and belief.

We authorize NABET to make any enquiry as deemed fit as part of the reviewing process. We understand that in case any information is found to be incorrect; it may result in rejection of this application and/or disqualification. We authorize NABET to utilize the information provided in this application for legal purpose, research, training, sharing with MoEFCC and IPC members and/or for any other purpose as maybe deemed fit by NABET.

If accredited, we commit to notify NABET immediately of any changes in the status where information regarding such changes, if declared may affect the consideration for accreditation of the organization.

Signatures _____

Name (authorized signatory) _____

Designation _____

Organization _____

Date _____

Annexure – IE

Format for information on Team Member

(only for in-house employees)

1	Name of the organization				
2	Name of the candidate				
3	Contact details (postal address, e-mail and phone)				
4	Period of association with the AO/ACO				
5	Academic qualifications				
6	Professional experience				
7	TM for EC				
	S. No.	Sectors proposed (max 2)	Name of EC with whom to be attached with category	Name/s of the EIAs with which attached	Nature of work to be assigned
	i.				
	ii.				
8	TM for FAE				
	S. No.	Functional area proposed (max 2)	Name of FAE with whom to be attached with category	Name/s of the EIAs with which attached	Nature of work to be assigned
	i.				
	ii.				

Declaration by the applicant

I confirm that I have read the requirements for the provision of team member. I treat the assignment as team member seriously and commit to fulfill the role envisaged in Scheme as per **Appendix A**. I do understand that any incorrect information will result in the disqualification of self and the organizational accreditation with NABET.

Signature _____ Date (DD/MM/YYYY) _____

Declaration by the employer

The above information in relation to Dr./Mr./Ms. …… has been verified and found to be correct.

I understand in case the information is found to be, it may result in cancellation of accreditation granted to the organization.

Authorized signatory_____

Name_____

Designation _____

Annexure – II

Project Sectors

Please tick the desired project sector/s for NABET accreditation

S. No.	Sectors	As per MoEFCC Notification	Tick
1	Mining of minerals including opencast / underground mining	1 (a) (i)	
2	Offshore and onshore oil and gas exploration, development & production	1 (b)	
3	River Valley projects	1 (c)	
4	Thermal power plants	1 (d)	
5	Nuclear power projects and processing of nuclear fuel	1 (e)	
6	Coal washeries	2 (a)	
7	Mineral beneficiation	2 (b)	
8	Metallurgical industries (ferrous & non-ferrous)	3 (a)	
9	Cement plants	3 (b)	
10	Petroleum refining industry	4 (a)	
11	Coke oven plants	4 (b)	
12	Asbestos milling and asbestos based products	4 (c)	
13	Chlor-alkali industry	4 (d)	
14	Soda ash Industry	4 (e)	
15	Leather/skin/hide processing industry	4 (f)	
16	Chemical fertilizers	5 (a)	
17	Pesticides industry and pesticide specific intermediates (excluding formulations)	5 (b)	
18	Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	5 (c)	
19	Manmade fibers manufacturing	5 (d)	
20	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	5 (e)	
21	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates **excluding** drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	5 (f)	
22	Distilleries	5 (g)	
23	Integrated paint industry	5 (h)	
24	Pulp & paper industry excluding manufacturing of paper from wastepaper and manufacture of paper from ready pulp without bleaching	5 (i)	

S. No.	Sectors		As per MoEFCC Notification	Tick
25	Sugar Industry		5 (j)	
26	Deleted		-	
27	Oil & gas transportation pipeline (crude and refinery/ petrochemical products), passing through national parks/ sanctuaries/coral reefs / ecologically sensitive areas including LNG terminal		6 (a)	
28	Isolated storage & handling of Hazardous chemicals (As per threshold planning quantity indicated in column 3 of schedule 2 & 3 of MSIHC Rules 1989 amended 2000)		6 (b)	
29	Air ports		7 (a)	
30	All ship breaking yards including ship breaking units		7 (b)	
31	Industrial estates/ parks/ complexes/areas, export processing Zones(EPZs), Special Economic Zones(SEZs), Biotech Parks, Leather Complexes		7 (c)	
32	Common hazardous waste treatment, storage and disposal facilities (TSDFs)		7 (d)	
33	Ports, harbours, break waters and dredging		7 (e)	
34	Highways,		7 (f)	
35	Aerial ropeways		7 (g)	
36	Common Effluent Treatment Plants (CETPs)		7 (h)	
37	Common Municipal Solid Waste Management Facility (CMSWMF)		7 (i)	
38	Building and construction projects		8 (a)	
39	Townships and Area development projects		8 (b)	
40	Additional Sectors:			
	i	Automobile and Auto Components	--	
	ii	Electroplating and Metal Coating	--	
	iii	Electrical and Electronics including component industry	--	
	iv	Glass and Ceramic Industry	--	
	v	Food Processing	--	

Annexure – IIA

Sector wise requirements of functional areas

Sectors have been clubbed in 7 groups rationalizing the requirements of the Functional Area Experts (FAEs). For each group, some functional areas (FAs) have been identified as 'core' which are crucial for the sectors in the group. The core FAs are to be covered by in-house experts. In addition, to theses these core FAs, for each group some functional areas have been identified as 'significant' whose inputs are also required but these can be covered by empanelled experts. This has been done to ensure that expertise in all required functional area available with the consultant, without unduly loading it.

Group No	Sector group	Sector No as per Annexure II	Core functional areas (In-house)	Significant functional areas (In-house/ empanelled)
1	Manufacturing industries	8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 40 (I, ii, iii, v)	AP, AQ, WP	LU, Noise, EB, SE, HG, HW, ISW, RH
2	Power, Cement	4, 9, 40 (iv)	AP,AQ	LU, WP, EB, SE, Noise, ISW, RH
3	Mining, River valley	1, 3	WP, SE, EB	LU, AP, AQ, NV, Geo, HG, SC, HW, ISW, RH
4	Coal washery, Mineral beneficiation	6, 7	AP, WP, ISW	LU, AQ, EB, Geo, SE, RH, HW
5	Infrastructure, Oil & gas exploration (off-shore, on-shore)	2, 27, 29, 31, 33, 34, 35	WP, EB, SE	LU, AP, AQ, NV, SC, SHW, HG, RH
6	Infrastructure services	28, 30, 32, 36, 37	SHW, WP	LU, AP, AQ, EB, SE, Geo, HG, RH
7	Building and large construction, township and area development	38, 39	WP, MSW	LU, AP, Noise, EB, SE, HG, SC

Note: *1. For EIAs related to captive townships, MSW will be a significant FA*
2. For Cat B2 projects, EB and SE can be empanelled

Annexure – IV

Resume Format

(For EIA coordinator / Functional area expert)

Affix passport size photograph

Mr./ Ms./Dr.

_____

(First name) (Middle name) (Last name)

1) Role in the organization:

In-house expert	☐	Empanelled expert	☐
EIA coordinator	☐	Functional area expert	☐
Functional area associates	☐		

i. Sector(s) _____

ii. Area(s) of Expertise _____

2) Date of birth_____

3) Contact _____

_____

_____

_____Pin Code_____

4) Tel. No. _____

5) Fax No. _____

6) Email address _____

7) Office address _____

_____

_____

_____Pin Code_____

8) Tel. No. _____

9) Fax No. _____

10) Email id _____

11) Mailing address

_____

_____

_____

12) Education (Senior secondary)

Period (Year)	Board	Degree	Educational institution and address	Subjects	Percentage/ Grade

13) Technical Education (Graduation and above):

Period (Year)	Name of the institution/ university	Degree	Subjects	Grade / % Marks

14) Registered/recognized training courses attended: (mention only training programmes of 3 days duration and above)

S. No.	Title of the course	Conducted/organized by (name and address)	Dates		Result
			From	To	

15) Membership of Professional Bodies:

S. No.	Professional body (name and address)	Membership	Period of validity

16) Experience (write in chronological order with most recent experience listed first):

A. General:

Period (Month and Year)	Organization with address	Department	Designation	Specific work carried out

B. Related to Environmental Impact Assessment:

Period (Month and Year)	**Organization with address**	**Department**	**Designation**	**Specific work carried out**

17) Declaration by the applicant

I attest that the above information relating to my education and experience is correct. I do understand that any incorrect information will result in the disqualification of self and the organizational accreditation with NABET.

Signature _____ Date (DD/MM/YYYY) _____

18) Declaration by the employer

The above information in relation to Dr./Mr./Ms. ..... has been verified and found to be correct.

I understand in case the information is found to be incorrect it may result in the rejection/ suspension of this application as an EIA Consultant Organization.

Authorized signatory_____

Name_____

Designation _____

Annexure – IV A

EIA Coordinator – Sectoral Experience

1) Name: .....

2) Educational qualification:

S. No.	Qualification (Degree/Diploma)	Subject/ Discipline	University/ Institution	Duration of course (yrs) and Year of completion
1				
2				
3				
4				
5				

3) Sectors applied for:

a. .....

b. .....

c. .....

d. .....

e. .....

4) Sectoral Experience (in chronological order) –

i. As an employee in the industry in the sector for minimum 2 years (Leave this table blank, if not applicable) -

S. No.	Sector (As per Annexure II of Scheme)	Industry (Name of the company)	Period* (Years)	Department and specific work undertaken
1				
2				
3				
4				
5				

*mention the period of employment, e.g.: 1996-99

ii. Environmental assignments (auditing/ monitoring/ performance evaluation etc)

S. No.	Sector	Name of the employer	Name of the project with capacity and Cat. A/B, if applicable)	Name of the client for whom the work was carried out	Period* (Year/ Months)	Assignment (provide specific details of involvement)
1						
2						
3						
4						
5						

*mention the period of assignment e.g.: Feb. to April 2003

iii. EIAs

S. No.	Sector	Name of the employer (AO/ACO)	Name of the project with capacity and Cat. A/B, if applicable)	Name of the client for whom the work was carried out	Year of completion of EIA	Specific nature of work and role (EC/ FAE/TM)	Whether project approved by MoEF/ SEIAA
1							
2							
3							
4							
5							

NOTE:

1. If an EIA coordinator has also been proposed as a Functional Area Expert, form IV B should be filled up
2. Environment monitoring carried out for an EIA study cannot be separately shown as an assignment, over and above the EIA.

Declaration by the applicant

I attest that the above information relating to my education and experience is correct. I do understand that any incorrect information will result in the disqualification of self and the accreditation of organization with NABET.

Signature _____ Date (DD/MM/YYYY) _____

Signature of CEO/Authorised Signatory_____

Annexure – IV B

Functional Area Expert – Specific Experience

1) Name: .....

2) Educational qualification:

S. No.	Qualification (Degree/Diploma)	Field area of expertise	University	Duration of course (yrs) and Year of completion
1				
2				
3				
4				
5				

3) Functional area/s applied for:

a. .....

b. .....

c. .....

d. .....

4) Specific experience in the area/s of expertise (E.g.: Land use/Ecology and biodiversity/ Solid waste etc.)

Please use separate rows for different functional area/s. Also indicate the projects which were linked with EIA.

S. No.	Functional area	Name of the Employer	Name of the project with capacity and Cat. A/B, if applicable)	Whether related to EIA (Y/N)	Name of the client (for whom the work was carried out)	Specific nature of work done	Period and Year
1							
2							
3							
4							
5							

Declaration by the applicant

I attest that the above information relating to my education and experience is correct. I do understand that any incorrect information will result in the disqualification of self and the organizational accreditation with NABET.

Signature _____ Date (DD/MM/YYYY) _____

Signature of CEO/Authorised Signatory_____

Annexure – V

Declaration for Empanelled Experts of their association with the applicant organization and others

(to be signed within 60 days preceding the date of application for accreditation)

This is to confirm that I _____ am currently involved with the following EIA projects:

1) With the Applicant Organization -

a. As an EIA coordinator

Sl. No.	Name of the project	Period	Sector as per Annexure II

b. As a Functional area expert

Sl. No.	Name of the project	Period	Functional areas as per Scheme

2) With other organization/s -

a. As an EIA coordinator

Sl. No.	Name of the organization	Name of the project	Period	Sector (as per Annexure II)

b. As a Functional area expert

Sl. No.	Name of the organization	Name of the project	Period	Functional area (as per Scheme)

3) Involvement as an expert in NABET EIA Accreditation Scheme (for projects in hand)

Sl. No.	Name of the organization	Sector/functional area approved/ applied as per NABET Scheme	If interviewed by NABET (Date)	Duration of association with the organization(period)

I hereby confirm that I am involved only with..... (mention the number) consultants. I also confirm that I am not a part of an Expert Appraisal Committees for environmental clearances of the MoEFCC or of any State Environmental Appraisal Committee (SEAC) or State Environment Impact Assessment Authority (SEIAA) and that information provided above are true to the best of my knowledge.

Name _____

Signature _____

Date _____

Present Status (Please tick the appropriate one)

a. Freelancer : Yes/No

b. Working: In-house employee

(If yes, name of organization .....)

Address for Correspondence:

.....

.....

.....

Declaration by the applicant organization

I hereby confirm that I have applied complete due diligence on my part in ascertaining the appropriateness of the information furnished above by the expert …….. S/he has been empanelled with /employed in our organization from .....(month).....(year).

Name _____

Designation _____

Organization _____

Signatures and Date _____

Annexure – VI A1

List of EIAs prepared/completed/ongoing during the period between IA & SA and SA & RA

1) Name of Consultant Organization :

.....

2) Contact Person and Address :

.....

3) EIAs/ Assignments done/completed since IA

Note: For SA application, EIAs carried out between IA and SA to be mentioned and for RA application, EIAs between SA and RA to be mentioned

Sl	Name of sector (as per Annexure II)	Name of the project with capacity and category	Name of the client	Name of EIA coordinator	Functional area experts involved		Public consultation conducted	Period of EIA/ assignment	Number of times discussed in MOEF/ SEIAA and date/ reference no. Of EAC/ SEAC meeting/s		Final Approval Status (Yes/ No)	Cost* riod of EIA/ assi
					FAs	Name/s	Yes/ No Date		ToR Stage	Clearance Stage	If not yet approved, mention present status in brief	
					LU							Cost of the project:
					AQ							
					AP							Fees for EIA Report:
					WP							
					EB							
					SE							Cost of collection of baseline data for physical environment:
					NV							
					GS							
					HG							
					RH							
					SHW							

Please provide sector wise information

Annexure – VI A2

Status of association of approved experts as on date and their earlier approvals

S. No.	Name	IH/ Empanelled	Sector/s or Area/s as per NABET Certificate/ Letter	Category	Status (whether still with organization or Not)	If not associated, provide date of dissociation/ resignation and date of intimation to NABET	Status of earlier assessments by NABET (if applicable)			
							Name of Organization	Sector/ FAs approved	Cat.	Date of AC meeting
EIA Coordinator/s										
1										
Functional Area Experts										
1										

Note:

- Also mention the details of assessment conducted recently for which results are awaited.

Name of CEO/ Head of Organization .....

Signature .....

Date .....

Annexure – VI A3

Details of Laboratories utitlised

S. No.	Name of the laboratory with complete address	Accreditation/Recognition status				Name of the Project (EIA/ Assignment)	Period of primary data collection/ Analysis by lab (month & year)	Name of experts from Applicant Organization involved in sampling	Cost of monitoring including testing & analysis for baseline data
		NABL/ MOEF recognized	Scope	Yes/ No	Valid till				
i	ii	iii	iv	v	vi	vii	viii	ix	x
1			Ambient air						
			Water and waste water						
			Stack emission						
			Soil						
			Noise						
2			Ambient air						
			Water and waste water						
			Stack emission						
			Soil						
			Noise						
3			Ambient air						
			Water and waste water						
			Stack emission						
			Soil						
			Noise						

Note:

- Also mention the details of assessment conducted recently for which results are awaited.
- For SA application details between IA and SA for RA application details between SA and RA to be furnished

Annexure – VI A4

EIA Coordinator – Experience since approval

1) Name: .....

2) Educational qualification

S. No.	Qualifications (Degree/Diploma)	Subject/Discipline	University/ Institution	Duration of course (yrs) and Year of completion
1				
2				
3				

3) Sectors approved (mention exact description including category as in NABET certificate/ letter):

S. No.	Name of sector	Category	Vide AC MoM dated
1			
2			
3			

4) Experience during period between IA and SA (for SA); between SA and RA (for RA) provided details for all ACOs worked for

S. No.	Sector (as per Annexure II)*	EIA with name of client, capacity and category of the project, where involved as EC or TM	Timely completion of EIA (start to completion e.g. Jan 98 to Dec. 98)	Site visits to familiarize and plan for EIA		Major impacts and mitigation measures in EIA		Completeness of EMP
				No. and duration (days) of site visits	Attach activity chart with milestones	Brief description of impacts (Max. 5 nos.)	Mitigation measures (Max. 5 nos.)	
i	ii	iii	iv	v	vi	vii	viii	ix
For the ACO								
1								Project cost
								EMP budget
								EMP time frame
								EMP monitoring plan

S. No.	Sector (as per Annexure II)*	EIA with name of client, capacity and category of the project, where involved as EC or TM	Timely completion of EIA (start to completion e.g. Jan 98 to Dec. 98)	Site visits to familiarize and plan for EIA		Major impacts and mitigation measures in EIA		Completeness of EMP
				No. and duration (days) of site visits	Attach activity chart with milestones	Brief description of impacts (Max. 5 nos.)	Mitigation measures (Max. 5 nos.)	
i	ii	iii	iv	v	vi	vii	viii	ix
2								Project cost
								EMP budget
								EMP time frame
								EMP monitoring plan
For other consultants								
3								Project cost
								EMP budget
								EMP time frame
								EMP monitoring plan

NOTE:

- *Sectors may be mentioned in accordance of their serial number as mentioned in NABET Scheme
- Details to be provided for each sector in separate rows

5) A brief one page note to be submitted covering the following for

- Learning achieved from various projects
- Actions taken to incorporate the learnings
- Efforts to impprove knowledge base
- Innovative measures suggested

Signature of the EIA coordinator with date

.....

Annexure – VI A5

Functional Area Expert – Experience since approval

1) Name: .....

2) Educational qualification

S. No.	Qualifications (Degree/Diploma)	Subject/Discipline	University/ Institution	Duration of course (yrs) and Year of completion
1				
2				
3				

3) Functional area/s approved (mention exact description including Category as in NABET certificate/letter):

S. No.	Name of functional area	Category	Vide AC MoM dated
1			
2			
3			

4) Experience during period between IA and SA (for SA); between SA and RA (for RA) - provided details for all ACOs worked for-

S. No.	Functional area (as per Scheme)	EIA with name of client, capacity and category of the project, where involved as FAE or TM	Number of site visit/s with and period	Specify major impacts identified (not more than 3) and whether these were quantified (if yes, give one example)	Mitigation measures suggested
i	ii	iii	iv	v	vi
For the ACO					
1					
2					
3					
4					
For other consultants					
1					
2					

S. No.	Functional area (as per Scheme)	EIA with name of client, capacity and category of the project, where involved as FAE or TM	Number of site visit/s with and period	Specify major impacts identified (not more than 3) and whether these were quantified (if yes, give one example)	Mitigation measures suggested
i	ii	iii	iv	v	vi
3					
4					

NOTE:

- Details to be provided for each functional area in separate rows

5) A brief one page note to be submitted covering the following for

- Learning achieved from various projects
- Actions taken to incorporate the learnings
- Efforts to impprove knowledge base
- Innovative measures suggested

Signature of the functional area expert with date

.....

Annexure – VII

Declaration by Experts contributing to the EIA .....

I, hereby, certify that I was a part of the EIA team in the following capacity that developed the above EIA.

EIA coordinator:.....

Name: .....

Signature and Date: .....

Period of involvement: .....

Contact information: .....

Functional area experts:

S. No.	Functional areas	Name of the ex-pert/s	Involvement (period and task**)	Signature and date
1	AP*			
2	WP*			
3	SHW*			
4	SE*			
5	EB*			
6	HG*			
7	GEO*			
8	SC*			
9	AQ*			
10	NV*			
11	LU*			
12	RH*			

*One TM against each FAE may be shown

**Please attach additional sheet if required

Declaration by the Head of the accredited consultant organization/ authorized person

I, ... , hereby, confirm that the above mentioned experts prepared the EIA ..... . I also confirm that the consultant organization shall be fully accountable for any mis-leading information mentioned in this statement.

Signature: .....

Name: .....

Designation:.....

Name of the EIA consultant organization: .....

NABET Certificate No. & Issue Date:.....

Annexure – VIII

Self Assessment Checklists

To judge the readiness of an organization for applying and subsequent assessment by NABET assessors including interactions with candidates proposed, a Self- assessment checklist has been developed for IA, SA and RA for use by the AOs/ACOs -

1) Initial Accreditation –

a. Application process –

i. Have information pertaining to the organization's profile been included in Application Form?

ii. Has the application form and all CVs (**Annexure IV, IV A, IV B, V**) submitted are duly signed?

iii. Does the organization have minimum three eligible in-house experts (1 EC and 2 FAE) as per the requirements of the Scheme?

iv. Does the organization have eligible candidates for the core and significant functional areas for the respective group for which accreditation is sought?

v. Are the proposed candidates for core FAs in house?

vi. Do all proposed candidates for EC fulfil the criteria of NABET Scheme?

vii. Do all proposed candidates for FAE fulfil the criteria of NABET Scheme?

viii. Have the **Annexure IV** for all candidates proposed been properly filled?

ix. Has the specific experience of proposed candidates been mentioned in **Annexures IV A** and **IV B**?

x. Do the candidates proposed as EC have the requisite 'EIA related' and 'sectoral' experience for the sectors?

xi. Do the candidates proposed as FAE have the 'EIA related' experience in the functional area/s?

xii. Has any candidate been proposed for more than five sectors?

xiii. Has any candidate been proposed for more than four functional areas?

xiv. Has any full time employee with other organizations (except from university, institution and NGO) been proposed as an EC or FAE?

xv. Does the organization have NABL accredited or MoEFCC recognized in-house/ external laboratory for monitoring ambient air, water & waste water, noise, stack and soil parameters for baseline study?

xvi. Does the organization have the valid certificate of accreditation/Notification for the lab?

xvii. Does the organization have valid MoU signed with the external lab?

xix. Does the QMS address the 10 procedures given in **Appendix B** of the Scheme?

b. Assessment process

i. Is the Organization ready for office assessment by NABET – have all candidates read the NABET scheme specially the assessment criteria including the aspects on which the ECs and FAEs will be assessed, field investigation requirements (sampling, preservation, laboratory processes) including for socio-economy and ecology and expected functions of ECs and FAEs?

ii. Are the candidates aware of the QMS developed by the organization? Is the implementation of QMS documented?

iii. Is the organization committed to improve quality of the EIAs prepared? Does the organisation learn from the discussions in the public hearings and at the EAC/ SEAC? Does the organisation have arrangements for improving the knowledge/ skills of its personnel through trainings/exposures?

iv. Does the organization have all necessary documentary evidence to be shown to NABET assessors during assessment?

Self-Assessment Result

If all questions answered/ followed	Apply right now	Ready for applying and assessment
If 50% of questions answered/ followed	Apply after addressing the unanswered ones.	Partially ready.
If less than 50% questions are answered/followed	Need To focus on the accreditation guidelines	Not ready for applying and assessment

2) Surveillance Assessment –

- The Questions of the IA process as mentioned above are valid, as appropriate. In addition, the following Questions may be answered –

a. Application process –

i. Have all NC's and observations raised during IA been properly closed? Are sufficient documentary evidence available for the same?

ii. Does the organization have all core and significant functional areas covered by IH or emp experts for the sectors approved and freshly applied for?

iii. Does the Organization have complete details for ECs and FAEs as per **Annexure VI A4 and VI A5** for inclusion in the SA application?

iv. Has the Organization used NABL accredited or MoEFCC recognized Lab for the EIA Studies carried out after IA?

v. Have all conditions of accreditation as mentioned in NABET's letter, been complied with?

vi. Has NABET been informed on time of any approved expert leaving the organization and arranged replacement?

vii. Has a clear list been prepared of experts approved in IA and subsequently and those proposed with the SA application?

viii. Has the organization used any unapproved person or approved experts of not proper category in preparing after initial accreditation?

ix. Has any EC been involved in more number of EIAs than recommended in NABET Scheme? If so, has s/he we maintained proper records of work done by him/her?

x. Has the signed declaration of experts involved in all EIAs prepared countersigned by the CEO in the prescribed format been included in the reports?

xi. Does the organization have the quality assurance procedures for collection, preservation and transfer of samples and have implemented the same?

xii. Does the organization have procedure and followed the same for ensuring that the NABL accredited/MoEF recognized lab follows its quality control process to ensure correctness of the tests carried out?

xiii. Have timely payments to NABET been made and all dues cleared as applicable till SA?

b. Accreditation process -

i. Have all experts visited site and does the organisation we have proper log books for the site visits?

ii. Has the organisation filled complete details of all laboratories utilized after IA as per **Annexure VI A3**?

iii. Does the organization have quality assurance procedure for primary data collection and implemented the same?

iv. Has the organization maintained copy of an internal QMS audit report and the last Management Review of the QMS?

v. Does the organization have programs for capacity building for ECs/FAEs in terms of (a) training programmes attended, (ii) upgrading the educational qualification, (iii) others

vi. Does the organization have record of NABET AC MoM of all approved candidates?

vii. Did the organization carry out EIA for the sectors for which accreditation is not given?

Self-Assessment Result

If all questions answered/ followed	Apply right now	Ready for applying and assessment
If 50% of questions answered/ followed	Apply after addressing the unanswered ones.	Partially ready.
If less than 50% questions are answered/followed	Need To focus on the accreditation guidelines	Not ready for applying and assessment

3) **Reaccreditation** -

The Questions of the IA process as mentioned above will be valid, as appropriate. In addition, the following questions may be answered –

i. Have all NCs and observations of SA have been closed?

ii. Does the organization have all information asked for about laboratories used after SA?

iii. Does the organization have required information on how the experts are keeping their knowledge updated?

iv. Does the organization have requisite details of the earlier assessments of experts as per **Annexure VI A2**?

v. Has the organization made all payments due to NABET?

vi. Has the organization taken steps towards capacity building for ECs/FAEs/ lab technicians through trainings, improved facilities etc

vii. Has the organization implemented QMS and made improvements in the same?

viii. Did the organization use only approved experts of right category for EIA studies?

ix. Did the organization carry out EIAs for the sectors for which accreditation is not given?

x. Did the organization check its overall performance from IA to till now?

If all questions answered/ followed	Apply right now	Ready for applying and assessment
If 50% of questions answered/ followed	Apply after addressing the unanswered ones.	Partially ready.
If less than 50% questions are answered/followed	Need To focus on the accreditation guidelines	Not ready for applying and assessment

Secretary General, QCI

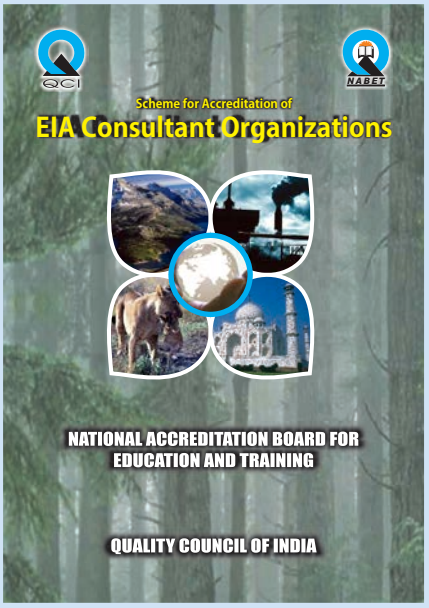
Quality Council of India has been working with the Ministry of Environment, Forest & Climate Change for more than past five years in handling the scheme of accreditation of Consultant Organizations involved in preparation of Environment Impact Assessment reports. It has been a journey worth travelling.

We are proud that today we have with us more than 170 consultant organizations accredited through a rigorous process of assessment and accreditation. It shows our maturity as a Nation and also our deep commitment to preserve the environment at all costs. We are proud that such a scheme has been a torchbearer for various nations moving up on the value chain of development.

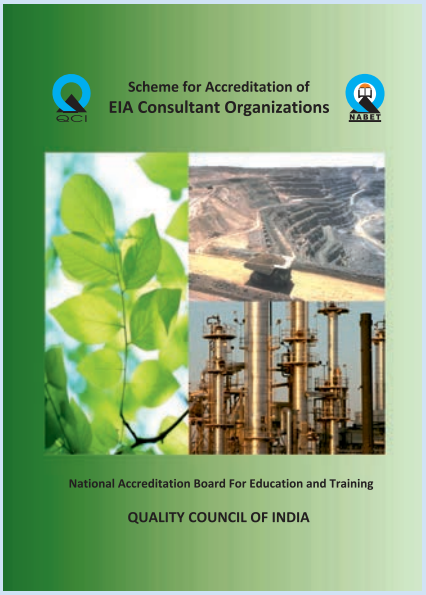
Albert Einstein once said "Look deep into nature, and then you will understand everything better."

Every one of us can do something to help slow down and perhaps reverse the environmental degradation by owning our responsibility towards the nature. We cannot leave the problem solving entirely to the experts - we all have a responsibility to make it happen. We, at QCI, are pleased that this journey towards quality has brought together like minded people who are driving this movement forward. We sure hope that more will join us after the initial reluctance to pave way for trust and responsibility.

(R. P. Singh)



Version 1 (Rev. 06) - Jan. 2010



Version 2 (Rev. 09) - Aug. 2011

3947

For further details contact:

Mr. Abhay Sharma, Assistant Director

Ms. Preeti Pawaria, Accreditation Officer

National Accreditation Board for Education and Training (NABET)

Quality Council of India (QCI)

6th Floor, ITPI Building, 4A, Ring Road, IP Estate, New Delhi 110 002, India

Tel: +91 11 233 23 416 / 417 / 418 / 419 / 420 | Fax: +91 11 233 23 415

Email: akg@qcin.org; | abhay.nabet@qcin.org; | preeti.nabet@qcin.org

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3948

जहाँ है हरियाली ।
वहाँ है खुशहाली ॥

Ministry of Environment & Forests
GOVERNMENT OF INDIA, NEW DELHI

Environmental Impact Assessment Guidance Manual for BUILDING, CONSTRUCTION, TOWNSHIPS and AREA DEVELOPMENT PROJECTS

Prepared by

संगच्छध्वम् संवदध्वम्

Administrative Staff College of India
Bellavista, Khairatabad, Hyderabad

February 2010

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Environmental
Impact Assessment Guidance Manual
for

Building, Construction, Townships and Area Development

2034

Foreword

The EIA Notification 2006 not only reengineered the entire EC process specified under the EIA Notification 1994 but also highlighted the need to introduce specific sectors/categories under the sectors such as Industry and Infrastructure and also introduced new sectors such as Construction to be brought in the ambit of the EC process based on their extent of impacts on environment. The EIA Notification 2006 has notified 39 developmental sectors, which require prior environmental clearance. Based on the capacity, the Projects have been categorised into Category A or B which has been further categorised as B1 or B2. The Ministry of Environment and Forests (MOEF) has so far constituted 25 State level Environmental Impact Assessment Authorities (SEIAs) and State Expert Appraisal Committees (SEACs) to appraise B category projects.

The need for Sector specific manuals and guidelines for appraisal of projects under the EIA Notification 2006 has been felt for some time with a view to bringing clarity in the EC process consists of Screening, Scoping, Public Consultation and Appraisal for the purpose of granting and expediting environmental clearance. This need was further reinforced after the constitution of various SEIAs and SEACs in the various States, who were assigned this task for the first time. It was also felt that Manuals on each Sector would help in standardisation of the quality of appraisal and in reducing inconsistencies between SEACs/SEIAAs in granting ECs for similar projects in different States.

The MOEF at the first instance decided to bring out EIA Sector Specific Manuals for 37 developmental projects and the preparation of EIA Manuals of ten of these Sectors was assigned to Administrative Staff College of India (ASCI), Hyderabad.

1. Mining
2. Mineral Beneficiation
3. Ports & Harbours
4. Airports
5. (A) Building Construction
5. (B) Townships
6. Asbestors
7. Highways
8. Coal Washery
9. Aerial Ropeways
10. Nuclear Power Plants, Nuclear Fuel Processing Plants and Nuclear Waste Management Plants

The Manual for the sectors contain Model TOR of that Sector, technological options and processes for a cleaner production and waste minimisation, wherever applicable, monitoring of environmental quality, related regulations, and procedure of obtaining EC if linked to other clearances for eg., CRZ, etc.

The draft Manuals were uploaded on the MOEF website and comments/responses received were considered and finalised. Since the environmental clearance process itself is a dynamic one dependent on developmental needs, technologies available and standards for cleaner environment for a sustainable development, these manuals would require regular updation in the future. I hope the Manuals in their present form are of use and we would appreciate receiving responses from various stakeholders for further improvements that could be taken up in the future.

I congratulate the entire team in the Administrative Staff College of India, Hyderabd, experts of the sectors who were involved in the preparation of the Manuals, members of the Core and Peer Committees of various sectors and various Resource persons whose inputs were indeed valuable in the preparation and finalisation of the Manuals.

(JAIRAM RAMESH)
MINISTER OF STATE FOR ENVIROMENT & FORESTS

5th May 2010

Siripurapu K. Rao
M.A. (Cantab), Ph.D. (Cantab)
DIRECTOR GENERAL

asci
Leadership through Learning

Acknowledgements

Environmental Impact Assessment (EIA) is a planning tool generally accepted as an integral component of sound decision-making. EIA is to give the environment its due place in the decision-making process by clearly evaluating the environmental consequences of the proposed activity before action is taken. Early identification and characterization of critical environmental impacts allow the public and the government to form a view about the environmental acceptability of a proposed developmental project and what conditions should apply to mitigate or reduce those risks and impacts.

Environmental Clearance (EC) for certain developmental projects has been made mandatory by the Ministry of Environment & Forests through its Notification issued on 27.01.1994 under the provisions of Environment (Protection) Act, 1986. Keeping in view a decade of experience in the Environmental Clearance process and the demands from various stakeholders, the Ministry of Environment and Forests (MoEF) issued revised Notification on EC process in September 2006 and amended it in December 2009.It was considered necessary by MoEF to make available EIA guidance manuals for each of the development sector.

Accordingly, at the instance of the MoEF, the Administrative Staff College of India, with the assistance of experts, undertook the preparation of sector specific Terms of Reference (TOR) and specific guidance manual for **Building, Construction, townships and area development projects**. I wish to thank **Mr. J. M. Mauskar,** IAS, Additional Secretary, Govt. of India MoEF for his continuing support during the preparation of the manuals. I wish to place on record also my sincere thanks to **Dr. B. Sengupta**, former Member Secretary, Central Pollution Control Board and Chairman of the Core Committee for his help in the preparation of the manuals. His suggestions helped us a great deal in improving the technical quality of the manuals. **Mr M. Parabrahmam**, Former advisor MoEF and Chairman of the Peer Committee II for this project, has given constant guidance to the ASCI project team. His vast experience has been immensely helpful in preparing these manuals. I would like to thank the officials of the Ministry, **Dr. Nalini Bhat** and **Dr. T. Chandini,** for coordinating the project from the Ministry side and for providing guidance whenever needed. My thanks are also due to **Dr. Bharat Bhushan** and **Dr. A. Senthil Vel** of MoEF for the valuable inputs they had given during our interactions with the Officials at Delhi and Hyderabad.

I thank **Dr. I. V. Murali Krishna**, Professor and Former Director R&D JNT University, resource person, who, drawing on his vast experience in the sector, prepared the EIA guidance manual on **Building, Construction, townships and area development projects** along with **Dr. Valli Manickam**, Member of Faculty of ASCI. The efforts put in by both of them are commendable.

I would like to thank all the Peer and Core Committee members for having given a valuable feed back in the preparation of the manual. I hope the manuals would prove to be useful to the community at large and to the experts working in this area in particular.

26 February, 2010

S.K. Rao

ADMINISTRATIVE STAFF COLLEGE OF INDIA
Bella Vista, Raj Bhavan Road, Hyderabad-500 082 (India)
Tel: +91-40-2331-0852, Fax: 2332-1401 Email: skrao@asci.org.in

CONTENTS

Chapter No.	Title	Page no.
	Foreword	
	Acknowledgements	
	Team	ix
	Core Committee	x
	Peer Committee	xi
	Abbreviations	xii
	List of Tables	xiii
	List of Annexures	xiv
	Lists of Figures	xv
	About the Manual	xvi
Section A	**Building Construction Projects**	**1 - 46**
Section B	**Township and Area Development Projects**	**47 - 94**
Chapter 1	**Introduction**	
	1.0 Preamble	1
	1.1 General Information on Building Construction	1
	1.2 Environmental Clearance Process	2
	1.3 Terms of Reference (TOR)	5
	1.4 Validity of Environmental Clearance	5
	1.5 Post Environmental Clearance Monitoring	5
	1.6 Transferability of Environmental Clearance	6
	1.7 Generic Structure of Environmental Impact Assessment Document	6
	1.8 Identification of Project Proponent	6
	1.9 Brief Description of the Project	6
Chapter 2	**Project Description**	
	2.0 General	9
	2.1 Description of the Project	9
	2.2 Site Selection	10
	2.3 Manpower Requirement	10
	2.4 Project Implementation Schedule	11
Chapter 3	**Description of the Environment**	
	3.0 General	13
	3.1 Land Environment	13

	3.2 Water Environment	13
	3.3 Air Environment	14
	3.4 Noise Environment	14
	3.5 Biological Environment	14
	3.6 Socio-economic Environment	15
	3.7 Solid Waste	15
Chapter 4	**Impact Analysis and Mitigation Measures**	
	4.0 General	17
	4.1 Land Environment	17
	4.2 Water Environment	19
	4.3 Air Environment	19
	4.4 Noise Environment	21
	4.5 Biological Environment	22
	4.6 Socio- economic	22
	4.7 Solid Waste	23
Chapter 5	**Alternative Technologies**	
	5.0 General	27
	5.1 Building Materials	27
	5.2 Energy Conservation	30
	5.3 Transportation	34
Chapter 6	**Environmental Monitoring Program**	
	6.0 General	35
Chapter 7	**Additional Studies**	
	7.0 General	37
	7.1 Risk Assessment and Disaster Management Plan (DMP)	37
	7.2 Natural Resource Conservation	37
	7.3 R&R Action Plan	37
Chapter 8	**Project Benefits**	
	8.0 General	39
Chapter 9	**Environmental Management Plan**	
	9.0 General	41
Chapter 10	**Summary and Conclusions**	
	10.0 General	43
Chapter 11	**Disclosure of Consultant Engaged**	
	11.0 General	45

Section B	**Township and Area Development Projects**	**47 - 94**
Chapter 1	**Introduction**	
	1.0 Preamble	47
	1.1 General Information on Township and Area Development	44
	1.2 Environmental Clearance Process	47
	1.3 Terms of Reference (TOR)	50
	1.4 Validity of Environmental Clearance	50
	1.5 Post environmental Clearance Monitoring	50
	1.6 Transferability of Environmental Clearance	51
	1.7 Generic Structure of Environmental Impact Assessment Document	51
	1.8 Identification of Project Proponent	
	1.9 Brief Description of the Project	51
Chapter 2	**Project Description**	
	2.0 General	53
	2.1 Description of the Project	53
	2.2 Site Selection	54
	2.3 Manpower Requirement	58
	2.4 Project Implementation Schedule	58
Chapter 3	**Description of the Environment**	
	3.0 General	59
	3.1 Land Environment	59
	3.2 Water Environment	59
	3.3 Air Environment	60
	3.4 Noise Environment	60
	3.5 Biological Environment	60
	3.6 Socio-economic Environment	61
	3.7 Solid Waste	61
Chapter 4	**Anticipated Impacts and Mitigation Measures**	
	4.0 General	63
	4.1 Land Environment	63
	4.2 Water Environment	65
	4.3 Air Environment	68
	4.4 Noise Environment	69
	4.5 Biological Environment	70
	4.6 Socio- economic	70

	4.7 Solid Waste	71
Chapter 5	Alternative Technologies	
	5.0 General	75
	5.1 Building Materials	75
	5.2 Energy Conservation	81
	5.3 Transportation	85
Chapter 6	Environmental Monitoring Program	
	6.0 General	87
Chapter 7	Additional Studies	
	7.0 Introduction	89
	7.1 Risk Assessment and Disaster Management Plan (DMP)	89
	7.2 Natural Resource Conservation	89
	7.3 R&R Action Plan	89
Chapter 8	Project Benefits	
	6.0 General	91
Chapter 9	Environmental Management Plan	
	9.0 General	93
Chapter 10	Summary and Conclusions	95
Chapter 11	Disclosure of Consultant Engaged	97
	Bibliography	99
	Glossary	101
	Tables	103
	Annexures	**107**
	Questionnaires	**175**

Team

Project Coordination Ministry of Environment & Forests	**Dr. Nalini Bhat** Advisor, Ministry of Environment and Forests
	Dr. T. Chandini Director, Ministry of Environment and Forests
Chairman, Core Committee & Peer Committee I	**Dr. B. Sengupta** Former Member Secretary, CPCB
Chairman, Peer Committee II	**Shri. M. Parabrahmam** Former Advisor, MoEF
Project Coordination Team ASCI	**Prof. V.S. Chary** Director Centre for Energy, Environment Urban Governance, and Infrastructure Development Administrative Staff College of India
	Shri. G. Bala Subramanyam Advisor Environment Area, ASCI, Hyderabad
	Dr. Valli Manickam Area Chairperson Environment Area, ASCI & Project Coordinator
Resource Persons	**Dr. I. V. Murali Krishna** Adjunct Professor, Asian Institute of Technology, Bangkok
	Dr. Valli Manickam Environment Area, Administrative Staff College of India Hyderabad

Core Committee

Dr. B. Sengupta Former Member Secretary Central Pollution Control Board, New Delhi	**Chairman**
Shri. M. Parabrahmam Former Advisor, Ministry of Environment & Forests, New Delhi	
Chairman Karnataka Pollution Control Board	
Dr. M. S. Narayanan Former Chairman, Coal India, New Delhi	
Dr. S. R. Wate Head, EIA Division NEERI, Nagpur	
Prof. P. G. Sastry Former Chairman EAC (River Valley Projects), MoEF	
Member Secretary Rajasthan Pollution Control Board	
Mrs. Rohini Devi Director, HTCC, Sg -'G' ASL Representative of DRDO, Hyderabad	
Dr. M. Irulappan General Manager (Com), Representative of Airport Authority of India, New Delhi	
Shri. V. K. Sharma Head, Environment Division, Representative of NHAI, New Delhi	
Shri A. K. Debnath CG M, Central Mine Plan & Design Institute, Ranchi	
Ms. Sarita Sawhny Representative of Confederation of Indian Industry, New Delhi	

Special Invitee: **Mr. P.C. Tyagi,** Ex -Chairman, CPCB, New Delhi

Peer Committee I

Dr. B. Sengupta Former Member Secretary Central Pollution Control Board, New Delhi	**Chairman**
Shri G.V. Raghava Rao Former Superintending Engineer, AP Pollution Control Board	
Dr. P.M. Raju Representative of Vishakapatnam Port Trust	
Shri. G. Udaya Bhaskar GM-Env, Essar Group, Mumbai	
Shri N. V. Bhasakara Rao AP Pollution Control Board	
Dr. Swarna Subba Rao Director, Survey of India, Hyderabad	
Shri. P. Janardhan Reddy SPEQUEL, Hyderabad	
Er. Nanda Kumar Energy Conservation Mission, Institute of Engineers, Hyderabad	
Shri. V.K. Sharma Head of Environment Division, National Highway Authority of India, New Delhi	
The Chief Planning Officer Hyderabad Urban Development Authority	
Representative of GMR Samshabad International Airport Ltd	
Representative of CPCB Regional office, Bangalore	

ABBREVIATIONS

ADA	-	Area Development Authority
ASCI	-	Administrative Staff College of India
BUD	-	Built up area
CGWB	-	Central Ground Water Board
CPCB	-	Central Pollution Control Board
CRZ	-	Coastal Regulation Zone
CSR	-	Corporate Social Responsibility
CTP	-	Chief Town Planner DP Development Plan
DMP	-	Disaster Management Plan
DP	-	Development Plan
EAC	-	Expert Appraisal Committee
EC	-	Environmental Clearance
ECS	-	Equivalent Car Space
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
ETP	-	Effluent Treatment Plant
FSI	-	Floor Space Index
GRIHA	-	Green Rating for Integrated Habitat Assessment
IA	-	Impact Assessment
LPCD	-	Liters Per Capita Per Day
MLD	-	Million Liters Per Day
MoEF	-	Ministry of Environment and Forests
MSL	-	Mean Sea level
NDC	-	National Development Council
O & M	-	Operation and Maintenance
R O	-	Regional offices
R&R	-	Rehabilitation and Resettlement
SPCBs	-	State Pollution Control Boards
STP	-	Sewage Treatment Plant
TCPO	-	Town and Country Planning Department
TOR	-	Terms of Reference
UPDFI	-	Urban Development Plans Formulation and Implementation

List of Tables

Table No.	Title	Page No.
Table 3.1	Physical Properties of Soil	99
Table-3.2	Chemical Properties of Soil	99
Table-3.3	Ambient Air Quality Monitoring Results	100
Table 3.4	Ambient Noise Level in The Study Area Db(A)	100
Table 3.5	Surface/Ground Water Quality Standards IS: 2296 & IS:10500 Limits	101
Table 3.6	Demographic Profiles of the Villages in the Study Area	102
Table 3.7	Other Infrastructural Facilities Available in the Study Area	102
Table 5.1	Roof assembly U-factor and Insulation R-value Requirements	32, 80
Table 5.2	Opaque Wall Assembly U-factor and Insulation R-value Requirements	32, 81

List of Annexures

Annexure No.	Title	Page No.
Annexure 1	Terms of Reference (TOR) for Environmental Impact Assessment of Building construction, Townships and Area development projects	107-128
Annexure 2	National Land Use/Land Cover Classification System	129
Annexure 3	Sampling, Frequency & Method of Baseline Environment Monitoring	130
Annexure 4	Hydraulic conductivities of soil	132
Annexure 5	Rating chart for soil test values of primary nutrients	134
Annexure 6	Ambiant Noise Standards	136
Annexure 7	National Ambient Air Quality Standards (NAAQS)	137
Annexure 8	Ambinant Noise Standards	139
Annexure 9	List of Critically polluted areas as identified by CPCB	140
Annexure 10	General Standards for Discharge of Effluents	143
Annexure 11	Drought resistant species	146
Annexure 12	For General Structural Safety	147
Annexure 13	Interior lighting power	149
Annexure 14	Recommended Values of illuminance for some common activities as recommended by National Building Code 2005	151
Annexure 15	Air conditioning, heating and mechanical ventilation in various places	160
Annexure 16	Outdoor conditions Source	161
Annexure 17	Minimum air requirements for ventilation of all common areas and commercial facilities	163
Annexure 18	Space standards for footpath	168
Annexure 19.1	Space standards for Car Parking	169
Annexure 19.2	Area requirements for parking in different types of cities	170
Annexure 20	Step-By-Step Guide To Greening An Existing Roof	172
Annexure 21	Rain water run-off for different roof top areas	174

List of Figures

Figure No.	Title	Page No.
Figure 1.1	Prior Environmental clearance process for category B projects	4,49

ABOUT THE MANUAL

Environmental Impact Notification S.O.1533 (E), dt.14th September 2006,as amended 2009, issued under Environment (Protection) Act 1986, has made it mandatory to obtain environmental Environmental Impact Notification S.O.1533 (E), dt.14th September 2006,as amended 2009, issued under Environment (Protection) Act 1986, has made it mandatory to obtain environmental clearance for scheduled development projects. The notification has classified projects under two categories 'A' & 'B'. Category A projects (including expansion and modernization of existing projects) require clearance from Ministry of Environment and Forest (MoEF), Govt. of India (GoI) and for category B from State Environmental Impact Assessment Authority (SEIAA), constituted by Government of India.

The existing manual on Environmental Impact Assessment (EIA) of MoEF, is common for all the sectors requiring prior environmental clearance. Considering the diversity in all sectors related to infrastructure and industrial development projects, MoEF launched a program for development of sector specific technical EIA guidance manuals. The EIA guidance manual will help the project proponent/consultant in the preparation of the EIA report. It also helps the regulatory authority to review the report as well as the public to become aware of the related environmental issues. This EIA guidance manual accordingly addresses the related environmental concerns for the specific sector - **"Building, Construction, Townships and Area Development Projects".** This manual consists of terms of reference (TOR), manual and questionnaire.

The sector specific manual consists of eleven chapters, which correspond to the generic structure given as per EIA notification 2006, as amended Dec 2009.

The manual is given in two sections - Section A and Section B.

Section A of this manual describes issues to be addressed for environmental clearances in building and construction projects as defined in the item 8 (a) of the EIA notification 2006.

Section B gives details with issues related to Townships and area development projects as defined in the item 8 (b) of the EIA notification 2006.

The chapter headings are the same in each section but specific issues are discussed in the respective sections.

Chapter 1: Introduction

This chapter contains the general information on the building sector, major sources of environmental impact in respect of building, construction, townships and area development projects and details of the environmental clearance process.

Chapter 2: Project Description

In this chapter the proponent should furnish detailed description of the proposed project, such as the type of the project, need for the project, project location, land availability, utilities (power and water supply) and infrastructure facilities such as roads and other requirements. The project implementation schedule, estimated cost of development should also be included.

Chapter 3: Description of Environment

This chapter should cover baseline data in the project area and study area.

Chapter 4: Impact Analysis and Mitigation Measures

This chapter describes the anticipated impact on the environment and mitigation measures. The method of assessment of impact including studies carried out, modelling techniques adopted to assess the impact where pertinent should be elaborated in this chapter. It should give the details of the impact on the baseline parameters, both during the construction and operational phases and suggests the mitigation measures to be implemented by the proponent.

Chapter 5: Analysis of Alternatives (Technology and Site)

This chapter includes the options, details of the alternatives of materials that are to be used in building construction and the energy conservation methods to be adopted. The various details regarding the transportation sector, road connectivity, link facilities, parking details etc. are to be discussed in this chapter.

Chapter 6: Environmental Monitoring Program

This chapter should cover the planned environmental monitoring program. It should also include the technical aspects of monitoring the effectiveness of mitigation measures.

Chapter 7: Additional Studies

This chapter should cover the details of the additional studies required in addition to those specified in the ToR and which are necessary to cater to more specific issues applicable to the particular project.

Chapter 8: Project Benefits

This chapter should cover the benefits accruing to the locality, neighbourhood, region and nation as a whole. It should bring out details of benefits by way of improvements in the physical infrastructure, social infrastructure, employment potential and other tangible benefits.

Chapter 9: Environmental Management Plan

This chapter should comprehensively present the Environmental Management Plan (EMP), which includes the administrative and technical setup, summary matrix of EMP, the cost involved to implement the EMP, both during the construction and operational phase and provisions made towards the same in the cost estimates of project construction and operation. This chapter should also describe the proposed post-monitoring scheme as well as inter-organizational arrangements for effective implementation of the mitigation measures.

Chapter 10: Summary and Conclusions

This chapter gives the summary of the full EIA report condensed to ten A-4 size pages at the maximum. It should provide the overall justification for implementation of the project and should explain how the adverse effects have been mitigated.

Chapter 11: Disclosure of Consultants

This chapter should include the names of the consultants engaged with their brief resume and nature of consultancy rendered.

The contents of the manual are to be considered as version 1.0 (2010). The ministry as per the requirements will take up an updating/revision of the manual. In case of interpretation of any question related to law, the provisions of the original laws and the Rules made thereunder with various Government directions/resolutions will have to be read and followed. In case of amendment to the original Act/Rules/Notifications made thereunder, the provisions as amended from time to time shall be applicable. Any obligations of international conventions, where GoI is a signatory and accepted for implementation are also to be followed.

Section A

BUILDING AND CONSTRUCTION PROJECTS

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1 INTRODUCTION

1.0 Preamble

This section of the manual provides information and guidance on Environmental Impact Assessment (EIA) in building construction projects. It is intended as a resource for those who are involved in EIA practice. Particular emphasis is given to concepts, procedures and tools that are used currently or are potentially relevant in preparing environmental impact assessment reports for clearance from regulatory agencies. EIA is a technical exercise, to predict environmental impacts, assess their significance, and provide recommendations for their mitigation. EIA report covers a wide range of technical disciplines and covers areas such as noise and vibration, air quality, ecology, contamination, water quality & hydrology, archaeology & cultural heritage, landscape & visual character, sustainability and socio-economics. The EIA report will describe how the project has been improved through the EIA process and what alternatives were considered.

1.1 General Information on Building Construction

Construction activities in India have been pursued without giving much attention on environmental issues. This has resulted in pressure on its finite natural resources. Unplanned and unsustainable urban development has lead to severe environmental pressures. The green cover, ground water resources have been forced to give way to the rapidly developing urban centres. Modern buildings built in our cities have high levels of energy consumption because of requirements of air-conditioning and lighting. In this scenario it is necessary to critically access the utilization of natural resources in these activities.

Approximately 50 percent of the energy use in buildings is devoted to producing an artificial indoor climate through heating, cooling, ventilation, and lighting. Water conservation and efficiency programs have begun to lead to substantial decreases in the use of water within buildings. Studies have shown that water-efficient appliances and fixtures can reduce consumption by up to 30 percent or more. As demand on water increases with urban growth, the economic impact of water conservation and efficiency will increase proportionately. Water efficiency not only can lead to substantial water savings, but it also can reduce the requirement for expansion of water treatment facilities.

The building industry is slowly beginning to recycle its waste but there is need to achieve significant waste reductions through more reuse of building material and adaptation, as opposed to demolition.

Conventional buildings often fail to consider the interrelationship among building siting, design elements, energy and resource constraints, building systems, and building function. Green buildings, through an integrated design approach, take into consideration the effect these factors have on one another. Climate and building orientation, design factors such as daylighting

opportunities, and building envelope and system choices, as well as economic guidelines and occupant activities, are all factors that need to be considered in an integrated approach.

Application of new building concepts can yield for savings during the construction process. Measures that are relatively easy to implement can result in savings to natural resources in the following areas:

- Lower energy costs, by monitoring usage, installing energy-efficient lamps and fixtures, and using occupancy sensors to control lighting fixtures;
- Lower water costs, by monitoring consumption and reusing stormwater and/or construction wastewater where possible;
- Lower site-clearing costs, by minimizing site disruption and movement of earth and installation of artificial systems;
- Lower landfill dumping fees and associated hauling charges, through reuse and recycling of construction and demolition debris;
- Lower materials costs, with more careful purchase and reuse of resources and materials;
- Possible earnings from sales of reusable items removed during building demolition; and

1.2 Environmental Clearance Process

The objective of the EIA Notification, 2006 is to set procedures of environmental clearance before establishment of identified nature and size. The suitability of site for a proposed development is one of primary concerns in according environmental clearance to a project.

The applicant will have to furnish, along with the application, in addition to Form 1 and the supplementary Form 1A, a copy of the conceptual plan. The details of the categories mentioned in the given schedule are as follows:

Project or Activity		Category with threshold limit - B Category	General Conditions
8.	**Building /Construction projects/Area Development projects and Townships**		
8(a)	Building and Construction projects	≥20000 sq.mtrs and <1,50,000 sq.mtrs. of built-up area#	"Any project or activity specified in Category 'B' will be treated as Category 'A' if located in whole or in part within 10 km from the boundary of: (i) Protected areas notified under the Wildlife

8(b)	Townships and Area Development projects.	Covering an area ≥ 50 ha and or built up area ≥1,50,000 sq .mtrs ++	(Protection) Act, 1972; (ii) Critically polluted areas as identified by the Central Pollution Control Board from time to time; (iii) Eco-sensitive areas as notified under section 3 of the Environment (Protection) Act, 1986, such as, Mahabaleswar Panchangi, Matheran, Pachmarhi, Dahanu, Doon Valley and (iv) inter-state boundaries and international boundaries. Provided that the requirement regarding distance of 10km of the inter-state boundaries can be reduced or completely done away with by an agreement between the respective states or U.Ts sharing the common boundary in the case the activity does not fall within 10 kilometers of the areas mentioned at item (i), (ii) and (iii) above
#(built up area for covered construction; in the case of facilities open to the sky, it will be the activity area)			
++All projects under Item 8(b) shall be appraised as Category B1			

This section of the manual addresses the important issues to be discussed in the environmental impact assessment of building construction projects. Fig.1 shows the EIA clearance process for the building construction, townships and area development projects.

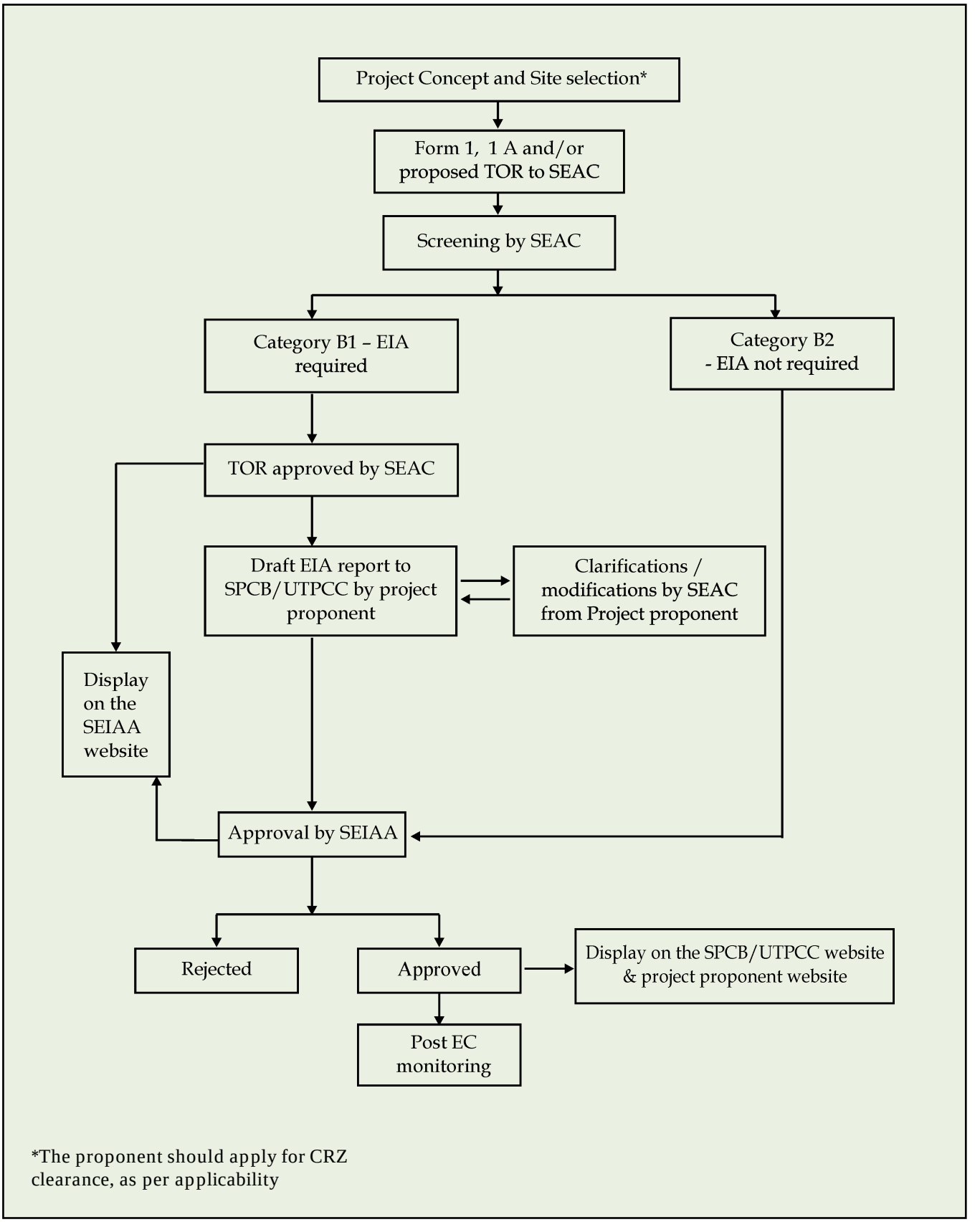

Figure 1.1: Prior Environmental Clearance Process for Category B Projects

The projects requiring an Environmental Impact Assessment report termed Category 'B1' and remaining projects termed Category 'B2' and will not require an Environment Impact Assessment report. For categorization of projects into B1 or B2 except item 8 (b), the Ministry of Environment and Forests should issue appropriate guidelines from time to time. All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction / Township / Commercial Complexes /Housing) shall not require scoping and will be appraised on the basis of Form 1/ Form 1A and the conceptual plan.

- The projects involving clearance under Coastal Regulation Zone Notification, 1991 shall submit with the application a CRZ map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z (at the stage of TOR) and the recommendations of the State Coastal Zone Management Authority (at the stage of EC). Simultaneous action shall also be take to obtain the requisite clearance under the provisions of the CRZ notification, 1991 for the activities to be located in the CRZ
- The projects to be located within 10km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory corridors of wild animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon (at the stage of EC)
- All correspondence with the Ministry of Environment & Forests including submission "of application for TOR/Environmental Clearance, subsequent clarifications, as may be required from time to time, participation in the EAC meeting on behalf of the project proponent shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project"

Ref:- EIA notification - Amendment 2009

1.3 Terms of Reference (TOR)

The terms of reference (TOR) pertinent to preparation of EIA study reports for building construction, township and area development projects is attached as Annexure 1 to this EIA guidance Manual. TOR relevant to individual projects is to be added by the proponent and should be submitted with the application along with 'Form 1' and 'Form 1A' and the State Level Expert Appraisal Committee. The issues are addressed separately for building construction projects and townships and area development projects.

1.4 Validity of Environmental Clearance

The prior environmental clearance granted is valid for a period of five years. The regulatory authority concerned may extend this validity period by a maximum period of five years provided an application is made to the regulatory authority by the applicant within the validity period, together with an updated Form 1, and Supplementary Form 1A, for construction projects or activities (item 8 of the schedule)

1.5 Post Environmental Clearance Monitoring

For category B projects, irrespective of its clearance by MoEF/SEIAA, the project proponent shall prominently advertise in the newspapers indicating that the project has been accorded environmental clearance and the details of MoEF website where it is displayed.

The Project management shall submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions on 1st June and 1st December of each calendar year. All such reports shall be public documents.

1.6 Transferability of Environmental Clearance

A prior environmental clearance granted for a specific project or activity to an applicant may be transferred during its validity to another legal person entitled to undertake the project or activity on application by the transferor or the transferee with a written "no objection" by the transferor, to, and by the regulatory authority concerned, on the same terms and conditions under which the prior environmental clearance was initially granted, and for the same validity period.

1.7 Generic Structure of Environmental Impact Assessment Document

In terms of the EIA notification of the MoEF dated 14th September 2006, the generic structure of the EIA document should be as under:

- Introduction
- Project Description
- Description of the Environment
- Anticipated Environmental Impacts & Mitigation Measures
- Analysis of Alternatives (Technology and site)
- Environmental Monitoring Programme
- Additional Studies
- Project Benefits
- Environmental Management Plan
- Summary & Conclusion
- Disclosure of Consultants engaged

1.8 Identification of Project Proponent

Profile of the project proponent, contact address with e-mail, fax, phone number etc should be furnished. All correspondence with MoEF shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project

1.9 Brief Description of Project

In this section details of the project nature, size, location and its importance to the country and the region are to be included. Project site description; survey/khasra nos, village, tehsil, district, state & extent of the land, latitude & longitude of the boundaries are to be furnished.

Description of existing national and international environmental laws/regulations on the proposed activity is to be brought out clearly. If there are any notified restrictions/limitations from environmental angle, issued by the district administration, State or Central government, the same should be furnished. Details of litigation(s) pending against the project/ proposed site and or any direction passed by the court of law against the project, if any, should be stated.

In case of expansion/ modernization of the project, the environmental compliance status for the existing project should be furnished for the following:

- Status of Environmental Clearance and compliance for the terms & conditions for the existing project
- Validity of the Air & Water Consent orders, and Hazardous Waste Authorization (HWA) from SPCB/ PCC for existing project
- Notices/directions issued by the regulatory agencies under section 33(A) of the Water Act, 1974 as amended, under section 31(A) of the Air Act 1981 as amended and any directions issued under the provisions of the E (P) Act, 1986 during the last one year.

2

PROJECT DESCRIPTION

2

2.0 General

This chapter on project description in the EIA study report to be prepared by the proponent should include the following aspects:

- Purpose of the project, goals and objectives of the proposed project
- Overall suitability of the site and the proposed activity in light of the existing environmental acts and serious deviations, if any.

2.1 Description of the Project

Location (use maps showing general location, specific location, project boundary and project site layout).

Essential Toposheets / Maps to be Provided with TOR application

A map of the study area 500meters from the boundary of the project area, delineating the major topographical features such as land use, drainage, locations of habitats, major constructions including roads, railways, pipelines, industries if any in the area are to be mentioned.

A map covering aerial distance of 15 kms from the boundary of the proposed project area delineating environmental sensitive areas as specified in Form I of EIA notification dated 14th Sept. 2006. In the same map the details of environmental sensitive areas present within a radial distance of 1 Km from the project boundary should be specifically shown.

Remote Sensing Satellite Imagery

Land use map of the study area in 1:10,000 scale based on high resolution satellite imagery delineating the forest, agricultural land, water bodies, settlements, and other cultural features.

Digital Elevation Model / Contour Map

Contour map on 1:10000 scale for the study area showing the various proposed break-up of the land.

Description of the project site, geology, topography, climate, transport and connectivity, demographic aspects, socio, cultural and economic aspects, villages, settlements should be given.

Details of environmentally sensitive places, land acquisition, rehabilitation of communities/ villages, present status of such activities are to be mentioned.

Historical data on climate conditions such as wind pattern, history of cyclones, storm surges, earth quake etc., for the last 25 years are to be given. An analysis and interpretation of the data has to be given by the project proponent.

Detailed layout plan of proposed project development, communication facilities, access/approach roads, landscape, sewage disposal facilities, and waste disposal etc; to be given. Layout plan of

proposed development of built up areas with covered construction such as buildings, recreational facilities, DG set rooms, water supply installations etc; are to be given. Requirement of natural resources and their sources are to be detailed out.

Litigations if any: In some of the states, there may be some litigation in process between public / State Govt. agencies/ other industries and the project proponent or other projects relevant to the project proposed. In such cases, court rulings / directions on the matter may be mentioned. These may be studied and highlighted in the project report to avoid loss of time and money in planning the project.

2.2 Site Selection

Development of new construction projects, should not have a negative impact on the existing bio diversity and ecosystem of the site. Development of the project on the located site should not disturb sites with heritage and cultural values such as protected monuments. Geographical latitude and microclimatic factors such as wind loads and solar access should be assessed. The way in which a building or group of buildings are sited in relation to other buildings, natural topography and landscape should be given clearly.

The factors which should influence site selection for the development of a project are the infrastructure and utilities available, expected water and power requirement by the proposed new buildings and feasibility study of how much is available and what is the source of supply for power and water. The developer should submit the list of items asked in Form 1 and 1A.

Site selection should be carried out in light of a holistic perspective of land use, development intensity, social well-being and preservation of the environment.

Proposed land use must conform to the approved Master Plan/Development plan of the area. If there is no approved Plan, consent from appropriate authority should be taken and should be submitted for Environment clearance. If the area is outside municipal limits /outside planning area, full justification for the proposed development should be provided.

2.3 Manpower Requirement

The proponent should indicate the requirement of various categories of manpower such as skilled, semi-skilled, unskilled workers, technicians, engineers, and managers during the construction phase.

The proponent should give the details of compliance of Acts related to employees' service and their welfare measure as per the provisions of government of India. This is because the building and other construction works is characterized by its casual nature, temporary relationship between employer and employee, uncertain working hours, lack of basic amenities and inadequacy of welfare facilities.

The following are the Acts for compliance by proponent regarding Manpower employment. The proponent should follow any later modification or Revisions for these Acts automatically

- Minimum Wages Act 1948,
- Contract Labour (Regulation & Abolition) Act1970

- Inter-State Migrant Workmen (Regulation of Employment & Conditions of Services) Act 1979
- The Building and other construction workers (Regulation and Employment of Service) Act, 1996
- The Building and other construction workers Welfare Cess Act 1996.

2.4 Project Implementation Schedule

The proponent should also submit the detailed project implementation schedule bar chart, CPM / PERT chart etc., duly bringing out interrelationship of major activities.

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3

DESCRIPTION OF THE ENVIRONEMENT

3.0 Introduction

Environment facets to be considered in relation to building construction are: (a) land (b) air (c) noise (d) water (e) biological (f) socio-economic and (g) solid waste management. Hence it is necessary to ascertain the baseline data of these environmental facets.

Study Area

In the case of building construction projects, EIA guidelines are specifically mentioned in Form 1A of EIA notification 2006. The following details are to be given:

1. Site development area
2. Area with angular distance of 500 meters surrounding the site.

The project study area comprises the site earmarked for building construction with specified surrounding area. The baseline data collection / monitoring should be from primary and secondary sources and field monitoring studies. When secondary data is used source of data is to be mentioned clearly. The period of study for collecting primary data would be one season other than the monsoon season.

3.1 Land Environment

Existing status of baseline conditions of land use can be determined by studying the changes in the land use pattern in the past 10yrs by collecting data from secondary sources such as census records, agricultural census and land records. The land use pattern covering forest land, total irrigated land, non-irrigated land, cultivable waste, are to be calculated and given as a map (Annexure 2).

Mainly climate, geology, relief and other biotic interactions influence soil formation. The soil characteristics in the project area, which would affect the agricultural and afforestation potential of the area need to be studied. Particle size scale is to be given based on the texture analysis. Soil porosity and SAR ratios are important and are to be assessed for all locations. The samples are to be collected and analyzed as per CPCB norms (Annexure 3). The hydraulic conductivities in soil are important for building construction activities and are given in Annexure 4. The rating chart for the soil test values for primary nutrients is given in Annexure 4. The physical and chemical properties of soil are to be analysed and presented as given in Table 3.1 and 3.2

3.2 Water Environment

The physiography of the land will control the drainage pattern in the region. The drainage pattern in the area is to be drawn. Hydro-geological settings and the ground water levels are to be

examined and presented. Ground water and surface water in the study area is to be collected as per CPCB norms (annexure 3) and examined for physico- chemical, heavy metals and bacteriological parameters. The drinking water and fresh water standards are given in Annexure 5. These projects create a continuous demand on the water resources. As per BIS, for residential buildings with a population of 20,000-1,00,000, the per capita consumption is 100-150 lpcd and for those with population above 1,00,000, the consumption is 150-200 lpcd. Out of the 150 to 200 litres per head per day, 45 litres per head per day for flushing requirements and the remaining quantity for other domestic purposes. For the other types of buildings, the water requirement varies between 30 to 340 lpcd. The water requirements for different type of buildings are given in Annexure 6. The format for ground water quality data presentation is given in Table 3.3 and Table 3.4 and for surface water quality as shown in Tables 3.5 and 3.6.

3.3 Air Environment

The climatic data procured from secondary sources is very important for identifying the season and period of monitoring primary data. The climatic data can help in using suitable building technologies and energy conservation measures. The methodology to be adopted for collection of climatic data specific to the site is to compile the mean monthly normals of atmospheric parameters, form previous 10yrs data recorded by the nearest IMD station. Wind Roses for each month giving the wind direction speed are to be collected and presented. Most probable wind speed class and wind direction at the nearest IMD site is to be estimated from this.

Baseline data of air pollutant parameters extending an area of 500meters from the project should be monitored at a number of locations. Description of baseline data of ambient air parameters namely RSPM, nitrogen dioxide, sulphur dioxide, and carbon monoxide are to be collected. One season data is to be monitored other than monsoon as per the CPCB Norms. Sampling locations are to be located as per CPCB norms. The air quality standards are given in Annexure 7. Number and locations of Ambient Air quality monitoring (AAQM) stations are decided based on the nature of project, meteorological conditions, Topography, selected pollution pockets in the area and likely impact areas. The parameters measured, frequencies of sampling, technique to be as prescribed by CPCB are given in Annexure 3. The monitoring locations for air quality are to be given as shown in Table 3.7. The monitoring locations are to be shown on the area map. The data is to be shown as represented in Table 3.8.

3.4 Noise Environment

Construction equipment and road traffic are the major sources of noise. Baseline data of noise at the project area and the neighbourhood habitat areas is to be ascertained. Day-time and night-time data should be collected and presented as shown in Table 3.9. The parameters, frequencies of sampling are shown in Annexure 3 and the standards for noise are given in Annexure 8.

3.5 Biological Environment

Baseline data from field observations for various terrestrial and aquatic systems are to be generated. Wild life sanctuaries and National parks location within 10km radius from project boundary are

identified based on secondary data. Primary data on survey of the wild animals and birds in the study area is collected and identified with the classification into various schedules taken from secondary data.

3.6 Socio-economic Environment

Baseline data on the socio economic environment in the study area is to be collected. The issues to be focused include demographic structure, economic activity, education, literacy profile, land use and infrastructure resources. Primary data through designed questionnaires from the house hold survey within the study area is collected and from secondary sources represented as shown in Table 3.10 and 3.11. The demographic details consisting of population distribution, Average household size, population density, sex ratio, social structure and literacy levels within project study area are concluded from this data collected.

3.7 Solid Waste

Present data available on solid waste generated in the area are to be collected. If possible the present quantities of wastes – hazardous, biomedical and non-hazardous generated in the study are to be collected and presented.

ANTICIPATED IMPACT AND MITIGATION MEASURES

4.0 Introduction

Impacts can be classified in the presentation as direct, indirect and cumulative impacts. These can be further subdivided for convenience and clarity to positive and negative impacts, random and predictable impacts, local and widespread impacts, temporary and permanent impacts, long term and short term impacts. The report should preferable cover the impacts as discussed above. Identification and assessment of environmental liability of earlier use of the project site, especially if there had been an industrial unit at that site is to be clearly mentioned.

Suitable avoidance / mitigation methods can be given for each of the alternatives provided. The most feasible one can be chosen by the project proponent. The list of critically polluted areas identified by CPCB is given in Annexure 9.

Prediction of Impact During Construction Phases

The activities that take place during construction phases of the project are leveling of site, construction and erection of buildings etc., and associated equipments in operation. The potential primary and secondary impacts on the environment, their prediction, significance and mitigation are to be discussed. Dismantling of unwanted existing structures, site clearance, storage and haulage of construction materials, and disposal of surplus earth, debris and refuse is to mentioned clearly in the report.

Prediction of Impact During Operational Phases

The potential significant impacts are on topography, land use, soil quality, ambient air quality, noise levels, traffic densities, water resources, water quality, biological environment, demography and socio-economics. During construction and operational phase of the project, various activities may have impact on some or other environmental parameters. Various environmental attributes are to be studied during these phases for their overall impact on the surrounding environment.

4.1 Land Environment

Anticipated Impact

Impacts caused due to activity have to be identified and mentioned clearly in the EIA report. Some of the impacts could be

- Compaction of soils by earth moving equipment
- Erosion and modification of surface
- Over exploitation of agricultural soils due to future development in a zone sensitive to erosion
- Irreversible salinization and acidification of mangrove swamp soils

Mitigation Measures

Some mitigation measures are given below. These measures may be used wherever applicable

- The environmental impact of soil erosion can best be mitigated by removing vegetative cover only from the specific site on which construction is to take place and by disturbing the vegetation in adjacent areas as little as possible. Land clearing activities should be kept to the absolute minimum and use crushed stone rather than asphalt or concrete for surfacing parking areas should be attempted.
- Disturbing the existing vegetation and natural contour of the land as little as possible can mitigate increases in surface runoff. Vegetation along watercourses should not be cleared indiscriminately. Neither should potholes or swamps be drained unless absolutely necessary for successful completion of the activity.
- Construction, land management, or mining activities that result in the soil being laid bare could be scheduled in such a way that some type of vegetative cover appropriate to the site could be established prior to the onset of intense rain or windstorms. If grass is to be seeded, mulch of straw will help to protect the soil from less extreme erosive forces until vegetative and root development begins.
- Natural drainage patterns can often be maintained by preparing sodden waterways or installing culverts.
- Steep slopes can be terraced, thereby effectively reducing the length of slope.
- Check dams built near construction sites can reduce the quantity of eroded soil particles reaching free-flowing streams or lakes.
- Use of "floating" foundations and height restrictions in earthquake zones and increased foundation height, wall strength, and roof support in areas periodically subject to cyclones can reduce the hazards.
- All forms of temporary structures should be avoided from the flood plain, and all permanent structures should be raised to a height above the level which flood waters can be expected to reach once every 100 years (100-year flood).
- Installation of underground drainage structures helps to reduce sediment loads
- Engineering plans can be drawn to reduce the area of earth cuts on fills below what might otherwise be acceptable, provide physical support for exposed soil or rock faces, concentrate or distribute – as appropriate the weight loading of foundations to areas or state better able to support that weight, restricting the number, frequency and area of movement of heavy machinery
- Compatibility between adjacent land uses can best be assured by providing a green belt between the proposed activity and nearby properties where any significant degree of incompatibility is likely to result.

4.2 Water Environment

Construction Phase

The construction phase would involve water requirements for the following activities

- site preparation: Involves levelling for infrastructure development and removal of vegetation. Water is required for dust settlement, consolidation, compaction and curing.
- Construction of building infrastructure involves water for construction activities and domestic and other water requirements for labour and staff onsite.
- The period of this activity is the be mentioned

Impact Prediction

- Use of large quantities of water in curing
- Use during the operational phase by residence for routine activities

Mitigation Measures

Measures for reducing water demand during construction

To avoid wastage of curing water, following guidelines are to be followed:

- Curing water should be sprayed on concrete structures; free flow of water should not be allowed for curing.
- After liberal curing on the first day, all concrete structures should be painted with curing chemical to save water. This will stop daily water curing hence save water.
- Concrete structures should be covered with thick cloth/gunny bags and then water should be sprayed on them. This would avoid water rebound and will ensure sustained and complete curing.
- Ponds should be made using cement and sand mortar to avoid water flowing away from the flat surface while curing.
- Water ponding should be done on all sunken slabs, this would also highlight the importance of having an impervious formwork.

The quantity of ground water usage and waste water generated during both the phases is to be estimated based on the population, reuse and recycle activities planned. Based on the quantification of waste water, the treatment plants should be suitably designed. The effluent discharge standards are given in Annexure 10.

4.3 Air Environment

Anticipated Impact

Construction phase would involve site clearances and preparation, infrastructure development, building construction and other related activities and

Operational phase would involve emission from vehicular movement and diesel generators, and negligible emissions from sewage and solid waste handling and disposal.

The building material carrying vehicles as well as the construction machinery generate emissions

and pollute the environment. Dusts include brick and silica dusts, wood dust from joinery and other woodworking and from earthmoving and other vehicle movements within the site. Asbestos-containing dust especially during the demolition of buildings is very harmful. It is a difficult task to separate these wastes. Construction machineries pose a special threat to air quality. It is estimated that construction machineries emit toxic pollutants and are sources of fine particulate matter (PM2.5, which lodges deeply in the human lung) and oxides of nitrogen (NOx), a key ingredient in the formation of ground-level ozone and urban smog.

Mitigation Measures

The mains concerns during demolition activities are the emissions generated by the vehicles and the machineries. Air Pollution may be caused by areas or point sources such as cities, industrial areas, factories or by linear sources such as highways. Vegetation buffers can minimize the built–up of pollution levels in urban areas by acting as pollution sinks.

- Wind erosion is a serious problem in areas where the ground is virtually bare and devoid of vegetation. Vegetation methods are found to be most effective in the form of windbreaks and shelterbelts.
- A dense belt provides greater shelter immediately to leeward but the sheltered area is not as extensive as when a more permeable zone of vegetation is provided.
- Plants are good absorbers of sulphur dioxide. Parks with trees have an SO_2 level lower than city streets.
- Heavy roadside planting in the form of shelterbelts can result in reduction in airborne lead
- Complete dust interception can be achieved by a 30 m belt of trees. Even a single row of trees may bring about 25 percent reductions in airborne particulate.
- Evergreen trees are found to be more effective.
- The species chosen must be resistant to pollutants, particularly in the early stages of their growth.

Mitigation Measures for Dust Control

Adopting techniques like, air extraction equipment, and covering scaffolding, hosing down road surfaces and cleaning of vehicles can reduce dust and vapour emissions. Measures include appropriate containment around bulk storage tanks and materials stores to prevent spillages entering watercourses.

The other measures to reduce the air pollution on site are:

- Sprinkling of water and fine spray from nozzles to suppress the dust.
- On-Road- Inspection should be done for black smoke generating machinery.
- Promotion of use of cleaner fuel should be done.
- All DG sets should comply emission norms notified by MoEF.
- Vehicles having pollution under control certificate may be allowed to ply.

- Use of covering sheet to prevent dust dispersion at buildings and infrastructure sites, which are being constructed.
- Use of covering sheets should be done for trucks to prevent dust dispersion from the trucks, implemented by district offices.
- Paving is a more permanent solution to dust control, suitable for longer duration projects. High cost is the major drawback to paving.
- Reducing the speed of a vehicle to 20 kmph can reduce emissions by a large extent. Speed bumps are commonly used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, it may be necessary to divert traffic to nearby paved areas.

Material storages / warehouses – Care should be taken to keep all material storages adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions. Fabrics and plastics for covering piles of soils and debris is an effective means to reduce fugitive dust.

4.4 Noise Environment

Anticipated Impact

During the construction phase of the site, the following source of noise pollution is expected:

- Construction equipment

During operational phase the following sources of noise pollution is expected:

- Diesel generator operations
- Increase in transport noise from within the site from near by roads.

Mitigation Measures

It is important that no new development is carried out within areas where expected noise levels will cause mental and physical fatigue or permanent loss of hearing. In case development in such areas is essential, adequate sound insulation should be provided for the building. There are two ways of applying controls or measures. The first is to plan so as to keep the noise at a distance. Under this aspect comes the separation of housing from traffic noise by interposing buffer zones, and the protection of schools and hospitals by green belts, public gardens, etc. The second is the principle of shading or screening. Use of noise deflectors can also help in reducing the noise. This consists of deliberately interposing a less vulnerable building to screen a more vulnerable one or by providing a solid barrier such as a wall between the source and the location to be protected.

Setting up the barriers: National Building Code 2005 suggests that design solutions such as barrier blocks should be used to reduce external LA10 noise levels to at least 60-70dB(A) at any point 1.0 m from any inward looking façade. Green belts and landscaping could act as an effective means to control noise pollution. In case of railway tracks, a minimum distance of 50m to 70m may be provided between the buildings and the tracks. Thick belts of planting greater than 30 meters are useful for cutting the noise levels from road traffic. Strong leafy trees may be planted to act as noise baffles. Shrubs and creepers may also be planted for additional protection between tree

trunks; artificial mounds and banks should be formed where practicable. As little hard paving and as much grass as possible may be used. The creation of green belt is particularly advisable on the perimeter of aerodromes, along railway lines and arterial roads, through or past built up areas and adjoining industrial zones.

Control of noise from Air traffic: The problem caused by aircraft noise have become very acute, therefore a commonly used criterion is the noise exposure forecast (NEF). Aircraft noise can seriously affect living conditions no matter how much insulation has been applied. For this reason it is recommended that no residential development should be allowed beyond NEF 35 level. For very critical buildings such as buildings necessary for maintaining and supplementing the airport services, and for commercial development, such as hotels, it is possible to provide sealed windows and to centrally air condition the entire building.

Control of noise from railway lines: Wherever possible no residential or public building zone should be along the railway lines. The appropriate zones along side railway lines are industrial and commercial buildings other than office buildings.

Control of noise from road traffic: Trees with heavy foliage planted on both sides of carriage way help slightly muffle the noise provided; the foliage extends for a considerable distance of 30m or above.

4.5 Biological Environment

The mitigation measures should be suggested that will help in reducing the impact on terrestrial ecology and aquatic ecology. Massive plantation, landscaping are to be ensured in the new construction areas. Also trees, plants should be identified for specific areas so that the plants survive in these conditions. The few common pollutant resistant species are given in Annexure 11.

4.6 Socio- economic

Anticipated Impact

The impact on the socio-economic status of the people in the area is to be studied and detailed out. Positive impacts could include job creation, preservation of environment, infrastructure development and benefits to local population by way of job opportunities. Long term impacts include aspects of demography, aesthetics, and archeological sites. Negative impacts include impacts on cultural aspects and well being.

Construction activities generate large volumes of particulate matters during construction work leading to air pollution. Unhygienic site sanitation facilities cause damage to environment and to health of the construction workers. Buildings sensitive to the environment and its resources should address these issues.

Mitigation Measures

The objective is to ensure health and safety of the workers during construction, with effective provisions for the basic facilities of sanitation, drinking water, safety of equipments or machinery etc. Following are some of the recommendations to be followed:

- Comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 _Constructional practices and safety, 2005, National Building code of India, Bureau of Indian Standards
- Provide clean drinking water to all workers
- Provide adequate number of decentralized latrines and urinals to construction workers.
- Guarding all parts of dangerous machinery.
- Precautions for working on machinery.
- Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
- Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
- Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
- Provide protective equipment; helmets etc.
- Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
- Provide sufficient and suitable light for working during night time.
- Dangers, health hazards, and measures to protect workers from materials of construction, transportation, storage etc.
- Safety policies of the construction firm/division/company.

4.7Solid Waste

The construction phase waste will comprise of excavated and demolition material while operational phase waste may comprise of domestic, commercial and biomedical wastes, depending upon the type of the project. The different types of wastes need to be handled as per their needs and regulatory requirements. It is not possible to dispose off all type of wastes onto the land and has to be dealt with depending upon their type and characteristics. Building construction leads to generation of sand, gravel, concrete, stone, bricks, wood, metal, glass, polythene sheets plastic, paper etc. as waste.

Type of wastes, which are generated, can be classified into four categories.

1. Construction or demolition waste, i.e., massive and inert waste
2. Municipal waste, i.e., biodegradable and recyclable waste
3. Hazardous waste,
4. E-waste

The waste characterization in constructional stage should be estimated by reviewing other similar already existing projects and given in tabular form. Similarly wastes generated in operational phase should be estimated and classified as

- biodegradable
- recyclable
- inert
- hazardous

and quantified for percentage composition estimation.

Construction and Demolition Waste Management

The construction and demolition waste includes debris, concrete (often recycled and reused at the site), steel and other metals, pallets, packaging and paper products, fluorescent tubes, wood beams, joists, studs, baseboards, cabinets and cupboards, railings, brick, doors and casings, interior windows, bathroom fixtures, light fixtures, ceiling grid and tile, furnishings, replant trees, shrubs. Orderly deconstruction is the proper measure for reuse of the demolished matter. In contrast to demolition, where buildings are knocked down and materials are either land filled or recycled, deconstruction involves carefully taking apart portions of buildings or removing their contents with the primary goal being reuse. It can be as simple as stripping out cabinetry, fixtures, and windows, or manually taking apart the building frame. Gross segregation of construction and demolition wastes into roadwork materials, structural building material, salvaged building parts and site clearance wastes is necessary. Additional segregation is required to facilitate reuse/ recycling.

Disposal of excess earth that is unearthed due to the construction activity is to be properly undertaken.

Waste recycling plans should be developed for construction and demolition projects, prior to beginning construction activity. The plans should identify wastes to be generated, and designate handling, recycling and disposal method to be followed. Handling of waste material requires special precautions such as personal protective equipment and special procedures to prevent the injury. Developers must operate safe methods for waste collection, storage, and disposal operations in a manner to protect the health and safety of personnel, minimize environmental impact and promote material recovery and recycling.

Solid Waste During Operational Phase

Adequate provision should be made for storage of solid waste and for easy access to the dustbins;

- for labours from source to the place of storage, and
- from the place of storage to a collection point specified by the waste collection authority and/or contractor
- Three colours of wheeled bins: - dark grey for inert waste, green for wood and ply waste and blue for hazardous waste can be used.

A minimum of 4% of the total site area should be allocated for storage and pre treatment of the waste. This storage area should be covered and the pollutants from the waste should not affect the surrounding.

Access to and from Bin Storage Areas

Wheeled bins should be made access with ramps. To ensure this vehicle access, paths should be

paved and at least 1.2 metres wide with a maximum gradient of 1 in 10. The surface of the path should be smooth, continuous and hardwearing. Ramped kerbs should be provided where the path meets the highway, and bins should not have to pass across designated parking spaces. Where collection vehicles have to enter developments, there should be sufficient space on paved roads with turning circles for easy circulation. This ensures the refuse vehicles to enter the vicinity of the site without being prevented from doing so by cars parked close to the entrance. Vehicles should never have to reverse onto or from a highway to make a collection. Roadways used by refuse vehicles must be designed to withstand a laden weight of not less than 28 tonnes.

Municipal Solid Waste Management

Waste generated by users- Domestic wastes food leftovers, vegetable peels, plastic, house sweepings, clothes, ash, etc. commercial waste generally comprises of paper, cardboard, plastic, wastes like batteries, bulbs, tube lights etc.

Three-bin system is a good option for segregation at household level. Storage facilities should be created and established by taking into account quantities of waste generation in a given area and the population densities. A storage facility should be so placed that it is accessible to users, within a radius of 25 meter from the source. Local authorities should provide different coloured bins for different categories of waste. Adequate provision should be made for storage of solid waste.

Three colours of wheeled bins: - dark grey for non-recyclable waste, green for kitchen food/ compostable garden waste and blue for paper (generally used for flats, schools, offices etc). In addition, boxes must be provided for the collection of other recyclable materials; a green box is used for paper and a black box is used for cans and plastic collections. Individual properties should be allocated a 20-litter bin although for single-family occupancy. Boxes should have lids. Flats and multi-storeyed buildings should have bulk dustbin type container, with a general guide of one 1100 litre bin being adequate for every 60 units, for smaller blocks. The one to five ratio outlined above could be increased or decreased according to the number or properties with greater or less than two bedrooms per unit. The ratio of approx one paper bin to three residual waste bins is only a guide. Waste and Cleansing Section can advise on individual cases.

Hazardous Waste Management

Products, such as paints, cleaners, oils, batteries, and pesticides that contain potentially hazardous ingredients require special care when you dispose of them. Improper disposal of household hazardous wastes can include pouring them down the drain, on the ground, into storm sewers, or in some cases putting them out with the trash.

Hazardous wastes from construction and demolition activities are centering oil, formwork oil, tar and tar products (bitumen, felt, waterproofing compounds, etc.), wood dust from treated wood, lead containing products, chemical admixtures, sealants, adhesive solvents, Explosives and related products and equipment used in excavation, acrylics, and silica, etc. The dustbins for these wastes should be made of durable materials like metal, HDPE, fibre glass and masonry if the projects spans for more than a year.

List of Hazardous wastes from construction projects

- Asbestos products – insulation, tiles etc
- Fuels and Heating oils and other volatile / flammable liquids such as coolants, grease etc.
- Centering oil, formwork oil

- Tar and Tar products (bitumen, felt, water proofing compounds etc.)
- Lead containing products
- Chemicals, admixtures, sealants, adhesives solvents etc.
- Paints, pigments, dyes and primers
- Pesticides
- Tarpaulin
- Explosives and related products and equipment used in excavations
- Product packaging (cement bags, cartons, containers, plastic covers etc.)
- Plastics, Acrylics, Silica, PVC
- Fluorescent Lamps Intact and Crushed, Halogen Lamps, Arc Lamps, UV Lamps, High Pressure Sodium Lamps, , Neon Lamps, Incandescent Lamps.
- Mercury Containing Lamps and Tubes, Mercury Vapour Lamps, Mercury Containing Devices – Mercury switches, relays, regulators, thermostats, thermometers, manometers and debris containing mercury
- All types of Batteries
- Electronic Ballasts, PCBs, Transformers, capacitors, switchgear, Lead Cable, Oil filled / gel filled cables
- Electronic Waste– computer products, circuit boards, CRTs, electronic parts, solder dross, weld waste.

Due to the characteristics, the wastes generated from the healthcare establishments are also hazardous in nature. Biomedical wastes have to be dealt with as per the Biomedical Wastes (Handling & Management) Rules, 2000.

- Lead based paints and other hazardous materials may be removed from the structure prior to deconstruction or demolition activities to minimize special handling and disposal requirements for the construction and demolition waste. These activities must be conducted by qualified personnel using appropriate health and safety procedures in accordance with the regulatory requirements.
- Isolated storage for hazardous wastes released from the whole site should be provided on site.
- Source segregation of similar wastes is highly recommended.
- Installation of fire extinguisher is mandatory near storage of hazardous wastes.

E-waste Management

Collection and storage

Various types of electrical and electronic wastes generated in the building, which includes PC in case of offices and homes, Xerox machine components from office and shops, should be collected separately for transportation to the authorized recyclers approved by the state/Central pollution control boards. There should also be provision for storage of these wastes in the building before transportation.

5

ALTERNATIVE TECHNOLOGIES

5.0 General

Consideration of alternative technologies to be used in building material, energy conservation and transportation methods are to be addressed in this chapter.

5.1 Building Materials

The conventional practice of clay, brick consumes large quantity of energy in terms of coal and other fuels which are primarily non-renewable and highly polluting. Water requirements of building industry are also very high. Steel which is used in the construction process is manufactured by non-renewable resource. Normally conventional materials used for construction are non-renewable sources.

Use of alternative technologies for each component of the buildings of envelope, superstructure, finishes and the road and surrounding areas are discussed in detail. Some of them are given below:

- Brick and block products with waste and recycled contents such as fly ash (waste from coal burning plants), blast furnace slag, sewage sludge, waste wood fibre etc.
- Fly ash based lightweight aerated concrete blocks can be used for walls.
- Perforated bricks can be used for wall structures.
- Brick panel with joists, Filler slab roofing, brick funicular shell roofing, RCC channel units, micro-concrete roofing tiles are some of the alternative techniques for roofing.

Some of the alternate materials for openings in construction are:-

- Use of precast thin lintels, use of ferrocement-sunshade cum lintel etc.
- Use of renewable timber for doors and windows
- Use of steel manufactures from recycled content
- Aluminum from verified recycled content
- Saw dust based doors and window frames
- Ferrocement shutters, PVC doors and windows, Rice husk boards, Natural fibre-reinforced polymer composite door panels
- Bamboo based products, bamboo strips boards.
- Alternatives for finishes include Fly ash, Ceramic tiles, Terrazzo floors

The use of the alternatives for building materials will help reduce the use of non-renewable resources and impact on natural resources. The materials used should be mentioned specifically in the EIA report.

Natural Hazard Prone Areas

Areas likely to have moderate to high intensity of earthquake, or cyclonic storm, or significant flood or inundation, or land slides/ mud flows / avalanches etc are identified as risk zones. The structural design of foundation, elements of masonry, timber, plain concrete, reinforced concrete, pre-stressed concrete, and structural steel should conform to the general structural safety of the National Building code (Annexure 12).

Green Buildings

The appearance of a Green Building will be similar to any other building. However, the difference is in the approach, which revolves round a concern for extending the life span of natural resources; provide human comfort, safety and productivity. This approach results in reduction in operating costs like energy and water, besides several intangible benefits. Some of the salient features of a Green Building are:

- Minimal disturbance to landscapes and site condition
- Use of Recycled and Environmental Friendly Building Materials
- Use of Non-Toxic and recycled/recyclable Materials
- Efficient use of Water and Water Recycling
- Use of Energy Efficient and Eco-Friendly Equipment
- Use of Renewable Energy
- Indoor Air Quality for Human Safety and Comfort
- Effective Controls and Building Management Systems

Issues in Green Building

Energy Efficiency and Renewable Energy

- Building orientation to take advantage of solar access, shading, and natural lighting
- Effects of micro-climate on building
- Thermal efficiency of building envelope and fenestration
- Properly sized and efficient heating, ventilating, and air-conditioning (HVAC) system
- Alternative energy sources
- Minimization of electric loads from lighting, appliances, and equipment
- Utility incentives to offset costs

Direct and Indirect Environmental Impact

- Integrity of site and vegetation during construction
- Use of integrated pest management
- Use of native plants for landscaping
- Minimization of disturbance to the watershed and additional non-point-source pollution

- Effect of materials choice on resource depletion and air and water pollution
- Use of indigenous building materials
- Amount of energy used to produce building materials

Resource Conservation and Recycling

- Use of recyclable products and those with recycled material content
- Reuse of building components, equipment, and furnishings
- Minimization of construction waste and demolition debris through reuse and recycling
- Easy access to recycling facilities for building occupants
- Minimization of sanitary waste through reuse of graywater and water-saving devices
- Use of rainwater for irrigation
- Water conservation in building operations
- Use of alternative wastewater treatment methods

Indoor Environmental Quality

- Volatile organic compound content of building materials
- Minimization of opportunity for microbial growth
- Adequate fresh air supply
- Chemical content and volatility of maintenance and cleaning materials
- Minimization of business-machine and occupant pollution sources
- Adequate acoustic control
- Access to daylight and public amenities

Community issues

- Access to site by mass transit and pedestrian or bicycle paths
- Attention to culture and history of community
- Climatic characteristics as they affect design of building or building materials
- Local incentives, policies, regulations that promote green design
- Infrastructure in community to handle demolition-waste recycling
- Regional availability of environmental products and expertise

Building Green concentrates on one key aspect of the greening process: the use of plants on and around urban buildings. Green buildings and greenspaces together define an integrated approach to plant life in cities that is central to any green programme. Trees and shrubs can help reduce overall energy use in buildings. The amount of energy saved depends on the building type, choice of tree species, positioning around the building and the prevailing climate.

Balconies and small terraces have become standard architectural features for multiple dwelling developments. The balcony garden is a natural development of the balcony's role as a link between interior and exterior environments.

Green walls - Modern cities provide enormous areas of wall space, in many cases stretching high above the street. Not all of this space is appropriate for growing plants, but much of it is – certainly much more than has been utilised in recent years.

Roofs present by far the most significant opportunities for the greening of buildings. Many cities have millions of sqmts of unused and unattractive roofs. They represent enormous wasted opportunities for improving the quality of city life. Some of the advantages for green roof include:-

- protection of roof surface from ultra-violet radiation and mechanical damage
- thermal insulation
- acoustic insulation
- lower maintainance costs for roofing materials
- reduction of stormwater runoff
- gardens for inhabitants of buildings
- masks ugly rooftops
- complements building forms
- absorption of CO_2, some air pollutants and dust

GRIHA, an acronym for Green Rating for Integrated Habitat Assessment, is the National Rating System of India. It is a green building 'design evaluation system', and is suitable for all kinds of buildings in different climatic zones of the country (*www.mnre.gov.in and* www.grihaindia.org). The basics benefits of following GRIHA rating system are

- Up to 30% reduction in energy consumption
- Limited waste generation due to recycling
- Less consumption of water
- Reduced pollution load & liability

The details for developing greening of roofs are given in Annexure 20.

5.2 Energy Conservation

There is a need to adopt energy efficient technologies for conservation of energy. This section discusses some important recommendations of the energy conservation building code and the National building code 2005 on energy conservation.

The building form can affect the solar access of the building. The compactness of the building is measured using a ratio of surface area to volume. *Compactness = S/V,*where, S = Surface area and V = volume. The orientation of the building is also an important fact with regard to energy conservation in the building. The building envelope for all air conditioned buildings / spaces are to comply with the ECBC code *(www.beeindia@nic.in).* Roofs and opaque walls should comply

with the maximum assembly U factor or the minimum insulation R-value as given in Table 5.1 and Table 5.2 respectively.

Table 5.1 Roof assembly U-factor and insulation R-value requirements

Climate Zone	24-Hour use buildings Hospitals, Hotels, Call Centers etc.		Daytime use buildings Other Building Types	
	Maximum U-factor of the overall assembly (W/m^2-^0C)	Minimum R-value of insulation alone (m^2-^0C/W)	Maximum U-factor of the overall assembly (W/m^2-^0C)	Minimum R-value of insulation alone (m^2-^0C/W)
Composite	U-0.261	R-3.5	U-0.409	R-2.1
Hot and Dry	U-0.261	R-3.5	U-0.409	R-2.1
Warm and Humid	U-0.261	R-3.5	U-0.409	R-2.1
Moderate	U-0.409	R-2.1	U-0.409	R-2.1
Cold	U-0.261	R-3.5	U-0.409	R-2.1

Source: ECBC Code 2005

Table 5.2 Opaque wall assembly U-factor and insulation R-value requirements

Climate Zone	Hospitals, Hotels Call Call Centers etc.		Other Building Types (Daytime)	
	Maximum U-factor of the overall assembly (W/m^2-^0C)	Minimum R-value of insulation alone (m^2-^0C/W)	Maximum U-factor of the overall assembly (W/m^2-^0C)	Minimum R-value of insulation alone (m^2-^0C/W)
Composite	U-0.352	R-2.35	U-0.352	R-2.35
Hot and Dry	U-0.369	R-2.20	U-0.352	R-2.35
Warm and Humid	U-0.352	R-2.35	U-0.352	R-2.35
Moderate	U-0.431	R-1.80	U-0.397	R-2.00
Cold	U-0.369	R-2.20	U-0.352	R-2.35

The concept of passive solar design emphasizes architectural design approaches that minimize building energy consumption by integrating conventional energy-efficient devices, such as mechanical and electrical pumps, fans, lighting fixtures, and other equipment, with passive design elements, such as building siting, an efficient envelope, appropriate amounts of fenestration, increased daylighting design, and thermal mass. The basic idea of passive solar design is to allow daylight, heat, and airflow into a building only when beneficial.

Passive building design starts with consideration of siting and day-lighting opportunities and the building envelope; then building systems are considered. Almost every element of a passive solar design serves more than one purpose. Landscaping can be aesthetic while also providing critical shading or direct air flow. Window shades are both a shading device and part of the

interior design scheme. Masonry floors store heat and also provide a durable walking surface. Sunlight bounced around a room provides a bright space and task light.

Day-lighting brings light into a building interior and distributing it in a way that provides more desirable and better quality illumination than artificial light sources. This reduces the need for electrical light sources, thus cutting down on electricity use and its associated costs and pollution. The general day-lighting principles include:-

- Avoid direct sunlight on critical tasks and excessive brightness.
- Bring the daylight in at a high location.
- Filter the daylight.
- Bounce daylight off of surrounding surfaces.
- Integrate daylight with other building systems and strategies.

Energy efficient lighting design focuses on methods and materials that improve quality of lighting (Annexure 13). The general lighting systems need to comply with the ECBC code and apply to the following:-

(a) Interior spaces of buildings,

(b) Exterior building features, including facades, illuminated roofs, architectural features, entrances, exits, loading docks, and illuminated canopies, and,

(c) Exterior building grounds lighting that is provided through the building's electrical service.

Exceptions to above:

(a) Emergency lighting that is automatically off during normal building operation and is powered by battery, generator, or other alternate power source; and,

(b) Lighting in dwelling units except for dwelling units where the developer is providing lighting fixtures inside the units (however, common area lighting of residential complexes fall under purview of the code)

Solar photovoltaic systems (SPV) can be used as it is direct conversion of sunlight into electricity and could be a viable option. Street lighting, fixed type solar lighting system are some applications of SPV systems. The recommended values for illuminance is given in Annexure 14.

The design considerations for the air conditioned space, the outdoor design conditions and the minimum fresh air conditioned spaces required are given in Annexures 15 to 17.

Development of Energy Efficient Windows

Indian buildings still lack the use of energy efficient glazing system, whereas more and more buildings are being converted into air-conditioned buildings without implementing any energy efficiency measures in almost all the climatic zones. This indicates a considerable amount of electricity wastage in Indian housing, which can be reduced easily through energy efficient glazing. A significant reduction in specific energy demand is possible just by replacing the current single glazed windows with energy efficient multiple glazed windows. In hot & dry with double glazed,

double glazed Low-E and triple glazed energy efficient windows, savings of 5% to 27% were observed for 10% and 20% glazing area respectively. For other five climatic zones the possible savings are given below.

Energy saving potential of multiple glazed windows over single glazing (24 hours usage)

Window Type	Percentage Area	Specific Energy Demand kWh/m2/a (includes lighting) [Percentage saving as compared to the single glazing]				
		Warm & Humid	Composite	Moderate	Cold & Cloudy	Cold & Sunny
Double Glazed	10%	350[7.8]	299 [11.7]	139 [6.1]	145 [3.9]	472 [9.6]
	20%	385 [7.8]	334 [11.1]	145 [11]	150 [4.4]	514 [10.9]
Double Low-E with Argon	10%	336 [11.5]	286 [15.6]	134 [9.4]	142 [5.9]	428 [19. 2]
	20%	369 [11.7]	323 [14.1]	137 [15.9]	147 [6.3]	446 [25.6]
Triple Glazed Energy Efficient Windows	10%	322 [15.3]	268 [20.9]	124 [16.2]	140 [7.8]	401 [24.3]
	20%	354 [15.3]	307 [18.3]	129 [20.8]	145 [7.6]	431 [28.1]

Source: MoEF manual on Large construction projects

These simulation results are on the basis of 24 hours usage of the building and can fit well for the residential sector. For commercial sector buildings operation for 8 hours a day and 5 days a week, the results indicate a much better saving potential in most of the climates except moderate and cold & sunny because the buildings are in use during day hours. Simulations were carried out for 20% window area (generally practiced in commercial buildings for natural lighting) with 5 days a week and 8 hours of operation. Details of energy saving potential in commercial buildings are given below.

Energy saving potential for commercial buildings of multiple glazed windows over single glazing

Window Type	Percentage saving as compared to the single glazing					
	Hot & Dry	Warm & Humid	Composite	Moderate	Cold & Cloudy	Cold & Sunny
Double Glazed	15.8	8.1	14.3	6.2	5.7	11.3
Double Low-E with Argon	26.1	12.3	14.7	16.2	6.8	26.9
Triple Glazed Energy Efficient Windows	28.1	16.5	18.6	21.5	8.1	28.7

(Source: Inderjeet Singh 2004)

5.3 Transportation

Some of the factors are important and must be taken into the consideration, while planning, are the movement of heavy traffic loads and operation of construction machinery. Construction machinery due to its operation produces smoke, dust and noise and vibration. Internal road design should be done with due consideration for environment, and safety of the people residing or working near the roads. Proper sidewalk should be provided for the residence to commute. The width of sidewalk depends upon the expected pedestrian flows and should be fixed with the help of guidelines given by IRC in IRC: 103-1988 (Annexure 18).

According to population size, the cities have been classified into five categories, i.e., less than 50,000, 50,000 to 2,00,000, 2,00,000 to 10,00,00, 10,00,000 to 50,00,000, and above 50,00,000 and the area requirements for one car parking is given in Annexure 19.

Parking facilities for residence and visitors

- For individual homes it is necessary to provide 1 visitor car park
- For multi dwelling units it is necessary to provide an additional 10% parking area over and above the normal parking requirements
- Design of the building is to ensure that adequate parking provisions are made to cater to the occupants as well as visitors
- The parking provisions should take into consideration the two wheelers and four wheelers. It is also desirable to design parking facilities with basement / stilts parking to reduce the heat island effect. When inevitable the surface parking planned should cover issues to address heat island effect.
- It is also desirable to have electric charging facility for vehicles which could cater for both two and four wheelers.
- Parking provision for bicycles
- Internal Circulation to provide for movement of fire tender, paving that permits infiltration of rain water, avoidance of very sharp and blind corners
- Elimination of risks to children and old people in crossing the internal roads to reach play areas and recreational facilities.

6

ENVIRONMENTAL MONITORING PROGRAM

6.0 General

This includes the technical aspects of monitoring the effectiveness of mitigation measures (including measurement methodologies, data analysis, reporting schedules, emergency procedures, detailed budget and procurement schedules). The details should include:

- Summary matrix of environmental monitoring covering location of monitoring stations, frequency of sampling, method of sampling analysis and data evaluation - during construction and operational stages
- Requirement of monitoring facilities
- Frequency of air quality monitoring of stack emission, static background dust sampling at project boundary
- Stack monitoring provisions as per CPCB norms
- Changes with reference to base line data and compliance to accepted norms
- Plantation monitoring programme and greening of roof tops etc (Annexure 20)

The description of the monitoring programme should include:

(a) A technical plan which spells out in detail the methodologies for measurement, the required frequencies of measurement, the planned location of measurement, data storage and analysis, reporting schedules and emergency procedures, and

(b) Detailed budgets and procurement schedules for, necessary equipment and supplies, technical and administrative man power.

The environmental monitoring includes

- Air pollution
- Noise level monitoring
- Water quality monitoring and ground water level monitoring
- Maintenance of rainwater harvesting pits and other water conservation methods used are to be done regularly (Annexure 21).

The entire data is to be furnished to the regulatory agencies.

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ADDITIONAL STUDIES

7.0 General

This chapter covers the risk assessment and disaster management plan. Apart from these, R & R Action Plan and Natural Resource Conservation plan are also included in this chapter.

7.1 Risk Assessment and Disaster Management Plan (DMP)

Emergency prevention through good design, operation, maintenance and inspection are essential to reduce the probability of occurrence and consequential effect of such eventualities. The overall objective of the Emergency Response Plan ERP is to make use of the combined resources at the site and outside services to achieve the following:-

- Localize the emergency
- Minimize effects on property and people
- Effective rescue and medical treatment
- Evacuation

Major hazards identified include:-

- Hazards pertaining to fires in buildings
- Fire in diesel storage areas
- Earthquakes
- LPG gas leak

7.2 Natural Resource Conservation

Plan of action for conservation of natural resources and recycle waste materials due to the project activity in the construction and operational phase of the project is to be discussed.

7.3 R&R Action Plan

Detailed R&R Plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment for the displaced people, civil and housing amenities being offered, etc and the schedule of he implementation of the project specific R&R Plan if any is to be given. Details of provisions (capital & recurring) for the project specific R&R Plan .

8

PROJECT BENEFITS

8.0 General

This chapter should include benefits accruing to the locality, neighborhood, region and nation as a whole. It should bring out details of benefits by way of:

- Improvements in the physical infrastructure of project, ancillary industries that may come up on account of the project.
- Improvements in the social infrastructure like roads, railways, townships, housing, water supply, electrical power, drainage, educational institutions and hospitals etc.
- Employment potential skilled; semi-skilled and unskilled labour both during construction and operational phases of the project with specific attention to employment potential of local population as well as necessity for imparting any specialized skills to them to be eligible for such employment in the project on a long term basis i.e., during operational and maintenance stages of the project

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ENVIRONMENTAL MANAGEMENT PLAN

9.0 General

Environmental Management Plan (EMP) deals with evaluation of significance of unavoidable or residual impacts following mitigation and the proposed monitoring. The Environmental Management Plan (EMP) is needed to ensure that the mitigation measures specified in the EIA will actually be complied with when the project is approved for implementations. The administration of EMP may be required the establishment of an Environmental management cell to house monitoring staff after the closure of the EIA office. Funding to cover the costs of establishing and operating an appropriate Environmental Management Cell to administer the EMP should be guaranteed in the basic project budget.

The EIA report should include a description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of EIA. The environmental management plan should clearly mention the landscaping and the tree plantation to be taken up in the area. Also the parks and gardens if any to be developed are to be mentioned. The total number of plantations to be developed in the area is to be mentioned.

The plans to be adopted for handling of the domestic wastewaters and the solid waste management plan are to be detailed out.

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10

SUMMARY AND CONCLUSIONS

10.0 General

The summary should be a clear presentation of the critical facts that make up each issue, and the resolution of the issues. Whenever possible, the summary should make use of base maps, tables and figures. Information should be condensed into succinct, but meaningful presentations. It must be able to stand alone as a document. It should necessarily cover and brief the following chapters of the full EIA report and address the following:-

- Introduction
- Project description & Project benefits
- Environmental Examination
- Additional Studies
- Environmental Management Plan and Post Project Monitoring Program
- Environmental Risk Assessment (ERA) and Disaster Management Plan (DMP)

The following should be highlighted in the EIA report

- Public health and safety issues related to the project;
- The socio-economic impacts of the project;
- New building technologies to be implemented
- Energy conservation measures to be implemented
- Statement of overall impact of the construction activity on the environment.

11

DISCLOSURE OF CONSULTANT ENGAGED

11.0 General

The EIA consultants shall have accreditation with Quality Control of India (QCI)/National Accreditation Board of Education and Training (NABET) as per office memorandum dated 2nd December 2009 of MoEF. This chapter shall include the names of the consultants engaged with their brief resume and nature of consultancy rendered. The consultants shall include the copy of the accreditation certificate and data provided by the other organizations/ laboratories including their status of approvals etc.

11

Section B
TOWNSHIP
AND
AREA DEVELOPMENT PROJECTS

1

INTRODUCTION

1.0 Preamble

This section of the manual provides information and guidance on Environmental Impact Assessment (EIA) in townships and area development projects. It is intended as a resource for those who are involved in EIA practice. Particular emphasis is given to concepts, procedures and tools that are used currently or are potentially relevant in preparing environmental impact assessment reports for clearance from regulatory agencies. EIA is a technical exercise, to predict environmental impacts, assess their significance, and provide recommendations for their mitigation. The assessment covers construction and operation of the development and can consider site decommissioning. EIA report covers a wide range of technical disciplines and covers areas such as noise and vibration, air quality, ecology, contamination, water quality & hydrology, archaeology & cultural heritage, landscape & visual character, sustainability and socio-economics. The EIA report will describe how the project has been improved through the EIA process and what alternatives were considered.

1.1 General Information on Township and Area Development Projects

Township in general, is self contained and integrated in the social infrastructure needs, services, shopping, entertainment and waste management. Infrastructure and services include road network, water supply and management, electricity supply and management and proper communication services. Social infrastructure includes schools, medicare, recreation and community centre. Shopping centre with adequate facilities should be housed in the township itself.

Proper waste management including garbage collection, segregation, treatment and disposal with the township should be provided. Maintenance of infrastructure and proper security and safety of the residents is to be ensured.

1.2Environmental Clearance Process

The objective of the EIA Notification, 2006 is to set procedures of environmental clearance before establishment of identified nature and size. The suitability of site proposed for a proposed development is one of primary concerns in according environmental clearance to a project.

The applicant will have to furnish, along with the application, in addition to Form 1 and the supplementary Form 1A, a copy of the conceptual plan. The details of the categories mentioned in the given schedule are as follows:

Project or Activity		Category with threshold limit - B Category	General Conditions
8.	**Building /Construction Projects/Area Development Projects and Townships**		
8(a)	Building and Construction projects	≥20000 sq.mtrs and <1,50,000 sq.mtrs. of built-up area#	"Any project or activity specified in Category 'B' will be treated as Category 'A' if located in whole or in part within 10 km from the boundary of: (i) Protected areas notified under the Wildlife
8(b)	Townships and Area Development	Covering an area ha and or built up area ≥ 1,50,000 sq. mtrs. ++	(Protection) Act, 1972; (ii) Critically polluted areas as identified by theCentral Pollution Control Board from time to time; (iii) Eco-sensitive areas as notified under section 3 of the Environment (Protection) Act, 1986, such as, Mahabaleswar Panchangi, Matheran, Pachmarhi, Dahanu, Doon Valley and (iv) inter-state boundaries and international boundaries. Provided that the requirement regarding distance of 10km of the inter-state boundaries can be educed or completely done away with by an agreement between he respective states or U.Ts haring the common boundary in the case the activity does not fall within 10 kilometers of the areas mentioned at item (i), (ii) and (iii) above
# (built up area for covered construction; in the case of facilities open to the sky, it will be the activity area)			
++All projects under Item 8(b) shall be appraised as Category B1			

This manual addresses the important issues to be discussed in the environmental impact assessment of building construction, townships and area development projects. Fig.1 shows the EIA clearance process for the building construction, townships and area development projects.

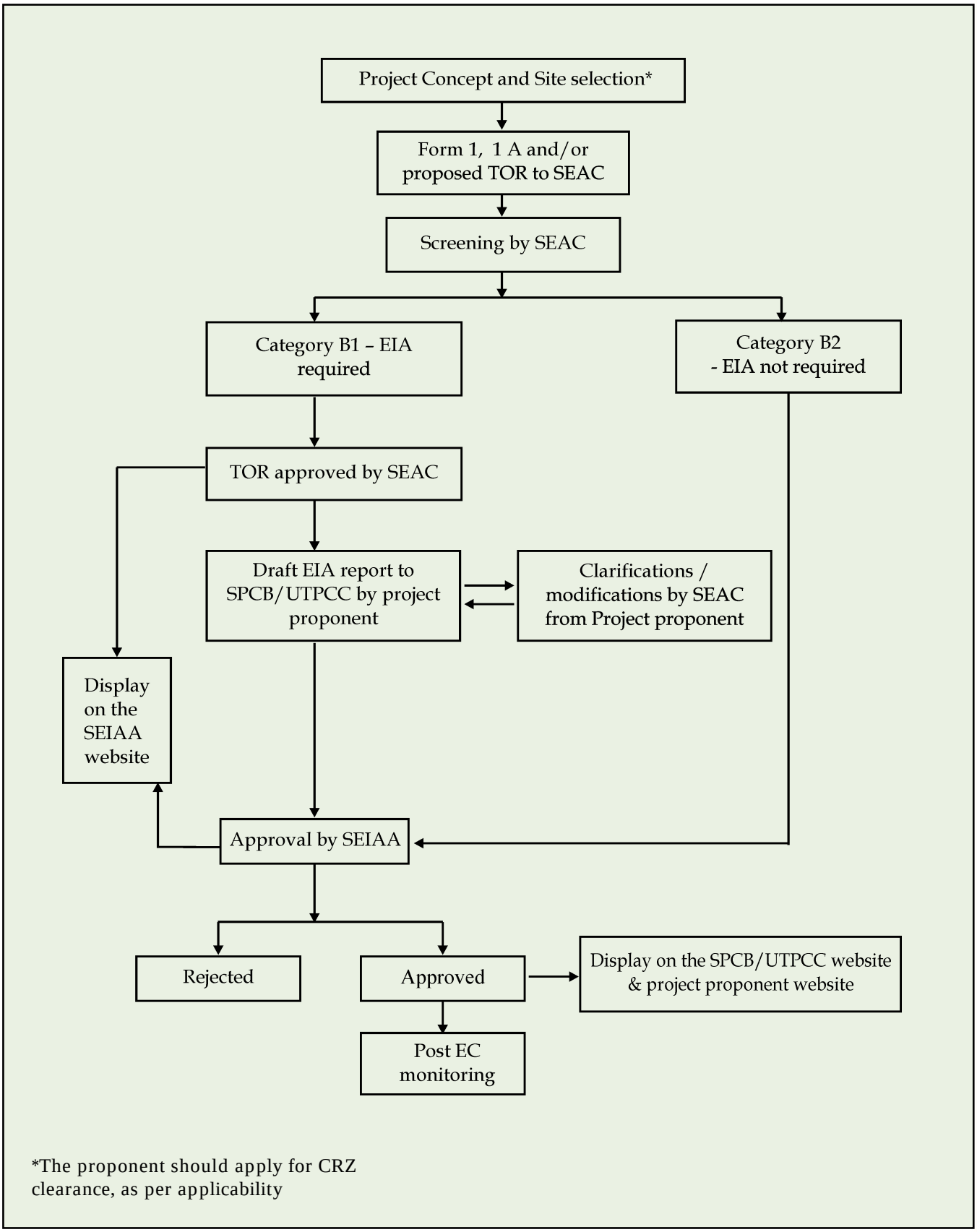


Figure 1.1: Prior Environmental Clearance Process for Category B Projects

The projects requiring an Environmental Impact Assessment report termed Category 'B1' and remaining projects termed Category 'B2' and will not require an Environment Impact Assessment report. For categorization of projects into B1 or B2 except item 8 (b), the Ministry of Environment and Forests should issue appropriate guidelines from time to time. All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction / Township / Commercial Complexes / Housing) shall not require scoping and will be appraised on the basis of Form 1/ Form 1A and the conceptual plan.

- The projects involving clearance under Coastal Regulation Zone Notification, 1991 shall submit with the application a CRZ map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z (at the stage of TOR) and the recommendations of the State Coastal Zone Management Authority (at the stage of EC). Simultaneous action shall also be take to obtain the requisite clearance under the provisions of the CRZ notification, 1991 for the activities to be located in the CRZ
- The projects to be located within 10km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory corridors of wild animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon (at the stage of EC)
- All correspondence with the Ministry of Environment & Forests including submission "of application for TOR/Environmental Clearance, subsequent clarifications, as may be required from time to time, participation in the EAC meeting on behalf of the project proponent shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project"

Ref:- EIA notification - Amendment 2009

1.3 Terms of Reference (TOR)

The terms of reference (TOR) pertinent to preparation of EIA study reports for building construction, township and area development projects is attached as Annexure 1 to this EIA guidance Manual. TOR relevant to individual projects is to be added by the proponent and should be submitted with the application along with 'Form 1' and 'Form 1A' and the State Level Expert Appraisal Committee. The issues are addressed separately for building construction projects and townships and area development projects.

1.4 Validity of Environmental Clearance

The prior environmental clearance granted is valid for a period of five years. The regulatory authority concerned may extend this validity period by a maximum period of five years provided an application is made to the regulatory authority by the applicant within the validity period, together with an updated Form 1, and Supplementary Form 1A, for construction projects or activities (item 8 of the schedule)

1.5 Post Environmental Clearance Monitoring

For category B projects, irrespective of its clearance by MoEF/SEIAA, the project proponent shall prominently advertise in the newspapers indicating that the project has been accorded environmental clearance and the details of MoEF website where it is displayed.

The Project management shall submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions on 1st June and 1st December of each calendar year. All such reports shall be public documents.

1.6 Transferability of Environmental Clearance

A prior environmental clearance granted for a specific project or activity to an applicant may be transferred during its validity to another legal person entitled to undertake the project or activity on application by the transferor or the transferee with a written "no objection" by the transferor, to, and by the regulatory authority concerned, on the same terms and conditions under which the prior environmental clearance was initially granted, and for the same validity period.

1.7 Generic Structure of Environmental Impact Assessment Document

In terms of the EIA notification of the MoEF dated 14th September 2006, the generic structure of the EIA document should be as under:

- Introduction
- Project Description
- Description of the Environment
- Anticipated Environmental Impacts & Mitigation Measures
- Analysis of Alternatives (Technology and site)
- Environmental Monitoring Programme
- Additional Studies
- Project Benefits
- Environmental Management Plan
- Summary & Conclusion
- Disclosure of Consultants engaged

1.8 Identification of Project Proponent

Profile of the project proponent, contact address with e-mail, fax, phone number etc should be furnished. All correspondence with MoEF shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project

1.9 Brief Description of Project

In this section details of the project nature, size, location and its importance to the country and the region are to be included. Project site description; survey / khasra nos, village, tehsil, district, state & extent of the land, latitude & longitude of the boundaries are to be furnished.

Description of existing national and international environmental laws / regulations on the proposed activity is to be brought out clearly. If there are any notified restrictions / limitations from environmental angle, issued by the district administration, State or Central government, the same should be furnished. Details of litigation(s) pending against the project / proposed site and or any direction passed by the court of law against the project, if any, should be stated.

In case of expansion / modernization of the project, the environmental compliance status for the existing project should be furnished for the following:

- Status of Environmental Clearance and compliance for the terms & conditions for the existing project
- Validity of the Air & Water Consent orders, and Hazardous Waste Authorization (HWA) from SPCB / PCC for existing project
- Notices / directions issued by the regulatory agencies under section 33(A) of the Water Act, 1974 as amended, under section 31(A) of the Air Act 1981 as amended and any directions issued under the provisions of the E (P) Act, 1986 during the last one year

PROJECT DESCRIPTION

2

2.0 General

The description of the project to be given in this chapter of the EIA study report should be reasonably adequate to understand the likely overall impact of the project construction and operational phases on various facets of environment.

2.1 Description of the Project

Location (use maps showing general location, specific location, project boundary and project site layout).

Essential Toposheets / Maps to be Provided with TOR application

A map of the study area 2 km from the boundary of the project area, delineating the major topographical features such as land use, drainage, locations of habitats, major constructions including roads, railways, pipelines, industries if any in the area are to be mentioned.

A map covering aerial distance of 15 kms from the boundary of the proposed project area delineating environmental sensitive areas as specified in Form I of EIA notification dated 14th Sept. 2006. In the same map the details of environmental sensitive areas present within a radial distance of 1 Km from the project boundary should be specifically shown.

Remote Sensing Satellite Imagery

Land use map of the study area in 1:10,000 scale based on high resolution satellite imagery delineating the forest, agricultural land, water bodies, settlements, and other cultural features.

Digital Elevation Model / Contour Map

Contour map on 1:10000 scale for the study area showing the various proposed break-up of the land.

Description of the project site, geology, topography, climate, transport and connectivity, demographic aspects, socio, cultural and economic aspects, villages, settlements should be given.

Details of environmentally sensitive places, land acquisition, rehabilitation of communities / villages, present status of such activities are to be mentioned. .

Historical data on climate conditions such as wind pattern, history of cyclones, storm surges, earth quake etc., for the last 25 years are to be given. An analysis and interpretation of the data has to be given by the project proponent.

Detailed layout plan of proposed project development, communication facilities, access / approach roads, landscape, sewage disposal facilities, and waste disposal etc; to be given. Layout plan of proposed development of built up areas with covered construction such as buildings, recreational facilities, DG set rooms, water supply installations etc; are to be given. Requirement of natural resources and their sources are to be detailed out.

Litigations if any: In some of the states, there may be some litigation in process between public / State Govt. agencies / other industries and the project proponent or other projects relevant to the project proposed. In such cases, court rulings / directions on the matter may be mentioned. These may be studied and highlighted in the project report to avoid loss of time and money in planning the project.

2.2Site Selection

Apart from the issues addressed in Section A of this manual the following are to be ensured.

Proposed land use must conform to the approved Master Plan / Development plan of the area. If there is no approved Plan, consent from appropriate authority should be taken and should be submitted for Environment clearance. If the area is outside municipal limits / outside planning area, full justification for the proposed development should be provided.

Sites for new townships should conduct an analysis of the cultural and historical conditions, the urban context considerations, availability of water and other critical infrastructures like electricity, roads with adequate width and capacity and environmental considerations including ecosystems and diversity .

The landuse zoning has to be consider with special reference to the natural hazard prone areas identified.

Land Use Zoning in Natural Hazard Prone Areas

Town and country planning has developed regulations for zones identified as natural hazard zones in India. These include earthquake, floods, hilly terrains etc.

The regulations for Land Use Zoning for Natural Hazard Prone Areas are to be notified under section

1) u / s 73(f) of Model Town & Country Planning Act, 1960; OR
2) u / s 143(f) of Model Regional and Town Planning and Development Law; OR
3) u / s 181(f) of Model Urban & Regional Planning and Development Law (Revised) of UDPFI Guidelines

As may be applicable in the states under the existing provisions of Town and Country Planning legislation as and when Master Plan / development Plan of different cities / towns / areas are formulated.

The purpose of the land use zoning is for development of particular area to serve the desired purpose efficiently and to preserve its character.

Identification of Natural Hazard Prone Areas

Earthquake Prone Areas

a. Intensities of VII or more on Modified Mercalli or MSK intensity scale are considered moderate to high. areas under seismic zones III, IV and V as specified in IS 1893. Therefore, all areas in these three zones will be considered prone to earthquake hazards.

b. In these zones the areas which have soil conditions and the level of water table favourable for liquefaction or settlements under earthquake vibrations will have greater risk to buildings and structures which will be of special consideration under Land Use Zoning.

c. Under these zones, those hilly areas which are identified to have poor slope stability conditions and where landslides could be triggered by earthquake or where due to prior saturated conditions, mud flow could be initiated by earthquakes and where avalanches could be triggered by earthquake will be specially risk prone.

d. Whereas, earthquake hazard prone areas defined in 'a' above are identified on the map given in IS 1893 to small scale and more easily identified in the larger scale state wise maps given in the Vulnerability Atlas of India, the special risky areas as defined in 'b' and 'c' above, have to be determined specifically for the planning area under consideration through special studies to be carried out by geologists and geo-technical engineers.

e. If an active fault trace is identified by GSI (Geological Survey of India), a structure for human occupancy should not be placed over the fault trace and must be set back by a minimum of 15 m on either side of fault trace..

Cyclone Prone Areas

a. Areas prone to cyclonic storms are along the sea coast of India where the cyclonic wind velocities of 39 meter per second or more are specified in the Wind Velocity Map given in IS 875 (part 3) to a small scale and easily identified in the Vulnerability Atlas of India where the Maps are drawn state wise on a larger scale.

b. In these cyclone prone areas, those areas which are likely to be subjected to heavy rain induced floods or to flooding by sea-water under the conditions of storm surge, are specially risky due to damage by flood flow and inundation under water.

c. Whereas, areas under 'a' are easily identified, those with special risk as under 'b' have to be identified by special contour survey of the planning area under consideration and study of the past flooding and storm surge history of the area. These studies may have to be carried out through the Survey of India or locally appointed survey teams, and by reference to the Central Water Commission, Government of India and the department of the State or U.T dealing with the floods.

Flood Prone Areas

a. The flood prone areas in river plains (unprotected and protected by bunds) are indicated in the Flood Atlas of India prepared by the Central Water Commission and reproduced on larger scale in the statewise maps in the Vulnerability Atlas of India.

b. Besides the above areas, other areas can be flooded under conditions of heavy intensity rains, inundation in depressions, backflow in drains, inadequate drainage, failure of protection works, etc.

c. Whereas, the flood prone areas under 'a' are identified on the available maps as indicated, the areas under 'b' have to be identified through local contour survey and study of the flood history of the planning area. Such studies may be carried out through Survey of India or local survey teams, and by reference to the Central Water Commission and the departments of the state or U.T dealing with the floods.

Land Slide Prone Areas

a. While it is known that most hilly areas are prone to landslides / landslips, the susceptibility of the various areas to landslide varies from very low to very high. Landslide zoning naturally requires mapping on large scale. Normally medium scale of 1:25000 is at least chosen.

In preparation of the landslide zone map, two types of factors are considered important as listed here below:

1. *Geological/Topographic Factors/Parameters*
   - Lithology
   - Geological Structures / Lineaments
   - Slope-dip (bedding, joint) relation
   - Geomorphology
   - Drainage
   - Slope angle, slope aspect and slope morphology
   - Land use
   - Soil texture and depth
   - Rock weathering

2. *Triggering Factors*
   - Rainfall
   - Earthquake
   - Anthropogeny

b. Whereas the factors listed under geological / topographic parameters have been considered as basic inputs for the landslide potential model, the three triggering factors namely, rainfall, earthquake and anthropogeny were considered external factors which trigger the occurrence of a landslide.

c. Whereas, the landslide prone areas under 'a' are available for some parts of the country on the maps given in Landslide Hazard Zonation Mapping in the Himalayas of Uttranchal and Himachal Pradesh States using Remote Sensing and GIS Techniques, pub. By National Remote Sensing Agency, Department of Space, Government of India, Hyderabad and Landslide Hazard Zonation Atlas of India – Landslide Hazard Maps and Cases Studies prepared by Building Materials & Technology Promotion Council, Ministry of Urban Development & Poverty Alleviation, Govt. of India, the risky areas in other parts of the country have to be determined specially for the planning areas under consideration through special studies to be carried out by the State / UT governments and the concerned Competent Authorities.

Land Use Zoning of Flood Prone Areas :

(a) Preparation of Flood Contour Maps

The following actions should be taken to prepare the flood contour maps by taking up special studies / surveys as found necessary in the Development Area:

i. Prepare detailed contour plan of the area liable to flood on a scale of 1 in 15000 or larger scale showing contours at interval of 0.3 to 0.5 metre;

ii. Fix reference river gauges or maximum flood levels due to heavy rains with respect to which the areas are likely to be inundated; Demarcate areas liable to flooding by *floods in rivers* of return periods of 5, 25, 50 and 100 years or by *excessive rainfall* of return period of 5, 10, 25, and 50 years;

iii. Mark on the maps the submersion contours for these flood stages.

(b) Regulation for Land Use Zoning

i. Installations and Buildings of Priority 1 should be located in such a fashion that the area is above the levels corresponding to a 100 year flood or the maximum observed flood levels whichever higher. Similarly they should also be above the levels corresponding to a 50-year rainfall flooding and the likely submersion due to drainage congestion;

ii. Buildings of Priority 2 should be located outside the 25 year flood or a 10 year rainfall contour, provided that the buildings if constructed between the 10 and 25 year contours should have either high plinth level above 25 year flood mark or constructed on columns or stilts, with ground area left for the unimportant uses;

iii. Activities of Priority 3 viz. play grounds, gardens and parks etc. can be located in areas vulnerable to frequent floods.

Planning in Hill Areas

In order to ensure environmentally sound development of hill towns, the following restrictions and conditions may be proposed for future activities.

An integrated development plan should be prepared taking into consideration environmental and other relevant factors including ecologically sensitive areas, hazard prone areas, drainage channels, steep slopes and fertile land.

Water bodies including underground water bodies in water scares areas should be protected. Where cutting of hill slope in an area causes ecological damage and slope instability in adjacent areas, such cuttings shall not be undertaken unless appropriate measures are taken to avoid or prevent such damages.

No construction should be ordinarily undertaken in areas having slope above 30^0 or areas which fall in landslide hazard zones or areas falling on the spring lines and first order streams identified by the State Government on the basis of available scientific evidence.

Construction may be permitted in areas with slope between 10º to 30º or spring recharge areas or old landslide zones with such restrictions as the competent authority may decide.

These criteria are to be taken into consideration for a specific site and wherever applicable.

2.3 Manpower Requirement

The proponent should indicate the requirement of various categories of manpower such as skilled, semi-skilled, unskilled workers, technicians, engineers, managers during the construction phase.

The proponent should give the details of compliance of Acts related to employees' service and their welfare measure as per the provisions of government of India. This is because the building and other construction works is characterized by its casual nature, temporary relationship between employer and employee, uncertain working hours, lack of basic amenities and inadequacy of welfare facilities.

The following are the Acts for compliance by proponent regarding Manpower employment. The proponent should follow any later modification or Revisions for these Acts automatically

- Minimum Wages Act 1948,
- Contract Labour (Regulation & Abolition) Act1970
- Inter-State Migrant Workmen (Regulation of Employment & Conditions of Services) Act 1979
- The Building and other construction workers (Regulation and Employment of Service) Act, 1996
- The Building and other construction workers Welfare Cess Act 1996.

2.4 Project Implementation Schedule

The proponent should also submit the detailed project implementation schedule bar chart, CPM / PERT chart etc., duly bringing out interrelationship of major activities.

3

DESCRIPTION OF THE ENVIRONMENT

3.0 General

Environment facets to be considered in relation to townships and area development are: (a) land (b) air (c) noise (d) water (e) biological (f) socio-economic and (g) solid waste management. Hence it is necessary to ascertain the baseline data of these environmental facets.

Study Area

In the case of townships projects, EIA guidelines are specifically mentioned in Form 1A of EIA notification 2006. The following details are to be given:

1. Site development area
2. Area with angular distance of 2kms surrounding the site.

The project study area comprises the site earmarked for building construction with specified surrounding area. The baseline data collection / monitoring should be from primary and secondary sources and field monitoring studies. When secondary data is used source of data is to be mentioned clearly. The period of study for collecting primary data would be one season other than the monsoon season.

3.1 Land Environment

Existing status of baseline conditions of land use can be determined by studying the changes in the land use pattern in the past 10yrs by collecting data from secondary sources such as census records, agricultural census and land records. The land use pattern covering forest land, total irrigated land, non-irrigated land, cultivable waste, are to be calculated and given as a map (Annexure 2).

Soil formation is influenced mainly by climate, geology, relief and other biotic interactions. The soil characteristics in the project area which would affect the agricultural and afforestation potential of the area need to be studied. Particle size scale is to be given based on the texture analysis. Soil porosity and SAR ratios are important and are to be assessed for all locations. The samples are to be collected and analyzed as per CPCB norms (Annexure 3). The hydraulic conductivities in soil are important for building construction activities and are given in Annexure 4. The rating chart for the soil test values for primary nutrients is given in Annexure 4. The physical and chemical properties of soil are to be analysed and presented as given in Table 3.1 and 3.2

3.2 Water Environment

The physiography of the land will control the drainage pattern in the region. The drainage pattern in the area is to be drawn. Hydro-geological settings and the ground water levels are to be examined and presented. Ground water, surface water and waste water generated in the study area is to be collected as per CPCB norms (Annexure 3) and examined for physico- chemical, heavy metals and bacteriological parameters. The drinking water and fresh water standards are given in Annexure 5. These projects crate a continuous demand on the water resources. The format for

ground water quality data presentation is given in Table 3.3 and Table 3.4. The amount of water demand can be calculated based on the occupancy of the building and the per capita consumption (Annexure 6) as given by BIS for different categories.

Total quantity of water used= Occupancy x Quantity (LPCD)

Similarly the format in which the data for surface water quality is to be presented is shown in Table 3.5 and Table 3.6.

3.3 Air Environment

The climatic data procured from secondary sources is very important for identifying the season and period of monitoring primary data. The climatic data can help in using suitable building technologies and energy conservation measures.

The methodology to be adopted for collection of climatic data specific to the site is to compile the mean monthly normals of atmospheric parameters, form previous 10yrs data recorded by the nearest IMD station. Wind Roses for each month giving the wind direction speed are to be collected and presented. Most probable wind speed class and wind direction at the nearest IMD site is to be estimated from this.

Baseline data of air pollutant parameters extending an area of 2 Km from the project should be monitored at a number of locations. Description of baseline data of ambient air parameters namely RSPM, nitrogen dioxide, sulphur dioxide, and carbon monoxide are to be collected. One season data is to be monitored other than monsoon as per the CPCB Norms. Sampling locations are to be located as per CPCB norms. The ambient air quality standards are given in Annexure 7. Number and locations of Ambient Air quality monitoring (AAQM) stations are decided based on the nature of project, meteorological conditions, Topography, selected pollution pockets in the area and likely impact areas. The parameters measured, frequencies of sampling, technique to be as prescribed by CPCB are given in Annexure 3. The monitoring locations for air quality are to be given as shown in Table 3.7 and data should be represented as shown in Table 3.8. The monitoring locations are also to be shown on the area map.

3.4 Noise Environment

Construction equipment and road traffic are the major sources of noise. Baseline data of noise at the project area and the neighbourhood habitat areas is to be ascertained. Daytime and nighttime data should be collected and presented as shown in Table 3.9 the parameters, frequencies of sampling are shown in Annexure 3 and the standards for noise are given in Annexure 8.

3.5 Biological Environment

Baseline data from field observations for various terrestrial and aquatic systems are to be generated. Wild life sanctuaries and National parks location within 10km radius from project boundary are identified based on secondary data. Primary data on survey of the wild animals and birds in the study area is collected and identified with the classification into various schedules taken from secondary data.

3.6 Socio-economic Environment

Baseline data on the socio economic environment in the study area is to be collected. The issues to be focused include demographic structure, economic activity, education, literacy profile, land use, health status and infrastructure resources. Primary data through designed questionnaires from the house hold survey within the study area is collected and from secondary sources and represented as shown in Table 3.10 and 3.11. The demographic details consisting of population distribution, Average household size, population density, sex ratio, social structure and literacy levels within project study area are concluded from this data collected.

3.7 Solid Waste

Present data available on solid waste generated in the area are to be collected. If possible the present quantities of wastes – hazardous household wastes, electronic wastes, biomedical and non-hazardous generated in the study are to be collected and presented.

ANTICIPATED IMPACT AND MITTIGATION MEASURES

4.0 Introduction

Impacts can be classified in the presentation as direct, indirect and cumulative impacts. These can be further subdivided for convenience and clarity to positive and negative impacts, random and predictable impacts, local and widespread impacts, temporary and permanent impacts, long term and short term impacts. The report should preferable cover the impacts as discussed above. Suitable avoidance / mitigation methods can be given for each of the alternatives provided. The most feasible one can be chosen by the project proponent.

Prediction of Impact during Construction Phases

The activities that take place during construction phases of the project are leveling of site, construction and erection of buildings etc., and associated equipments in operation. The potential primary and secondary impacts on the environment, their prediction, significance and mitigation are to be discussed.

Prediction of Impact During Operational Phases

The potential significant impacts are on topography, land use, soil quality, ambient air quality, noise levels, traffic densities, water resources, water quality, biological environment, demography and socio- economics. During construction and operational phase of the project, various activities may have impact on some or other environmental parameters. Various environmental attributes are to be studied during these phases for their overall impact on the surrounding environment. The guidance for assessment and impact is given in Annexure 9.

4.1 Land Environment

Anticipated Impact

Impacts due to activity have to be identified that are caused. Some of the impacts could be

- Compaction of soils by earth moving equipment
- Erosion and modification of surface
- Over exploitation of agricultural soils due to future development in a zone sensitive to erosion
- Irreversible salinization and acidification of mangrove swamp soils

Mitigation Measures

Soil erosion is an important parameter which needs to be addressed during the construction phase. Some of the mitigation measures include:

- The environmental impact of soil erosion can best be mitigated by removing vegetative cover only from the specific site on which construction is to take place and by disturbing the vegetation in adjacent areas as little as possible. Land clearing activities should be kept to the absolute minimum and use crushed stone rather than asphalt or concrete for surfacing parking areas should be attempted.

- Evolve strategies to stockpile top soil and reuse later for landscaping purpose
- Adopt measures such as temporary and permanent seeing, mulching, early dikes, silt fencing, sediment traps and sediment basins.
- Open areas can be landscaped
- Paved areas can be installed with permeable paving.
- Impermeable surfaces direct all runoff towards storm water collection pits.
- Disturbing the existing vegetation and natural contour of the land as little as possible can mitigate increases in surface runoff. Vegetation along watercourses should not be cleared indiscriminately. Neither should potholes or swamps be drained unless absolutely necessary for successful completion of the activity.
- Construction, land management, or mining activities that result in the soil being laid bare could be scheduled in such a way that some type of vegetative cover appropriate to the site could be established prior to the onset of intense rain or windstorms. If grass is to be seeded, mulch of straw will help to protect the soil from less extreme erosive forces until vegetative and root development begins.
- Natural drainage patterns can often be maintained by preparing sodden waterways or installing culverts.
- Steep slopes can be terraced, thereby effectively reducing the length of slope.
- Check dams built near construction sites can reduce the quantity of eroded soil particles reaching free-flowing streams or lakes.
- Use of “floating” foundations and height restrictions in earthquake zones and increased foundation height, wall strength, and roof support in areas periodically subject to cyclones can reduce the hazards.
- All forms of temporary structures should be avoided from the flood plain, and all permanent structures should be raised to a height above the level which flood waters can be expected to reach once every 100 years (100-year flood).
- Installation of underground drainage structures helps to reduce sediment loads
- Engineering plans can be drawn to reduce the area of earth cuts on fills below what might otherwise be acceptable, provide physical support for exposed soil or rock faces, concentrate or distribute – as appropriate the weight loading of foundations to areas or state better able to support that weight,
- restricting the number, frequency and area of movement of heavy machinery
- Compatibility between adjacent land uses can best be assured by providing a green belt between the proposed activity and nearby properties where any significant degree of incompatibility is likely to result.

Natural Topography

It is essential to avoid disturbance to the site by retaining the natural topography of the site or design the landscape with at least 15% to 25% of the site area. For credit purposes it should be noted that the parking areas, walkways etc landscaping over built structures such as roofs, basement etc will not be considered. Similarly potted plants also will not be considered.

- turf design on site so as to conserve water

- design landscape to ensure minimum consumption of water – i.e. drought tolerant species
- reduce the demand for irrigation water through water efficient management techniques
- turf and each type of bedding area may be segregated into independent zones based on watering needs.

4.2 Water Environment

Construction Phase

The construction phase would involve water requirements for the following activities

- site preparation: Involves levelling for infrastructure development and removal of vegetation. Water is required for dust settlement, consolidation, compaction and curing.
- Construction of building infrastructure involves water for construction activities and domestic and other water requirements for labour and staff onsite.
- The period of this activity is the be mentioned

Impact Prediction

- Use of large quantities of water in curing
- Use during the operational phase by residence for routine activities

Mitigation Measures

Measures for reducing water demand during construction

To avoid wastage of curing water, following guidelines are to be followed:

- Curing water should be sprayed on concrete structures; free flow of water should not be allowed for curing.
- After liberal curing on the first day, all concrete structures should be painted with curing chemical to save water. This will stop daily water curing hence save water.
- Concrete structures should be covered with thick cloth / gunny bags and then water should be sprayed on them. This would avoid water rebound and will ensure sustained and complete curing.
- Ponds should be made using cement and sand mortar to avoid water flowing away from the flat surface while curing.
- Water ponding should be done on all sunken slabs, this would also highlight the importance of having an impervious formwork.

Some of the common practices and devices that can save water are:

Monitoring water use: Use of water meter conforming to ISO standards should be installed at the inlet point of water uptake and at the discharge point to monitor the daily water consumption.

Use of water saving devices / fixtures: About 40% of all water used indoors is in the bathroom and toilets and more than 10% of that used is in the kitchen. The conventional fixtures used in toilets use water at the rate of 12-15 litres per flush. The opportunity to lower the consumption through Low flow flushing systems, Sensor based fixtures, Waterless urinals, Tap aerators etc can be encouraged to reduce the water usage.

Installation of dual pipe plumbing for using recycled water / rain water can reduce usage of potable water considerably. There can be two lines, one supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal conditioning etc.

The quantity of ground water usage and waste water generated during both the phases is to be estimated based on the population, reuse and recycle activities planned. Based on the quantification of waste water, the treatment plants should be suitably designed.

In townships and area development projects, it is expected that all the buildings are connected by sewers. Treatment plants normally used for building sewage are based on biological processes. In addition, artificial wetlands or reed bed systems for waste water treatment based on the use of deep – rooted plants can also be used at decentralized level. Aerobic treatment systems, anaerobic treatment systems, Root zone treatment system, Decentralized Wastewater Treatment Systems" which includes Primary treatment: sedimentation and floatation, Secondary anaerobic treatment in fixed-bed reactors: baffled upstream reactors or anaerobic filters, Tertiary aerobic treatment in sub-surface flow filters and Tertiary aerobic treatment in polishing ponds are some of the methods for treatment of the waste waters generated in the township. The effluent discharge standards are shown in Annexure 10.

Rainwater Harvesting

It is essential to provide rain water harvesting or storage systems to capture atleast 50% of the runoff volumes from the roof surfaces. In coastal areas where the groundwater table is shallow and water percolation is limited collection tanks may be provided. Given below are some details of run off coefficients from different surfaces.

Run off Coefficients for Typical Surface Types

Surface Type	Runoff Coefficient
Roofs conventional	0.70 to 0.80
Roofs inclined	0.85 to 0.95
Concrete / Kota Paving	0.60 to 0.70
Gravel	0.50 to 0.60
Brick Paving	0.75
Vegetation	
1%–3%	0.20
3%–10%	0.15
> 10%	(more the vegetation cover – less the runoff coefficient) 0.10
Turf slopes 0%–1%	0.25
1%–3%	0.35
3%–10%	0.40
> 10%	0.45

- The rainwater harvesting structure is to be designed based on the sub-surface characteristics. The factors to be considered include weathering, fractures and joints for rocky sites and thickness of aquifer for sedimentary sites.
    - Rainwater harvesting structures must be kept a safe height above the highest level of ground water table in order that the ground water quality is safeguarded. Depending on the certainty of information about the highest level of ground water table and the trend of rise of ground water table, this gap may be from 3 to 5 metres.
    - The intensity of peak hourly rainfall and peak daily rainfall should be based on observations made by Indian Meteorological Department rather than inferred from annual rainfall.
    - The peak hourly rainfall should be adopted for calculating the components for recharging groundwater, and peak daily rainfall should be adopted for calculating the capacity of storage tank.
    - Only the terrace runoff may be considered for storage and reuse after pre-treatment and disinfection.

Types of Structures Include :

- Recharge pits, Recharge trenches, Recharge shaft
- Trench with recharge well, Shaft with recharge well
- Recharge through abandoned hand pumps, abandoned tube well
- Recharge well
- Percolation tank
- Check dam
- Sub-surface dyke
- Roof top rain water harvesting

It is important that roof top structures to capture rainwater include in their design flushing arrangements so as to let out impurities such as paper wastes, leaves, bird droppings etc. The runoff from rainwater harvesting structures is to be treated depending upon its source. For example:

a. The runoff from terrace and ground surface should always be segregated and given appropriate pre-treatment before recharging ground water.

b. Runoff from parking areas must also be treated for removal of oil and grease.

c. Activated carbon filter should be included in the pre-treatment of runoff from lawns and landscaped areas for arresting pesticides.

In designing the ground water recharge structures following points should be taken into consideration:

1. Annual rainfall, peak intensity and duration of each storm
2. Type of soil and subsoil conditions and their permeability factor : Infiltration rates of soil and hydraulic conductivities of water transmission are required to be considered while

constructing recharge systems. Normally hydraulic conductivities (K- values) of various soils in m / day , which can serve the purpose of assessing the final infiltration rates of soils These can be used in the absence of measured values of soils under recharge. K values need to be measured for a particular site for efficient results. As mentioned earlier the specific yields for different formations and porosities of soil are given in Annexure 4.2 and 4.3 respectively.

The main site conditions to be assessed in case of (surface / subsurface) storage structures are:

- Availability of suitable catchments (Rooftops are usually recommended as against surface catchments in this case as quality control measures can be relatively easier to apply and monitor).
- Foundation characteristics of soil near the house
- Location of trees
- Estimated runoff to be captured per unit of the catchment
- Availability and location of construction material (MoRD, GoI, 2004)

4.3 Air Environment

Anticipated Impact

Construction phase would involve site clearances and preparation, infrastructure development, building construction and other related activities and

Operational phase would involve emission from vehicular movement and diesel generators, and negligible emissions from sewage and solid waste handling and disposal.

The building material carrying vehicles as well as the construction machinery generate emissions and pollute the environment. Dusts include brick and silica dusts, wood dust from joinery and other woodworking and from earthmoving and other vehicle movements within the site. Asbestos-containing dust especially during the demolition of buildings is very harmful. It is a difficult task to separate these wastes. Construction machineries pose a special threat to air quality. It is estimated that construction machineries emit toxic pollutants and are sources of fine particulate matter (PM2.5, which lodges deeply in the human lung) and oxides of nitrogen (NOx), a key ingredient in the formation of ground-level ozone and urban smog.

Mitigation Measures

The mains concerns during demolition activities are the emissions generated by the vehicles and the machineries. Air Pollution may be caused by areas or point sources such as cities, industrial areas, factories or by linear sources such as highways. Vegetation buffers can minimize the build–up of pollution levels in urban areas by acting as pollution sinks.

- Wind erosion is a serious problem in areas where the ground is virtually bare and devoid of vegetation. Vegetation methods are found to be most effective in the form of windbreaks and shelterbelts.
- A dense belt provides greater shelter immediately to leeward but the sheltered area is not as extensive as when a more permeable zone of vegetation is provided.
- Plants are good absorbers of sulphur dioxide. Parks with trees have an SO_2 level lower than city streets.

- Heavy roadside planting in the form of shelterbelts can result in reduction in airborne lead
- Complete dust interception can be achieved by a 30 m belt of trees. Even a single row of trees may bring about 25 percent reductions in airborne particulate.
- Evergreen trees are found to be more effective.
- The species chosen must be resistant to pollutants, particularly in the early stages of their growth (Annexure 11).

Mitigation Measures for Dust Control

Adopting techniques like, air extraction equipment, and covering scaffolding, hosing down road surfaces and cleaning of vehicles can reduce dust and vapour emissions. Measures include appropriate containment around bulk storage tanks and materials stores to prevent spillages entering watercourses.

The other measures to reduce the air pollution on site are:

- On-Road- Inspection should be done for black smoke generating machinery.
- Promotion of use of cleaner fuel should be done.
- All DG sets should comply emission norms notified by MoEF/ CPCB.
- Vehicles having pollution under control certificate may be allowed to ply.
- Use of covering sheet to prevent dust dispersion at buildings and infrastructure sites, which are being constructed.
- Use of covering sheets should be done for trucks to prevent dust dispersion from the trucks, implemented by district offices.
- Paving is a more permanent solution to dust control, suitable for longer duration projects. High cost is the major drawback to paving.
- Locally found gravel may be applied to access roads as it adds a protective layer over the exposed soil and helps control dust generation in some situations. It is important that gravel contain a minimal percentage of fines and clean gravel be added periodically, as the fines migrate to the surface and create dust.
- Reducing the speed of a vehicle to 20 kmph can reduce emissions by a large extent. Speed bumps are commonly used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, it may be necessary to divert traffic to nearby paved areas.

Material storages / warehouses – Care should be taken to keep all material storages adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions. Fabrics and plastics for covering piles of soils and debris is an effective means to reduce fugitive dust. However, these materials can be costly and are subject to degradation from the sun, weather, and human contact. Straw and hay can also be used to cover exposed soil areas, although they can be disturbed by wind and vehicles.

4.4 Noise Environment

Anticipated Impact

During the construction phase of the site, the following source of noise pollution is expected:

- Construction equipment

During operational phase the following sources of noise pollution is expected:

- Diesel generator operations
- Increase in transport noise from within the site from near by roads.

Mitigation Measures

There are two ways of applying controls or measures. The first is to plan so as to keep the noise at a distance. Under this aspect comes the separation of housing from traffic noise by interposing buffer zones, and the protection of schools and hospitals by green belts, public gardens, etc. The second is the principle of shading or screening. This consists of deliberately interposing a less vulnerable building to screen a more vulnerable one or by providing a solid barrier such as a wall between the source and the location to be protected.

Setting up the barriers: National Building Code 2005 suggests that design solutions such as barrier blocks should be used to reduce external LA10 noise levels to at least 60-70dB(A) at any point 1.0 m from any inward looking façade. Green belts and landscaping could act as an effective means to control noise pollution. In case of railway tracks, a minimum distance of 50m to 70m may be provided between the buildings and the tracks. Thick belts of planting greater than 30 meters are useful for cutting the noise levels from road traffic. Strong leafy trees may be planted to act as noise baffles. Shrubs and creepers may also be planted for additional protection between tree trunks; artificial mounds and banks should be formed where practicable. As little hard paving and as much grass as possible may be used. The creation of green belt is particularly advisable on the perimeter of aerodromes, along railway lines and arterial roads, through or past built up areas and adjoining industrial zones.

Control of noise from road traffic: Trees with heavy foliage planted on both sides of carriage way help slightly muffle the noise provided; the foliage extends for a considerable distance of 30m or above. The codes to be referred for noise control and maintaining minimum standards are given in Annexure 8.

4.5 Biological Environment

The mitigation measures should be suggested that will help in reducing the impact on terrestrial ecology and aquatic ecology. Massive plantation, landscaping are to be ensured in the new construction areas. Also trees, plants should be identified for specific areas so that the plants survive in these conditions. The details of the drought resistant species are given in Annexure 11.

4.6 Socio- economic

Anticipated Impacts

The impact on the socio-economic status of the people in the area is to be studied and detailed out. Positive impacts could include job creation, preservation of environment, infrastructure development and benefits to local population by way of job opportunities. Long term impacts include aspects of demography, aesthetics, and archeological sites. Negative impacts include impacts on cultural aspects and well being.

Township and area development projects could create a severe social impact. Some of these could include increase in noise and interference with existing access to habitation, storm water drainage and enjoyment of open space. Unhygienic site sanitation facilities cause damage to environment and to health of the construction workers.

Mitigation Measures

The objective is to ensure health and safety of the workers during construction, with effective provisions for the basic facilities of sanitation, drinking water, safety of equipments or machinery etc. Following are some of the recommendations to be followed:

- Comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 Constructional practices and safety, 2005, National Building code of India, Bureau of Indian Standards
- Provide clean drinking water to all workers
- Provide adequate number of decentralized latrines and urinals to construction workers.
- Guarding all parts of dangerous machinery.
- Precautions for working on machinery.
- Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
- Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
- Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
- Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
- Provide sufficient and suitable light for working during night time.

4.7 Solid Waste

The construction phase waste will comprise of excavated and demolition material while operational phase waste may comprise of domestic, commercial and biomedical wastes, depending upon the type of the project. The different types of wastes need to be handled as per their needs and regulatory requirements. It is not possible to dispose off all type of wastes onto the land and has to be dealt with depending upon their type and characteristics. Building construction leads to generation of sand, gravel, concrete, stone, bricks, wood, metal, glass, polythene sheets plastic, paper etc. as waste.

Type of wastes, which are generated, can be classified into four categories.

1. Construction or demolition waste, i.e., massive and inert waste
2. Municipal waste, i.e., biodegradable and recyclable waste
3. Hazardous waste,
4. E-waste

The waste characterization in constructional stage should be estimated by reviewing other similar already existing projects and given in tabular form. Similarly wastes generated in operational phase should be estimated and classified as

- biodegradable

- recyclable
- inert
- hazardous

and quantified for percentage composition estimation.

Construction and Demolition Waste Management

The construction and demolition waste includes debris, concrete (often recycled and reused at the site), steel and other metals, pallets, packaging and paper products, fluorescent tubes, wood beams, joists, studs, baseboards, cabinets and cupboards, railings, brick, doors and casings, interior windows, bathroom fixtures, light fixtures, ceiling grid and tile, furnishings, replant trees, shrubs. Orderly deconstruction is the proper measure for reuse of the demolished matter. In contrast to demolition, where buildings are knocked down and materials are either land filled or recycled, deconstruction involves carefully taking apart portions of buildings or removing their contents with the primary goal being reuse. It can be as simple as stripping out cabinetry, fixtures, and windows, or manually taking apart the building frame. Gross segregation of construction and demolition wastes into roadwork materials, structural building material, salvaged building parts and site clearance wastes is necessary. Additional segregation is required to facilitate reuse/ recycling.

Waste recycling plans should be developed for construction and demolition projects, prior to beginning construction activity. The plans should identify wastes to be generated, and designate handling, recycling and disposal method to be followed. Handling of waste material requires special precautions such as personal protective equipment and special procedures to prevent the injury. Developers must operate safe methods for waste collection, storage, and disposal operations in a manner to protect the health and safety of personnel, minimize environmental impact and promote material recovery and recycling.

Solid Waste During Operational Phase

Adequate provision should be made for storage of solid waste and for easy access to the dustbins;

- for labours from source to the place of storage, and
- from the place of storage to a collection point specified by the waste collection authority and/or contractor
- Three colours of wheeled bins: - dark grey for inert waste, green for wood and ply waste and blue for hazardous waste can be used.

A minimum of 4% of the total site area should be allocated for storage and pre treatment of the waste. This storage area should be covered and the pollutants from the waste should not affect the surrounding.

Access To and From Bin Storage Areas

Wheeled bins should be made access with ramps. To ensure this vehicle access, paths should be paved and at least 1.2 metres wide with a maximum gradient of 1 in 10. The surface of the path should be smooth, continuous and hardwearing. Ramped kerbs should be provided where the path meets the highway, and bins should not have to pass across designated parking spaces.

Where collection vehicles have to enter developments, there should be sufficient space on paved roads with turning circles for easy circulation. This ensures the refuse vehicles to enter the vicinity of the site without being prevented from doing so by cars parked close to the entrance. Vehicles should never have to reverse onto or from a highway to make a collection. Roadways used by refuse vehicles must be designed to withstand a laden weight of not less than 28 tonnes.

Municipal Solid Waste Management

Waste generated by users- Domestic wastes food leftovers, vegetable peels, plastic, house sweepings, clothes, ash, etc. commercial waste generally comprises of paper, cardboard, plastic, wastes like batteries, bulbs, tube lights etc.

Three-bin system is a good option for segregation at household level. Storage facilities should be created and established by taking into account quantities of waste generation in a given area and the population densities. A storage facility should be so placed that it is accessible to users, within a radius of 25 meter from the source. Local authorities should provide different coloured bins for different categories of waste. Adequate provision should be made for storage of solid waste.

Three colours of wheeled bins: - dark grey for non-recyclable waste, green for kitchen food / compostable garden waste and blue for paper (generally used for flats, schools, offices etc). In addition, boxes must be provided for the collection of other recyclable materials; a green box is used for paper and a black box is used for cans and plastic collections. Individual properties should be allocated a 20-litter bin although for single-family occupancy. Boxes should have lids. Flats and multi-storeyed buildings should have bulk dustbin type container, with a general guide of one 1100 litre bin being adequate for every 60 units, for smaller blocks. The one to five ratio outlined above could be increased or decreased according to the number or properties with greater or less than two bedrooms per unit. The ratio of approx one paper bin to three residual waste bins is only a guide. Waste and Cleansing Section can advise on individual cases.

Hazardous Waste Management

Products, such as paints, cleaners, oils, batteries, and pesticides that contain potentially hazardous ingredients require special care when you dispose of them. Improper disposal of household hazardous wastes can include pouring them down the drain, on the ground, into storm sewers, or in some cases putting them out with the trash.

Hazardous wastes from construction and demolition activities are centering oil, formwork oil, tar and tar products (bitumen, felt, waterproofing compounds, etc.), wood dust from treated wood, lead containing products, chemical admixtures, sealants, adhesive solvents, Explosives and related products and equipment used in excavation, acrylics, and silica, etc. The dustbins for these wastes should be made of durable materials like metal or even masonry if the projects spans for more than a year.

List of Hazardous wastes from construction projects

- Asbestos products – insulation, tiles etc
- Fuels and Heating oils and other volatile / flammable liquids such as coolants, grease etc.
- Centering oil, formwork oil
- Tar and Tar products (bitumen, felt, water proofing compounds etc.)

- Wood Dust
- Lead containing products
- Chemicals , admixtures, sealants, adhesives solvents etc.
- Paints, pigments, dyes and primers
- Carbon black
- Pesticides
- Tarpaulin
- Explosives and related products and equipment used in excavations
- Product packaging (cement bags, cartons, containers, plastic covers etc.)
- Plastics, Acrylics, Silica, PVC
- Fluorescent Lamps Intact and Crushed, Halogen Lamps, Arc Lamps, UV Lamps, High Pressure Sodium Lamps, , Neon Lamps, Incandescent Lamps.
- Mercury Containing Lamps and Tubes, Mercury Vapour Lamps, Mercury Containing Devices – Mercury switches, relays, regulators, thermostats, thermometers, manometers and debris containing mercury
- All types of Batteries
- Electronic Ballasts, PCBs, Transformers, capacitors, switchgear, Lead Cable, Oil filled / gel filled cables
- Electronic Waste– computer products, circuit boards, CRTs, electronic parts, solder dross, weld waste.

Due to the characteristics, the wastes generated from the healthcare establishments are also hazardous in nature. Biomedical wastes have to be dealt with as per the Biomedical Wastes (Handling & Management) Rules, 2000.

- Lead based paints and other hazardous materials may be removed from the structure prior to deconstruction or demolition activities to minimize special handling and disposal requirements for the construction and demolition waste. These activities must be conducted by qualified personnel using appropriate health and safety procedures in accordance with the regulatory requirements.
- Isolated storage for hazardous wastes released from the whole site should be provided on site.
- Source segregation of similar wastes is highly recommended.
- Installation of fire extinguisher is mandatory near storage of hazardous wastes.

E-waste Management

Collection and Storage

Various types of electrical and electronic wastes generated in the building, which includes PC in case of offices and homes, Xerox machine components from office and shops, should be collected separately for transportation to the authorized recyclers approved by the state / Central pollution control boards. There should also be provision for storage of these wastes in the building before transportation.

5

ALTERNATIVE TECHNOLOGIES

5.0 General

The use of modern building material, energy conservation methods and transporation methods along with traffic regulations within the area is to be given in this chapter

5.1 Building Materials

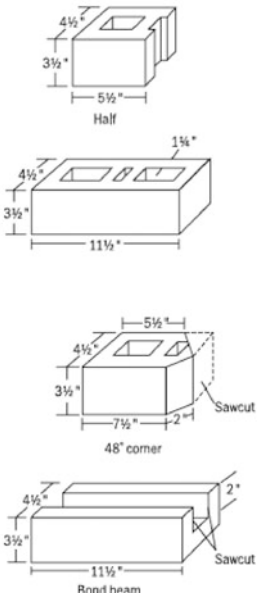
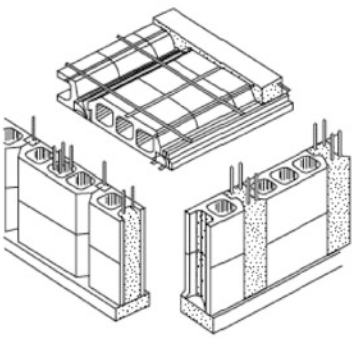
Use of alternative technologies for each component of the buildings of envelope, superstructure, finishes and the road and surrounding areas are discussed in detail (NBCode 2007). Some them are given below:

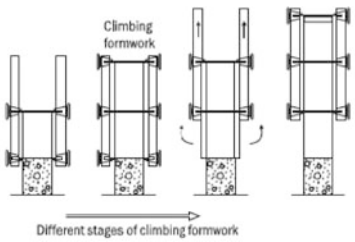
- Brick and block products with waste and recycled contents such as fly ash (waste from coal burning plants), blast furnace slag, sewage sludge, waste wood fibre etc.
- Fly ash based lightweight aerated concrete blocks can be used for walls.
- Perforated bricks can be used for wall structures.
- Brick panel with joists, Filler slab roofing, brick funicular shell roofing, RCC channel units, micro-concrete roofing tiles are some of the alternative techniques for roofing.

Some of the alternate materials for openings in construction are:-

- Use of precast thin lintels, use of ferrocement-sunshade cum lintel etc.
- Use of renewable timber for doors and windows
- Use of steel manufactures from recycled content
- Aluminum from verified recycled content
- Saw dust based doors and window frames
- Ferrocement shutters, PVC doors and windows, Rice husk boards, Natural fibre- reinforced polymer composite door panels
- Bamboo based products, bamboo strips boards.
- Alternatives for finishes include Fly ash, Ceramic tiles, Terrazzo floors

The use of the alternatives for building materials will help reduce the use of non-renewable resources and impact on natural resources. The materials used should be mentioned specifically in the EIA report. Alternative options in building materials are summarized below.

	Conventional Materials	Alternate
Wall 	Clay bricks with cement mortar	*Earth blocks*- Earth blocks stabilized with 5%–15% of cement are good choice for low cost, low-rise construction in hot-humid climates. Brick and block products with waste and recycled contents such as fly ash (waste from coal burning plants), blast furnace slag, sewage sludge, waste wood fibre, rice husk ash, etc. Concrete blocks using lime or waste wood fiber provide reduction of waste and saves energy. Fly ash can be used to replace about 15% to 35% of the total cementitious material. The slag content can be used to replace the same between 20% and 25%. *Fly ash-based lightweight aerated concrete blocks*- Fly ash is a waste product of thermal power plant. Fly ash-based lightweight aerated concrete blocks are manufactured for walling and roofing purposes by mixing fly ash, quick lime, or cement and gypsum with a foaming agent like aluminium powder. *Fal-G (Fly ash, lime, and gypsum)*- Fal-G products are manufactured by binding fly ash, lime, and calcined gypsum (a by-product of phosphogypsum or natural gypsum).
Roof 	The conventional material used for roofing is RCC, as it is suitable for longer spans. The constituents of RCC, i.e, cement, sand, aggregate and steel all are energy intensive materials and high-embodied energy content.	Use of lightweight synthetic aggregate- The example is fly ash based aggregate, which is suitable for manufacture of brick, blocks, and is good substitute for clinker and natural aggregates. Pre-cast / aerated cellular concrete walling blocks and roofing slabs- These are manufactured by the aerated cellular concrete manufacturing process. When used in multi- storied structures, they reduce the weight, resulting in a more economical design. They have high rating to fire resistance and provide better insulation.

	Conventional Materials	Alternate
Superstructure  Different stages of climbing formwork	Structural frame of building comprises of footing, columns, beams and lintels, over which the envelope of building is supported.	Ferro cement- The composite Ferro cement system is simple to construct and is made of Ferro cement—a rich mortar reinforced with chicken or/and welded wire mesh. Metals- A variety of metals are used in buildings, but the major building material used structurally is steel. Steel has a high-embodied energy and recyclable content, as well as scrap value. Aluminium forms the second most common material used for roofing sheets, window frames, and cladding systems, which has the highest recyclable content. Use of fly ash and/or blast furnace slag concrete -The amount of cement used in concrete can be reduced by replacing a portion of the cement with coal fly ash (waste material from coal burning power plants) and/or GGBF (ground-granulated blast furnace) slag in conventional mixes. Recycled aggregates Recycled aggregates- Crushed concrete, brick, glass, or other masonry waste can also be used in conventional mixes. Lightweight concrete- Aluminium powder when added to lime reacts and form hydrogen bubbles, and a lightweight cementitious material (high strength to weight ratio and an insulation value of R-10 in a 20.32-cm thick wall) is formed which could be used in conventional mixes.

	Conventional Materials	Alternate
Roads and open spaces	This part of housing units consists of compound walls, grills, roads, sidewalks, parking lots, drains, curbs, landscaped areas, street furniture, tree covers, flowerbeds	Permeable paving- Permeable (porous) paving should be used to control surface water runoff by allowing storm water to infiltrate the soil and return to the ground water. Gravel/crusher fines- Loose aggregate material used to cover pedestrian surfaces. Porous asphalt (bituminous concrete)- A porous asphalt layer constructed with "open- graded" aggregate (small fines removed), which leaves voids between the large particles unfilled by smaller fine. Porous Concrete- A concrete mix without the fine aggregate, and with special additives for strength. Permeable paving is not intended to replace standard impervious paving, but to limit the use of impermeable paving to heavy traffic areas.
Roads and open spaces		Use of grass pavers on the road, parking and pedestrian areas is a solution to reduce the heat island effect.
Use of Bamboo in Road construction		Bamboo has been used for road reinforcements in Orissa, which has proved its credibility.
Use of bamboo fence instead of steel grills		Use of steel in fencing, grills, tree covers, and benches and even in streetlights can be easily replaced by bamboo.

Natural hazard prone areas

Areas likely to have moderate to high intensity of earthquake, or cyclonic storm, or significant flood or inundation, or land slides/ mud flows / avalanches etc are identified as risk zones. The structural design of foundation, elements of masonry, timber, plain concrete, reinforced concrete, pre-stressed concrete, and structural steel should conform to the general structural safety of the National Building code (Annexure 12)

Green Buildings

The appearance of a Green Building will be similar to any other building. However, the difference is in the approach, which revolves round a concern for extending the life span of natural resources;

provide human comfort, safety and productivity. This approach results in reduction in operating costs like energy and water, besides several intangible benefits. Some of the salient features of a Green Building are:

- Minimal disturbance to landscapes and site condition
- Use of Recycled and Environmental Friendly Building Materials
- Use of Non-Toxic and recycled / recyclable Materials
- Efficient use of Water and Water Recycling
- Use of Energy Efficient and Eco-Friendly Equipment
- Use of Renewable Energy
- Indoor Air Quality for Human Safety and Comfort
- Effective Controls and Building Management Systems

Issues in Green Building

Energy Efficiency and Renewable Energy

- Building orientation to take advantage of solar access, shading, and natural lighting
- Effects of micro-climate on building
- Thermal efficiency of building envelope and fenestration
- Properly sized and efficient heating, ventilating, and air-conditioning (HVAC) system
- Alternative energy sources
- Minimization of electric loads from lighting, appliances, and equipment
- Utility incentives to offset costs

Direct and Indirect Environmental Impact

- Integrity of site and vegetation during construction
- Use of integrated pest management
- Use of native plants for landscaping
- Minimization of disturbance to the watershed and additional non-point-source pollution
- Effect of materials choice on resource depletion and air and water pollution
- Use of indigenous building materials
- Amount of energy used to produce building materials

Resource Conservation and Recycling

- Use of recyclable products and those with recycled material content
- Reuse of building components, equipment, and furnishings
- Minimization of construction waste and demolition debris through reuse and recycling
- Easy access to recycling facilities for building occupants
- Minimization of sanitary waste through reuse of graywater and water-saving devices
- Use of rainwater for irrigation

- Water conservation in building operations
- Use of alternative wastewater treatment methods

Indoor Environmental Quality

- Volatile organic compound content of building materials
- Minimization of opportunity for microbial growth
- Adequate fresh air supply
- Chemical content and volatility of maintenance and cleaning materials
- Minimization of business-machine and occupant pollution sources
- Adequate acoustic control
- Access to daylight and public amenities

Community issues

- Access to site by mass transit and pedestrian or bicycle paths
- Attention to culture and history of community
- Climatic characteristics as they affect design of building or building materials
- Local incentives, policies, regulations that promote green design
- Infrastructure in community to handle demolition-waste recycling
- Regional availability of environmental products and expertise

Building Green concentrates on one key aspect of the greening process: the use of plants on and around urban buildings. Green buildings and greenspaces together define an integrated approach to plant life in cities that is central to any green programme. Trees and shrubs can help reduce overall energy use in buildings. The amount of energy saved depends on the building type, choice of tree species, positioning around the building and the prevailing climate.

Balconies and small terraces have become standard architectural features for multiple dwelling developments. The balcony garden is a natural development of the balcony's role as a link between interior and exterior environments.

Green walls - Modern cities provide enormous areas of wall space, in many cases stretching high above the street. Not all of this space is appropriate for growing plants, but much of it is – certainly much more than has been utilised in recent years.

Roofs present by far the most significant opportunities for the greening of buildings. Many cities have millions of sqmts of unused and unattractive roofs. They represent enormous wasted opportunities for improving the quality of city life. Some of the advantages for green roof include:-

- protection of roof surface from ultra-violet radiation and mechanical damage
- thermal insulation
- acoustic insulation
- lower maintainance costs for roofing materials
- reduction of stormwater runoff

- gardens for inhabitants of buildings
- masks ugly rooftops
- complements building forms
- absorption of CO_2, some air pollutants and dust

GRIHA, an acronym for Green Rating for Integrated Habitat Assessment, is the National Rating System of India. It is a green building 'design evaluation system', and is suitable for all kinds of buildings in different climatic zones of the country (*www.mnre.gov.in and* www.grihaindia.org). The basics benefits of following GRIHA rating system are

- Up to 30% reduction in energy consumption
- Limited waste generation due to recycling
- Less consumption of water
- Reduced pollution load & liability

The details for developing greening of roofs are given in Annexure 20.

5.2 Energy Conservation

There is a need adopt energy efficient technologies for conservation of energy. This section discusses some important recommendations of the energy conservation building code and the National building code 2005 on energy conservation.

The building form can affect the solar access of the building. The compactness of the building is measured using a ratio of surface area to volume. *Compactness = S/V, wh*ere, S = Surface area and V = volume. The orientation of the building is also an important fact with regard to energy conservation in the building. The building envelope for all air conditioned buildings / spaces are to comply with the ECBC code (www.beeindia@nic.in). Roofs and opaque walls should comply with the maximum assembly U factor or the minimum insulation R-value as given in Table 5.1 and Table 5.2 respectively.

Table 5.1 Roof Assembly U-factor and Insulation R-value Requirements

Climate Zone	24-Hour use buildings Hospitals, Hotels, Call Centers etc.		Daytime use buildings Other Building Types	
	Maximum U-factor of the overall assembly (W/ m2-°C)	Minimum R-value of insulation alone (m2-°C/W)	Maximum U-factor of the overall assembly (W/ m2-°C)	Minimum R-value of insulation alone (m2-°C/W)
	Composite	U-0.261	R-3.5	U-0.409 R-2.1
	Hot and Dry	U-0.261	R-3.5	U-0.409 R-2.1
	Warm and Humid	U-0.261	R-3.5	U-0.409 R-2.1
	Moderate	U-0.409	R-2.1	U-0.409 R-2.1
	Cold	U-0.261	R-3.5	U-0.409 R-2.1

Source: ECBC Code 2005

Table 5.2 Opaque Wall Assembly U-factor and Insulation R-value Requirements

Climate Zone	Hospitals, Hotels, Call Centers (24-Hour)		Other Building Types (Daytime)	
	Maximum U-factor of the overall assembly (W/m2-°C)	Minimum R-value of insulation alone (m2-°C/W)	Maximum U-factor of the overall assembly (W/m2-°C)	Minimum R-value of insulation alone (m2-°C/W)
Composite	U-0.352	R-2.35	U-0.352	R-2.35
Hot and Dry	U-0.369	R-2.20	U-0.352	R-2.35
Warm and Humid	U-0.352	R-2.35	U-0.352	R-2.35
Moderate	U-0.431	R-1.80	U-0.397	R-2.00
Cold	U-0.369	R-2.20	U-0.352	R-2.35

The concept of passive solar design emphasizes architectural design approaches that minimize building energy consumption by integrating conventional energy-efficient devices, such as mechanical and electrical pumps, fans, lighting fixtures, and other equipment, with passive design elements, such as building siting, an efficient envelope, appropriate amounts of fenestration, increased daylighting design, and thermal mass. The basic idea of passive solar design is to allow daylight, heat, and airflow into a building only when beneficial.

Passive building design starts with consideration of siting and daylighting opportunities and the building envelope; then building systems are considered. Almost every element of a passive solar design serves more than one purpose. Landscaping can be aesthetic while also providing critical shading or direct air flow. Window shades are both a shading device and part of the interior design scheme. Masonry floors store heat and also provide a durable walking surface. Sunlight bounced around a room provides a bright space and task light.

Components of Solar Techniques

	Advanced Solar Passive Techniques	
	Passive heating : Heat storage modulates the excess and deficit in solar gain over the daily cycle	Spontaneous warming effect resulting from the absorption of solar radiation. The temperature rise this induces leads to heat flow from the affected surface to other surfaces and indoor air, as well as to heat storage within the building structure.
	Passive heating *Direct gain method*:	Glazed windows are located to face the south (in the northern hemisphere) to receive maximum sunlight in winter. To reduce heat losses during the night these windows are often double-glazed and have insulating curtains. Some examples of thermal storage materials are concrete, bricks, stone, and water.
	Passive heating : *Indirect gain :*	thermal storage wall is placed between the glazing and habitable space. This prevents solar radiation from directly entering the living space.

	Passive heating : *Trombe wall* :	A trombe wall is a thick solid wall with vents at its lower and upper ends.
	Passive heating : Solar chimneys :	This system is a kind of modified trombe wall that is incorporated into the roof. A solar chimney is essentially a collector panel with minimum thermal inertia on the south face (in the northern hemisphere) of the building.
	Passive heating: Sunspaces / solaria :	It essentially consists of a greenhouse constructed on the south side of the building with a thick mass wall linking the two.
	Passive Cooling: Evaporative cooling :	Passive cooling systems rely on natural heat sinks to remove heat from a building. They derive cooling directly from evaporation, convection radiation without using any intermediate electrical devices.
	Passive Cooling:	The evaporative cooling with increase in moisture content of the air is called direct evaporative cooling and when there is no increase of moisture content it is called indirect cooling.
	Passive Cooling: Indirect evaporative cooling systems :	The most commonly used system is a desert cooler, which comprises water, evaporative pads, a fan and a pump.
	Passive Cooling: Roof sprays:	External cooling through humidification can be achieved by keeping the surfaces of roofs moist using sprays or a lawn sprinkler. The surface temperature can be reduced significantly, but large amounts of water are used.
	Passive Cooling: Roof Pond:	A water body covering the roof functions similarly to a soil cover, it minimizes the diurnal temperature range. It is a technically demanding and expensive solution.
	Radiative cooling:	Nocturnal cooling: Night sky cooling can use very low-energy passive systems and can be very effectively used for office buildings, institution, residential buildings.
	Ground cooling:	Heat dissipation to the ground can be achieved by conduction or by convection.
	Ground cooling strategies : Earth berm structure :	Underground structures in contact with the earth are benefited by the huge thermal mass of the adjacent ground and are thus not affected by hot days or chilly nights.
	Ground cooling strategies : Geothermal cooling or earth-air tunnel systems :	Hot summer air is passed through a buried pipe and as it passes through there is an exchange of heat between the air and the surrounding earth. Hence, during the summer, the air gets cooled up and during the winter it gets heated up. This air is circulated to

		the living spaces where it takes up the humidity and cools the structure by convection.
	Ground cooling strategies : Ventilation *strategies*:	Chimneys Chimney or stacks can be used to provide high -level ventilation outlet devices. Wind towers Wind towers are generally used in hot and dry climates for cooling.

Day-lighting brings light into a building interior and distributing it in a way that provides more desirable and better quality illumination than artificial light sources. This reduces the need for electrical light sources, thus cutting down on electricity use and its associated costs and pollution. The general day-lighting principles include:-

- Avoid direct sunlight on critical tasks and excessive brightness.
- Bring the daylight in at a high location.
- Filter the daylight.
- Bounce daylight off of surrounding surfaces.
- Integrate daylight with other building systems and strategies.

Energy efficient lighting design focuses on methods and materials that improve quality of lighting (Annexure 13). The general lighting systems need to comply with the ECBC code and apply to the following:-

(a) Interior spaces of buildings,

(b) Exterior building features, including facades, illuminated roofs, architectural features, entrances, exits, loading docks, and illuminated canopies, and,

(c) Exterior building grounds lighting that is provided through the building's electrical service.

Exceptions to above:

(a) Emergency lighting that is automatically off during normal building operation and is powered by battery, generator, or other alternate power source; and,

(b) Lighting in dwelling units except for dwelling units where the developer is providing lighting fixtures inside the units (however, common area lighting of residential complexes fall under purview of the code)

Solar photovoltaic systems (SPV) can be used as it is direct conversion of sunlight into electricity and could be a viable option. Street lighting, fixed type solar lighting system are some applications of SPV systems. The recommended values for illuminance is given in Annexure 14.

A new lighting technology in the form of Light Emitting Diodes is also available nowadays. These are solid light bulbs, which are extremely energy efficient. An LED lamp generally lasts about 10 times longer than CFLs and about 130 times more than an ordinary Incandescent lamp. Certified Emissions Reductions (CERs) on the basis of the CO emissions reductions that would occur because of the low electricity consumption of CFLs compared to incandescent bulbs.

5.3 Transportation

Road network: A well-planned road network both within the township and connecting to the nearest highway or main road need to be established so that proper communication links are established.

Some of the factors are important and must be taken into the consideration, while planning, are the movement of heavy traffic loads and operation of construction machinery. Construction machinery due to its operation produces smoke, dust and noise and vibration. Road design should be done with due consideration for environment, and safety of the people residing or working near the roads.

Transportation system is dependent on a number of factors, like design of the engine of the vehicles, traffic rules and regulations, which are not under our control. However the Hierarchy of roads, Road geometry and traffic calming, Entry and exit points, Parking norms can be planned.

Hierarchy in roads should be adopted to segregate the traffic according to the size, frequency and density of traffic. Arterial roads meant for intra-urban through traffic with intersection spacing of 500m, sub-arterial roads meant for intra-urban through traffic with frontage access, no standing vehicles having high cross traffic, high capacity intersections and minimum roadway intersection spacing 300 m. Collector Streets for collecting and distributing traffic from and to local streets and also for providing access but no parked vehicles and having heavy cross traffic and minimum roadway intersection traffic spacing 150 m. Local Streets for access to residence, business or other abutting property, having necessary parking and pedestrian movement (Annexure 18). Design considerations for roads of different hierarchy are given below

Design Considerations for Roads of Different Hierarchy

Type of Road	Design speed	Right of way
Arterial	80 kph	50-60m
Sub-arterial	60 kph	30-40 m
Collector street	50 kph	20– 30 m
Local Street	30 kph	10-20 m

Source: UDPFI guidelines volume i august 1996

Traffic calming is required in school, hospital zones. The tools of traffic calming include:-

1. Installation of speed humps by raising the surface of the street in certain spots.
2. Narrowing the street to give drivers the feeling they are in a crowded place, which will make them slow down and totally or partially blocking half the entrance to a side street so drivers cannot turn in but still can come out.
2. Speed tables, build outs, etc.
3. Space for vehicles at the entrance gate for checking before entry.

The entry and exit points design is very important as it should not disturb the existing traffic. Sufficient parking provisions are to be made. Visitors parking should not disturb the traffic of surrounding area. Additional space should be left for the lanes as per the design of existing road, surrounding the site. The standard spacing for car parking are given in Annexures 19.1 and 19.2.

Parking facilities for visitors

- For individual homes it is necessary to provide 1 visitor car park
- For multi dwelling units it is necessary to provide an additional 10% parking area over and above the normal parking requirements
- Design of the building is to ensure that adequate parking provisions are made to cater to the occupants as well as visitors
- The parking provisions should take into consideration the two wheelers and four wheelers. It is also desirable to design parking facilities with basement / stilts parking to reduce the heat island effect. When inevitable the surface parking planned should cover issues to address heat island effect.
- It is also desirable to have electric charging facility for vehicles which could cater for both two and four wheelers.

6

ENVIRONMENTAL MONITORING PROGRAM

6.0 General

This includes the technical aspects of monitoring the effectiveness of mitigation measures (including measurement methodologies, data analysis, reporting schedules, emergency procedures, detailed budget and procurement schedules). The details include summary matrix of environmental monitoring, during construction and operation stage; requirement of monitoring facilities; frequency, location, parameters of monitoring; compilation and analysis of data; comparison with base line data and compliance to accepted norms and reporting system and plantation monitoring programme.

The description of the monitoring programme should include:

(a) A technical plan which spells out in detail the methodologies for measurement, the required frequencies of measurement, the planned location of measurement, data storage and analysis, reporting schedules and emergency procedures, and

(b) Detailed budgets and procurement schedules for, necessary equipment and supplies, technical and administrative manpower.

The environmental monitoring includes

- Air pollution
- Noise level monitoring
- Water quality monitoring and ground water level monitoring
- Maintenance of rainwater harvesting pits and other water conservation methods used are to be done regularly.

The entire data is to be furnished to the regulatory agencies.

7

ADDITIONAL STUDIES

7.0 General

This chapter covers the risk assessment and disaster management plan. Apart from these, R & R Action Plan and Natural Resource Conservation plan are also included in this chapter.

7.1 Risk Assessment and Disaster Management Plan (DMP)

Emergency prevention through good design, operation, maintenance and inspection are essential to reduce the probability of occurrence and consequential effect of such eventualities. The overall objective of the Emergency Response Plan ERP is to make use of the combined resources at the site and outside services to achieve the following:-

- Localize the emergency
- Minimize effects on property and people
- Effective rescue and medical treatment
- Evacuation

7

Major hazards identified include:-

- Hazards pertaining to fires in buildings
- Fire in diesel storage areas, garbage storage and disposal area
- Earthquakes
- LPG gas leak
- Flooding from natural and man-made causes
- Electrical accidents

7.2Natural Resource Conservation

Plan of action for conservation of natural resources and recycle waste materials due to the project activity in the construction and operational phase of the project is to be discussed.

7.3R&R Action Plan

Detailed R&R Plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns / employment for the displaced people, civil and housing amenities being offered, etc and the schedule of he implementation of the project specific R&R Plan if any is to be given. Details of provisions (capital & recurring) for the project specific R&R Plan .

National Policy on Resettlement and Rehabilitation for project affected families-2003 (published in the gazette of India, extraordinary part-i, section 1, no- 46, dated 17th February, 2004)gives the details of the national R&R policy.

8

PROJECT BENEFITS

8.0 General

This chapter should include benefits accruing to the locality, neighborhood, region and nation as a whole. It should bring out details of benefits by way of:

- Improvements in the physical infrastructure of project, ancillary industries that may come up on account of the project.
- Improvements in the social infrastructure like roads, railways, townships, housing, water supply, electrical power, drainage, educational institutions and hospitals etc.
- Employment potential skilled; semi-skilled and unskilled labour both during construction and operational phases of the project with specific attention to employment potential of local population as well as necessity for imparting any specialized skills to them to be eligible for such employment in the project on a long term basis i.e., during operational and maintenance stages of the project

9

ENVIRONMENTAL MANAGEMENT PLAN

9.0 General

Environmental Management Plan (EMP) deals with mitigation of unavoidable or residual impacts. The Environmental Management Plan (EMP) is needed to ensure that the mitigation measures specified in the EIA will actually be complied with when the project is approved for implementations. The administration of EMP may be required the establishment of an Environmental management cell to house monitoring staff after the closure of the EIA office. Funding to cover the costs of establishing and operating an appropriate Environmental Management Cell to administer the EMP should be guaranteed in the basic project budget.

The EIA report should include a description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of EIA. The facilities to be included are:

- Water supply and management: A well-planned and sustainable water management system is to be built within the township, providing round the clock water supply to residents. This also reduces dependence on municipal water supply.
- Electricity supply and management: Although an integrated township depends on a public or private utility supplier for basic power supply, it has to have adequate, back-up power for both homes and common areas during temporary or scheduled power cuts or disruptions by the utility supplier.
- Infrastructure maintenance: Proper and regular maintenance of roads, pathways, parks, electrical and plumbing infrastructure, children play areas and common areas including community centre is essential for a well-developed integrated township.
- Provision of Effective Controls and Building Management Systems such as Automatic Fire Alarm and Fire Detection and Suppression System etc. must be ensured. Adequate access to fire tenders should be provided.
- Provisions should be kept for the integration of solar water heating system and other energy conservation methods.
- Plan and design of green belt to mitigate dust, noise and odour near sources of air pollution (DG sets) and meteorology.
- Plan of maintenance for rainwater harvesting structures in the project area (taking into consideration the groundwater storage, ground water table and soil permeability).

9

The waste treatment facilities to be included are:

- Sewage treatment plant has been designed to treat the wastewater from the building. The wastewater be treated to tertiary level and after treatment, reused for flushing of toilets in apartment building, horticulture and air conditioning.
- Grey water treatment: Grey water is the wastewater that comes from clothes washers, bathtub, showers, bathroom wash basins, kitchen sinks and dish washers. It is that waste

water that is not contacted with toilet waste. This treated grey water can be used for landscaping, flushing requirements etc. It is essential to provide on-site grey water treatment system to treat atleast 50% of the water generated in the building to standards suitable for flushing and landscaping.

- Treated wastewater reused for landscaping, car washing etc. and partly discharged. Treated sewage should conform to E(P) Rules. Sewage Treatment Plants and monitored on a regular basis
- Spent oil from DG Sets should be stored in HDPE drums in isolated covered facility and disposed off as per the Hazardous Wastes (Handling & Management) Rules, 2003. Spent oil from DG Sets should be disposed off through registered recyclers only.
- Management of increment in storm water run off caused due to the built up and paved surfaces created in the township
- Root zone treatment provides an opportunity to treat waste water in a decentralised manner. Similarly, vessel-type converters can treat bio-degradable solid wastes in small space and relatively free from odour.

The environmental management plan should clearly mention the landscaping and the tree plantation to be taken up in the area. Also the parks and gardens if any to be developed are to be mentioned. The total number of plantations to be developed in the area are to be mentioned.

The plans to be adopted for handling of the domestic wastewaters and the solid waste management plan are to be detailed out.

10

SUMMARY AND CONCLUSIONS

10.0 General

The summary should be a clear presentation of the critical facts that make up each issue, and the resolution of the issues. Whenever possible, the summary should make use of base maps, tables and figures. Information should be condensed into succinct, but meaningful presentations. It must be able to stand alone as a document.

The summary should highlight the significance of the baseline data collected, impacts identified and the proposed environmental monitoring systems during the construction and operational phases of the project.

It should necessarily cover and brief the following chapters of the full EIA report and address the following:-

- Introduction
- Project description & Project benefits
- Environmental Examination
- Additional Studies
- Environmental Management Plan and Post Project Monitoring Program
- Environmental Risk Assessment (ERA) and Disaster Management Plan (DMP)

The following should be highlighted in the EIA report

- Public health and safety issues related to the project;
- The socio-economic impacts of the project;
- New building technologies to be implemented
- Energy conservation measures to be implemented
- Statement of overall impact of the construction activity on the environment.

11

DISCLOSURE OF CONSULTANT ENGAGED

11.0 General

The EIA consultants shall have accreditation with Quality Control of India (QCI)/ National Accreditation Board of Education and Training (NABET) as per office memorandum dated 2nd December 2009 of MoEF. This chapter shall include the names of the consultants engaged with their brief resume and nature of consultancy rendered. The consultants shall include the copy of the accreditation certificate and data provided by the other organizations/ laboratories including their status of approvals etc.

11

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GLOSSARY

- "Built Up Area (BUA)" means the gross permissible built up area of a Township.
- "Township" means an integrated development of a contiguous land parcel which contains within itself requisite physical and social infrastructure, with access to off site physical and social infrastructure and fulfils all conditions laid down under this policy.
- "Ancillary Housing" means housing developed principally to support the workforce of an economic activity developed within the Township.
- "On-site Physical Infrastructure" means all the on site services such as roads including approach Roads, Street lights, Water supply system, Sewerage system, Storm water drainage system, Electrical Network, Communication Network, Sewage Treatment Plants, Percolation Wells, Solid Waste Disposal system, Common Effluent Treatment Plants (CETP), spaces for Informal Services etc. as provided for in Schedule
- "On-site Social Infrastructure" means all the on site amenities supportive to the resident population as per the prevailing norms such as Nursery, Crèche, Primary school, Composite School, Dispensary, Polyclinic, Community Hall, Library, Convenience Shopping, Playfields, Parks, Police station, Public parking, Bus station, Fire station, Post office etc, EWS Housing for the informal service providers of the Township, all the components necessary to facilitate barrier free accessibility for the Senior citizens and Physically challenged persons as prescribed by the concerned GDCRs and land reservations for social infrastructure requisite on the macro scale to be handed over to the local Authority as may be prescribed by the Authority.
- "Scale Category (SC)" means Township categories based on the scale of land area, BUA and investment as defined in the Policy.
- "Use Category (UC)" means Township categories based on the predominant activity as defined in the Policy.
- "Vulnerable Area" means areas where development of Townships will be subject to compliance to norms for mitigation of potential hazards and their impacts.
- "Developer" means a Company, a Government Corporation, a group of Companies in Joint Venture, undertaking the development of the Township.
- "Facility Management Services" means the services offered by a private sector, public sector, joint sector or consortium for the Operation & Maintenance of all on site physical and social infrastructure.

TABLES

Table 3.1 Physical Properties of Soil

Station Code	Colour	Texture	Water Holding capacity (%)	Porosity (%)	Sand (%)	Salt (%)	Bulk Density gm / cc	Permeability ml

Table-3.2 Chemical Properties of Soil

Parameters	Samples					
pH						
Potassium						
Sodium						
Sodium Absorption Ratio						
Cation exchange capacity						

Table 3.3 Description of Ground Water Sampling Locations

Station No.	**Location**	**Distance & Direction from project area**	**Project area / study area**	**Environmental Setting**

Table 3.4 Analysis of Ground Water

S. No	**Parameters**	**Unit**	**Result**			**Standards**
			GW1	GW2	GW3	

Table 3.5 Description of Surface Water Sampling Locations

Station No.	Location	Distance & Direction from project area	Project area/ study area	Environmental Setting

Table 3.6 Analysis of Surface Water

S. No	Parameters	Unit	Result			Standards
			SW1	SW2	SW3	

Table No. 3.7 Description of Ambient Air Quality Monitoring Stations

Station No.	Location	Distance & Direction from project area	Project area / study area	Environmental Setting

Table-3.8 Analysis of Ambient Air Quality

Monitoring Station Category (R,I,S)	Category of Station	Min.	Max.	Mean	95 Percentile	Min.	Max.	Mean	95 Percentile	Min.	Max.	Mean	95 Percentile	Min.	Max.	Mean	95 Percentile	Min.	Max.	Mean	95 Percentile

R - : Residential Are
I - : Industrial Area
S - : Sensitive Area

Table No. 3.9 Description of Noise Monitoring Stations

S. No	Locations	Class*	Average Day noise level (dBA)	Average Night noise level (dBA)	Day time (6.00 A.M. to 10.00 P.M)	Day time (10.00 P.M. to 6.00 A.M)	Remarks
					Standard (L_{eq} in dBA)	Standard (L_{eq} in dBA)	

*Industrial area / Commercial area / Residential area / Silence zone

Table 3.10 Demographic Profiles of the Villages in the Study Area

Sl. No.	Demographic Feature	Study Area	Share in total Population (%)
1.0	Total Population		
2.0	Households		
3.0	Occupation		

Table 3.11 Other Infrastructural Facilities Available in the Study Area

Sr. No.	Name of the village	DWF	Tp	W	T	TW	HP	R	C	L	S	O	PO	TO	PT	P	B	RS	NW	CB	CoB

Note:

DWF : Drinking Water Facility
Tp : Tap
W : Well
T : Tank
TW : Tube Well
HP : Hand Pump
R : River
C : Canal
L : Lake
S : Spring
O : Others
PO : Post Office
TO : Telegraph Office
PT : Post & Telegraph Offices
P : Phone
B : Bus
RS : Railway Service
NW : Navigable Waterways
CB : Commercial Bank
CoB : Co-operative Bank

ANNEXURES

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Annexure 1

Terms of Reference (TOR) For Environmental Impact Assessment of Building, Construction and Township and Area Development Projects

Objective

Terms of Reference (TOR) for preparation of Environmental Impact assessment (EIA) and Environmental Management Plan for building construction projects (=1,50,000 sq .mtrs) township and area development projects (= 50 ha) as per the EIA notification, 2006 has been devised to improve the quality of the reports and facilitate the decision making transparent and easy. TOR will help the project proponents and consultants to prepare report with relevant project specific data, which are easily implementable. As per the EIA notification 2006, schedule item 8 corresponds to Building construction projects / area development projects and townships. The details of the categories mentioned in the given schedule are as follows:

Project or Activity		Category with threshold limit – B Category	General Conditions
8	**Building /Construction projects/Area Development projects and Townships**		
8(a)	Building and Construction	=20000 sq.mtrs and <1,50,000 sq.mtrs.	"Any project or activity specified in Category of built-up area# 'B' will be treated as Category projects 'A' if located in whole or in part within 10 km from the boundary of: (i) Protected areas notified under the Wildlife (Protection) Act, 1972; (ii) Critically polluted areas as identified by the Central Pollution Control Board from time to time; (iii) Eco-sensitive areas as notified under section 3 of the Environment (Protection) Act, 1986, such as, Mahabaleswar Panchangi, Matheran, Pachmarhi, Dahanu, Doon Valley and (iv) inter-state boundaries and international boundaries Provided that the requirement regarding distance of 10km of the inter-state boundaries can be reduced or completely done away with by an agreement between the respective states or U.Ts sharing the common boundary in the case the activity does not fall within 10 kilometers of the areas mentioned at item (i), (ii) and (iii) above
8(b)	Townships and Area Development projects.	Covering an area = 50 ha and or built up area =1,50,000 sq .mtrs ++	
#(built up area for covered construction; in the case of facilities open to the sky, it will be the activity area)			
++All projects under Item 8(b) shall be appraised as Category B1			

EIA clearance is required in the case of the following:-

a. Building construction projects (=1,50,000 sq .mtrs)

b. Township and area development projects (= 50 ha)

Accordingly the TOR to address the above two aspects of item 8(b) of the EIA notification 2006 are covered in this document. The TORs are given in two subsections (I) and (II) in which subsection (I) deals with building construction projects (=1,50,000 sq .mtrs) and subsection (II) deals with township and area development projects (= 50 ha).

I. Building and Constructions projects(=1,50,000 sq .mtrs)

General Information :

Building and construction projects as per the EIA notification of 2006 are under category 'B' covering built up area =1,50,000 sq .mtrs. All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction / Township / Commercial Complexes / Housing) do not require scoping and will be appraised on the basis of Form 1 / Form 1A and the conceptual plan. All projects in this category will be appraised as Category B1. An application seeking prior environmental clearance in all cases should be made in the prescribed Form 1 and Supplementary Form 1A, after the identification of prospective sites for the project to which the application relates, before commencing any construction activity, or preparation of land, at the site by the applicant. The applicant should submit along with the application, in addition to Form 1 and the Supplementary Form 1A, a copy of the conceptual plan.

1.0 Introduction

Profile of the project proponent, name and contact address, implementing organization, organizational chart, project consultants etc., should be mentioned clearly.

Land description- plot/ survey numbers, village, tehsil, district, state and area of the land must be mentioned clearly.

Description of Centre/State/Local regulations and standards applicable for townships and area development projects should be discussed.

Any litigation(s) pending against the proposed project and / or any directions or orders passed by any court of law/any statutory authority against the project is to be detailed out.

2.0 Project Description

Goal and objectives of the proposed project, significance of the project both at local and regional level, relevance of the project in light of the existing development plans of the region are to be mentioned clearly. Background information and overall scenario of the proposed activity in the Indian Context, procedures adopted for selection, Criteria for selection of the site for the proposed activity, such as environmental, socio-economic, minimization of impacts, ecological sensitivity, Impact of existing activities on the proposed activity, etc. should be spelt out. Resource and manpower requirements have to detailed. Time frame for project initiation, implementation and completion should be detailed.

- Total site area
- Total built up area (provide area details) and total activity area
- Source of water and consumption
- Source of power and requirement
- Source of Power
- Connectivity to the city center, utilities and transportation networks community facilities
- Parking requirements

- Type of building material to be used
- Environmental liability of the site
- Existing structure / type of material – demolition debris etc.

Essential Toposheets / Maps to be Provided with TOR Application

A map of the study area 500meters from the boundary of the project area, delineating the major topographical features such as land use, drainage, locations of habitats, major constructions including roads, railways, pipelines, industries if any in the area are to be mentioned.

A map covering aerial distance of 15 kms from the boundary of the proposed project area delineating environmental sensitive areas as specified in Form I of EIA notification dated 14th Sep 06. In the same map the details of environmental sensitive areas present within a radial distance of 1 Km from the project boundary shall be specifically shown

Remote Sensing Satellite Imagery

Land use map of the study area in 1: 10,000 scale based on high resolution satellite imagery delineating the forest, agricultural land, water bodies, settlements, and other cultural features.

Digital Elevation Model / Contour Map

Contour map on 1:10000 scale for the study area showing the various proposed break-up of the land.

Description of the project site, geology, topography, climate, transport and connectivity, demographic aspects, socio, cultural and economic aspects, villages, settlements should be given.

Details of environmentally sensitive places, land acquisition, rehabilitation of communities/ villages, present status of such activities are to be mentioned. .

Historical data on climate conditions such as wind pattern, history of cyclones, storm surges, earth quake etc., for the last 25 years are to be given.

Detailed layout plan of proposed project development, communication facilities, access / approach roads, landscape, sewage disposal facilities, and waste disposal etc; to be given. Layout plan of proposed development of built up areas with covered construction such as DG Set rooms, Administrative buildings, Utilities such as Main and Stand By Power, Water supply installations etc; to be given.

Requirement of natural resources and their sources are to be detailed out.

Site Selection and Planning

The environmental impacts of construction and operation are established during the early phases of site selection and planning. Planning, site selection and design form an important stage in the development of these projects and will determine their environment impact(s)

Some Important factors for development, which should be addressed, are: -

- Status of ownership of land

- The boundaries of the project area
- A map that identifies the locations of all proposed development activities; and
- A map and photo mosaic showing the area proposed to be disturbed in relation to existing topographic features, township grids, wetlands and water bodies.
- Proximity to local communities;
- Proximity to sensitive surface or ground water bodies
- Compatibility with local building regulations
- Exiting drainage pattern
- Any forest-cover within the proposed developmental area.

3.0 Description of the Environment

Environmental data to be considered in relation to township development would be: (a) land (b) ground water, surface water (c) air (d) biological environment (e) noise (f) socio economic environment.

Study Area:

Map of the study area clearly delineating the location of various monitoring stations (air / water / soil and noise) superimposed with location of habitats are to be shown. Monitoring should be done as per CPCB guidelines. Primary data should be collected for one season except rainy season. Monitoring of the parameters should be carried out within the study area.

3.1 Land Environment

The first feature which should influence the development of a new project is the existing land use pattern of the neighbourhood of the project, whether the proposed development conforms to the development for that area or not. Study of land use pattern, habitation, cropping pattern, forest cover, environmentally sensitive places etc, employing remote sensing techniques and ground truth and also through secondary data sources.

Geographical latitude and microclimatic factors such as solar access and wind loads have a major impact. The following parameters have to be addressed under the baseline data for land environment.

a. Topography

Slope form

Landform and terrain analysis

b. Soil

Type and characteristics

Porosity and permeability

Sub-soil permeability

Inherent fertility

3.2 Water Environment

Identify Project activities, including construction phase, which may affect surface water or groundwater. Estimate water intake requirements and identify the source of water to be used. Describe how water will be taken from the surface water / river and conveyed to the site. Ground water budgeting has to be provided. Rainwater harvesting has to be detailed out.

Baseline water quality from all sources such as ground water, municipal water, surface water need to be determined and compared to the water quality norms prescribed for drinking water and State PWD specifications for construction water. Quantity of wastewater is to be provided.

3.3 Air Environment

Climatological data is to obtained from nearest India Meteorological Department (IMD) station for one full year. Micro meteorological data consisting of wind speed, wind direction, temperature, cloud cover, (amount and height), humidity, inversions, rainfall (peak and average vdaily rainfall) and wind rose patterns, from primary and secondary sources in the study area.

Baseline data of air pollutant parameters extending an area of 500meters from the project should be monitored at a number of locations. Description of base line data of ambient air parameters namely RSPM, nitrogen dioxide, Sulphur dioxide, and carbon monoxide are to be collected. One season data is to be monitored other than monsoon as per the CPCB Norms. Sampling locations are to be located as per CPCB norms.

3.4 Noise Environment

Construction equipment and road traffic are the major sources of noise. Baseline data of noise at the project area and the neighbourhood habitat areas is to be ascertained. Daytime and nighttime data should be collected.

3.5 Biological Environment

Baseline data on the flora and fauna for the study area is to be detailed out. An inventory map is to be prepared along with a description of the existing terrestrial, wetland and aquatic vegetation. If there are any rare and endangered species in the study area they are to be clearly mentioned.

3.6 Socio Economic Environment

Baseline data should include the demography, settlements, existing infrastructure facilities in the proposed area.

3.7 Solid Waste

Solid wastes from construction sector can be categorized into two phases i.e. during construction & during operation. Details of the following are to be given:

- Construction or demolition waste, i.e., massive and inert waste
- Municipal waste, i.e., biodegradable and recyclable waste
- Hazardous waste
- E-waste

Details of authorized municipal solid waste facilities, biomedical treatment facilities and hazardous waste disposal facilities in the area should be included.

4.0 Anticipated Environmental Impacts and Mitigation Measures:

4.1 *Land Environment*

Anticipated Impacts:

Some of the anticipated impacts, which need to be addressed, are

- Impact on the natural drainage system and soil erosion.
- Loss of productive soil and impact on natural drainage pattern.
- Study of the problem of land slides and assessment of soil erosion potential and the impact

Mitigation Measures :

Proper mitigation measures have to be suggested.

- If the topsoil is proposed to be preserved, the details relating to the quantity of topsoil stored, demarcated area on plan where it is stored along with preservation plan is to be given
- Details of soil erosion plan are to be given.

4.2 Air Environment

Anticipated Impact :

Impacts on air quality during the construction and operation phase should be predicted. The existing surrounding features of the study area and impact on them should be addressed separately. It is necessary to predict the following if any

- Prediction of point source emissions
- Prediction of air emissions from the vehicles during the construction and operation phases.

Mitigating Measures :

Mitigative measures are to be proposed during the construction stage as well as the operational stage of the project. Some measures to be listed include: -

- Mitigative measures during construction phase due to reduce the emissions during loading, un-loading, transportation and storage of construction materials.
- Greenbelt development.
- Dust mitigation

4.3 Noise Environment

Impact of project construction / operation on the noise on account of construction equipment and road traffic is to be studied.

Anticipated Impact:

- Noise due to demolition / construction activities
- Impact due to present and future transportation activities
- Impact of noise due to work at night.

Mitigating Measures :

- Site plan and details for construction management showing the layout of noise and dust barriers should be given

4.4 Water Environment

Impact of construction and operational phases on the surface and ground water on account of the building construction is to be estimated.

Anticipated Impact:

- Impact of water withdrawal on surface water is to be given
- Impact on ground water potential is to be detailed
- Waste water generation

Mitigating measures:

Prediction of ground water contamination and suggested mitigating measures to minimize the pollution level

- Hydrogeological information should be clearly detailed.
- Details of water conservation within the buildings
- Details of rainwater harvesting to recharge the ground water

4.5 Biological Environment

Impact of project during construction and operational phases on the biological environment on account of project activity is to be detailed.

Anticipated Impact:

Impact of construction activity on flora and fauna is to be given.

Mitigating measures :

- Tree survey plan showing protected / preserved / transplanted / removed trees are to the given.
- Proposed landscape plan with details about species that are to be planted are to be given

4.6 Socio Economic Environment

Anticipated Impact:

Predicted impact on the communities of the proposed activity is to be given. Impact on surroundings on socio-economic status is to be detailed.

Mitigation Measures:

Mitigation measures to reduce adverse effects are to be given.

4.7 Solid Waste and Environment

Anticipated Impact:

Impact of the project during construction and operational phases for generation of waste is to be assessed.

Mitigation Measures :

Options for minimization of solid waste and environmentally compactable disposal are to be given. Management and disposal of temporary structures, made during construction phase are to be addressed. Mitigation measures for handling biomedical wastes, e-wastes, municipal solid waste are to be detailed.

5.0 Specific Studies

Describe the project energy requirements, infrastructure requirements needed for this activity. Discuss the steps taken to integrate the needs of other stakeholders into the location and design of access infrastructure to reduce and manage overall environmental impacts from resource development.

5.1 Building Material and Technologies

- Detail the types of materials use in each component part of the building and landscape(envelope, superstructure, openings, and roads and surrounding landscape).
- Detail out the plans and sections of buildings showing use of new technologies and non-conventional methods
- Detail out the plans and sections of building using new construction techniques

5.2 Energy Conservation

- Use of alternate renewable resources such as solar / wind power etc is to be discussed.
- Discuss the options considered for supplying the power required for the Project and the environmental implications, including opportunities to increase the energy efficiency of the Project;
- Details of U &R values are to be given
- Details of the renewable energy systems (sizing and design), building costs and integration details are to be provided

5.3 Transport

- Estimate any environmental implications from transportation (rail, road) related emissions associated with the construction and operational phases and suggest suitable options
- Provide a site plan showing the details of connectivity existing and proposed road and rail transport.
- Provide a site plan showing buildings, roads, and open spaces, confirming the hierarchy of roads as per the rules given by UDPFI guidelines.

- Discuss the impact of increased vehicle traffic and requirements for access improvements on roads in the site development area as a result of the Project, considering other existing and planned developments and operations in the region including what measures will be taken to reduce traffic and enhance vehicle safety on external roads;
- Discuss any expected change in traffic volume by Average Annual Daily Traffic (AADT) and any seasonal variability in traffic volume (include mitigation measures) prior to construction, during construction and at full site operation;

6.0 Environmental Monitoring Program

- Frequency, location, parameters of monitoring
- Compilation and analysis of data and reporting system

7.0 Additional Studies

7.1 Risk Assessment (ERA) and Disaster Management Plan (DMP):

Discuss emergency plans for any environmental risks and such as earthquakes

- Types of Emergency; internal and external origin
- Emergency evacuation plan
- Emergency Procedures
- Helipad facilities for buildings with height beyond 60mts

7.2 Natural Resource Conservation

Plan of action for conservation of natural resources and recycle waste materials due to the project activity in the construction and operational phase of the project is to be discussed.

8.0 Project Benefits

This section details out the improvements in physical infrastructure, social infrastructure if any. Also it details out any employment potential and other benefits that are accrued if the project is taken up.

9.0 Environmental Management Plan (EMP)

Detailed EMP may be formulated to mitigate the residual impacts which should inter alias include the impact due to change in land use; due to loss of agricultural land and grazing land besides other impacts of the projects. Budgeting of the EMP may be included in EIA. The EIA should discuss in detail the following aspects:

- Sewage treatment plant has been designed to treat the wastewater from the building. The wastewater be treated to tertiary level and after treatment, reused for flushing of toilets in apartment building and gardening.
- Treated wastewater reused for landscaping, car washing etc. and partly discharged. Treated sewage should conform to E(P) Rules. Sewage Treatment Plants and monitored on a regular basis

- Spent oil from DG Sets should be stored in HDPE drums in isolated covered facility and disposed off as per the Hazardous Wastes (Handling & Management) Rules, 2003. Spent oil from DG Sets should be disposed off through registered recyclers only.
- Provision of Effective Controls and Building Management Systems such as Automatic Fire Alarm and Fire Detection and Suppression System etc. must be ensured. Adequate access to fire tenders should be provided.
- Provisions should be kept for the integration of solar water heating system and other energy conservation methods.

10.0 Summary & Conclusion (Summary EIA)

This document should summarize the significant findings of the study. The summary must describe each significant environmental issue and its resolution in sufficient detail so that its importance and scope, as well as the appropriateness of the approach taken to resolve it are well understood. Wherever possible, the summary should make use of base maps, tables and figures given in the report. The following should be addressed in the summary if applicable: -

- Potential interruption or limitation of accesses to dwellings, businesses or productive resources either permanently or temporarily;
- Encroachment or reduction of green areas, parks, and other recreational areas;
- Demolition of buildings high architectural or historical value;
- Potential deterioration of urban quality and property value in the immediate vicinity of the works or deterioration of unique architectural characteristics in the neighbourhood;

11.0 Disclosure of Consultant Engaged

This chapter shall include the names of the consultants engaged with their brief resume and nature of consultancy rendered.

Enclosures

Conceptual plan / Questionnaire / Photos

II. Township and Area Development Projects (= 50 ha)

General Information

Township and area development projects as per the EIA notification of 2006 are under category 'B' covering an area = 50 ha. All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction / Township / Commercial Complexes / Housing) do not require scoping and will be appraised on the basis of Form 1 / Form 1A and the conceptual plan. All projects in this category will be appraised as Category B1. An application seeking prior environmental clearance in all cases should be made in the prescribed Form 1 and Supplementary Form 1A, after the identification of prospective sites for the project to which the application relates, before commencing any construction activity, or preparation of land, at the site by the applicant. The applicant should submit along with the application, in addition to Form 1 and the Supplementary Form 1A, a copy of the conceptual plan.

1.0 Introduction

Profile of the project proponent, name and contact address, implementing organization, organizational chart, project consultants etc., should be mentioned clearly.

Land description- plot/ survey numbers, village, tehsil, district, state and area of the land must be mentioned clearly.

Description of Centre/State/Local regulations and standards applicable for townships and area development projects should be discussed.

Any litigation(s) pending against the proposed project and / or any directions or orders passed by any court of law/any statutory authority against the project is to be detailed out.

2.0 Project Description

Goal and objectives of the proposed project, significance of the project both at local and regional level, relevance of the project in light of the existing development plans of the region are to be mentioned clearly. Background information and overall scenario of the proposed activity in the Indian Context, procedures adopted for selection, Criteria for selection of the site for the proposed activity, such as environmental, socio-economic, minimization of impacts, ecological sensitivity, Impact of existing activities on the proposed activity, etc. should be spelt out. Resource and manpower requirements have to detailed. Time frame for project initiation, implementation and completion should be detailed.

Essential Toposheets / Maps to be Provided with TOR Application

A map of the study area 2 km from the boundary of the project area, delineating the major topographical features such as land use, drainage, locations of habitats, major constructions including roads, railways, pipelines, industries if any in the area are to be mentioned.

A map covering aerial distance of 15 kms from the boundary of the proposed project area delineating environmental sensitive areas as specified in Form I of EIA notification dated 14th Sep 06. In the same map the details of environmental sensitive areas present within a radial distance of 1 Km from the project boundary shall be specifically shown

Remote Sensing Satellite Imagery

Land use map of the study area in 1: 10,000 scale based on high resolution satellite imagery delineating the forest, agricultural land, water bodies, settlements, and other cultural features.

Digital Elevation Model / Contour Map

Contour map on 1:10000 scale for the study area showing the various proposed break-up of the land.

Description of the project site, geology, topography, climate, transport and connectivity, demographic aspects, socio, cultural and economic aspects, villages, settlements should be given.

Details of environmentally sensitive places, land acquisition, rehabilitation of communities / villages, present status of such activities are to be mentioned. .

Historical data on climate conditions such as wind pattern, history of cyclones, storm surges, earthquake etc., for the last 25 years is to be given.

Detailed layout plan of proposed project development, communication facilities, access / approach roads, landscape, sewage disposal facilities, and waste disposal etc; to be given. Layout plan of proposed development of built up areas with covered construction such as DG Set rooms, Administrative buildings, Utilities such as Main and Stand By Power, Water supply installations etc; to be given.

Requirement of natural resources and their sources are to be detailed out.

Site Selection and Planning

The environmental impacts of construction and operation are established during the early phases of site selection and planning. Planning, site selection and design form an important stage in the development of these projects and will determine their environment impact(s)

Some Important factors for development, which should be addressed, are: -

- Status of ownership of land
- The boundaries of the project area
- A map that identifies the locations of all proposed development activities; and
- A map and photo mosaic showing the area proposed to be disturbed in relation to existing topographic features, township grids, wetlands and water bodies.
- Proximity to local communities;
- Proximity to sensitive surface or ground water bodies
- Compatibility with local building regulations
- Exiting drainage pattern
- Any forest-cover within the proposed developmental area.

3.0 Description of the Environment

Environmental data to be considered in relation to township development would be: (a) land (b) water (c) air (d) biological environment (e) noise (f) socio-economic environment.

Study Area :

Map of the study area clearly delineating the location of various monitoring stations (air / water / soil and noise) superimposed with location of habitats are to be shown. Monitoring should be done as per CPCB guidelines. Primary data should be collected for one season except rainy season. Monitoring of the parameters should be carried out within the study area.

3.1 Land Environment

The first feature which should influence the development of a new project is the existing land use pattern of the neighbourhood of the project, whether the proposed development conforms to the development for that area or not.

Study of land use pattern, habitation, cropping pattern, forest cover, environmentally sensitive places etc, employing remote sensing techniques and ground truth and also through secondary data sources.

Geographical latitude and microclimatic factors such as solar access and wind loads have a major impact. The following parameters have to be addressed under the baseline data for land environment.

a. Topography

Slope form

Landform and terrain analysis

b. Soil

Type and characteristics

Porosity and permeability

Sub-soil permeability

Inherent fertility

3.2 Water Environment

Identify Project activities, including construction phase, which may affect surface water or groundwater. Estimate water intake requirements and identify the source of water to be used. Describe how water will be taken from the surface water / river and conveyed to the site. Ground water budgeting has to be provided. Rainwater harvesting has to be detailed out.

Baseline water quality from all sources such as ground water, municipal water, surface water need to be determined and compared to the water quality norms prescribed for drinking water and State PWD specifications for construction water. Quantity of wastewater is to be provided.

3.3 Air Environment

Climatological data is to obtained from nearest India Meteorological Department (IMD) station for one full year. Micro meteorological data consisting of wind speed, wind direction, temperature, cloud cover, (amount and height), humidity, inversions, rainfall (peak and average daily rainfall) and wind rose patterns, from primary and secondary sources in the study area.

Baseline data of air pollutant parameters extending an area of 2kms from the project should be monitored at a number of locations. Description of base line data of ambient air parameters namely RSPM, nitrogen dioxide, Sulphur dioxide, and carbon monoxide are to be collected. One season data is to be monitored other than monsoon as per the CPCB Norms. Sampling locations are to be located as per CPCB norms.

3.4 Noise Environment

Construction equipment and road traffic are the major sources of noise. Baseline data of noise at the project area and the neighbourhood habitat areas is to be ascertained. Daytime and nighttime data should be collected.

3.5 Biological Environment

Baseline data should include list of dominant, rare, endangered, threatened, endemic and indicator species and species abundance and distribution of biological species of study area. An inventory map is to be prepared along with a description of the existing terrestrial, wetland and aquatic vegetation. Include any rare vascular and non-vascular plant species and rare plant communities in the study area. Details for fauna and flora to be included are:

- General type and dominant species
- Densities and distributions
- Habitat value
- Historically important specimen
- Rare and Endangered species (location, distribution and conditions)
- Specimen of scientific or aesthetic interest

3.6 Socio Economic Environment

Baseline data at the project area should include the demography, particularly on settlements, existing infrastructure facilities in the proposed area and area of impact due to the proposed activity. Present employment and livelihood of these populations, awareness of the population about the proposed activity should also be included.

3.7 Solid Waste

Solid wastes from construction sector can be categorized into two phases i.e. during construction & during operation. Details of the following are to be given:

- Construction or demolition waste, i.e., massive and inert waste
- Municipal waste, i.e., biodegradable and recyclable waste

- Hazardous waste
- E-waste

Details of authorized municipal solid waste facilities, biomedical treatment facilities and hazardous waste disposal facilities in the area should be included.

4.0 Anticipated Environmental Impacts and Mitigation Measures:

4.1 Prediction of Impacts:

This should describe the likely impact of the project on each of the environmental parameters, methods adopted for assessing the impact such as model studies, empirical methods, reference to existing similar situations, details of mitigation, methods proposed to reduce adverse effects of the project, best environmental practices, conservation of natural resources; environmental management plan; post project environmental monitoring programme including budgeting for the expenditure proposed in the project cost.

4.2 Land Environment

Anticipated Impacts:

Some of the anticipated impacts, which need to be addressed, are

- Estimation of anticipated impacts on the surrounding land use pattern, on infrastructure like housing, road net work, environmentally sensitive places etc,
- Impact on the public utilities arising out of the utilities for the project activities.
- Impact on the natural drainage system and soil erosion.
- Loss of productive soil and impact on natural drainage pattern.
- Study of the problem of land slides and assessment of soil erosion potential and the impact
- Impact of construction activity on the fertility status of soil in the study area
- Prediction of ground water pollution due to seepage of pollutants through soil column

Mitigation Measures:

Proper mitigation measures have to be suggested.

Improved road network infrastructure to handle the increase in traffic

- Selection of suitable local plant species for greenbelt development in and around the sites.
- Top soil conservation plan and its re-utilization depending on its quality

4.3 Water Environment

Impact of construction and operational phases on the surface and ground water on account of the township is to be estimated.

Anticipated Impacts:

- Impact on water sources due to shifting of watercourses, if any
- Impact of water withdrawal on surface water / ground water resources. Impact on exploitation of surface / ground water

- Waste water generation
- Information regarding how the waste water is to be disposed off

Mitigating Measures:

Prediction of ground water contamination and suggested mitigating measures to minimize the pollution level

- Water conservation within the buildings
- Rainwater harvesting to recharge the ground water
- Water conservation in landscape
- Adequate measures to be adopted for water conservation during construction and operation stage.

4.4 Air Environment

Anticipated Impacts:

Impacts on air quality during the construction and operation phase should be predicted. The existing surrounding features of the study area and impact on them should be addressed separately. It is necessary to predict the following if any

- Prediction of point source emissions
- Prediction of air emissions from the vehicles during the construction and operation phases.

Mitigating Measures:

Mitigative measures are to be proposed during the construction stage as well as the operational stage of the project. Some measures to be listed include: -

- Mitigative measures during construction phase due to reduce the emissions during loading, un-loading, transportation and storage of construction materials.
- Mitigative measures to reduce the point source emissions.
- Greenbelt development.
- Dust mitigation
- Estimate any environmental implications from transportation (rail, road) related emissions associated with the construction and operational phases and suggest suitable options
- Operation of DG sets

4.5 Noise Environment

Impact of project construction / operation on the noise on account of construction equipment and road traffic is to be studied.

Anticipated Impacts:

- Noise due to demolition / construction activities
- Impact due to noise levels generated by existing
- Impact due to present and future transportation activities

- Operation of DG sets
- Impact of noise due to work at night.

Mitigating Measures:

Identification and adoption of mitigating measures for noise abatement including noise barriers for point sources and line sources as also measures to minimize effect of vibrations due to demolition and while new construction

4.6 Biological Environment

Impact of project during construction and operational phases on the biological environment on account of project activity is to be detailed.

Anticipated Impacts:

- Impact of construction activity on fauna
- Pre- and post- topography, soil and parent material conditions and their contribution to flora and fauna and
- Aquatic and terrestrial ecosystem diversity.

Mitigating Measures :

- Mitigating measures to compensate the loss of vegetation cover / providing green belt development
- Regeneration / Restoration of rare plants of economic importance including medicinal plants species which require protection and conservation
- Identification of measures through scientific conservation plan for protection and conservation of flora, fauna including wildlife, migratory avi-fauna, rare, endemic and endangered species and medicinal plants etc.

4.7 Socio Economic Environment

Anticipated Impacts:

Predicted impact on the communities of the proposed activity is to be given. Impact on surroundings on socio-economic status is to be detailed. Present status of housing, public utilities, commercial structures, transportation. Impact of the project in construction and operational phases on socio cultural aspects is to be assessed.

Mitigation Measures:

Mitigation measures to reduce adverse effects are to be given.

4.8 Solid Waste and Environment

Anticipated impacts

Impact of the project during construction and operational phases for generation of waste is to be assessed.

Mitigation Measures:

Mitigation measures to reduce adverse effects. Options for minimization of solid waste and environmentally compactable disposal are to be given. Management and disposal of temporary structures, made during construction phase are to be addressed. Mitigation measures for handling biomedical wastes are to be detailed.

5.0 Specific Studies

Describe the project energy requirements, associated infrastructure and other infrastructure requirements.

Discuss the steps taken to integrate the needs of other stakeholders into the location and design of access infrastructure to reduce and manage overall environmental impacts from resource development;

5.1 Building Material and Technologies

Anticipated issues and concerns

- High consumption of resources
- High transportation cost

Alternate methods

- Re-use of debris at existing site
- Use of Ready-Mix concrete
- Use of ash-based bricks and flyash should be explored to the maximum extent possible.
- Construction should conform to the requirements of local seismic regulations.

5.2 Energy Conservation

- Explore use of alternate renewable resources such as solar / wind power etc is to be discussed.
- Discuss the options considered for supplying the power required for the Project and the environmental implications, including opportunities to increase the energy efficiency of the Project;
- Details of U &R values are to be detailed

5.3 Transport

a) Include a map showing transportation access to the site from highways;

b) Discuss how public access to, or within the project area managed during the construction phases of the Project;

c) Discuss the impact of increased vehicle traffic and requirements for access improvements on roads in the site development area as a result of the Project, considering other existing and planned developments and operations in the region including what measures will be taken to reduce traffic and enhance vehicle safety on external roads;

d) Discuss any expected change in traffic volume by Average Annual Daily Traffic (AADT) and any seasonal variability in traffic volume (include mitigation measures) prior to construction, during construction and at full site operation;

e) Distance to the main access road along with the width of the roads are to be given

5.4 Strom Water Management

Storm water management plan should be implemented so as to prevent sudden discharge of excessive volumes of storm water to the receiving waters thus reducing the shock load on municipality drainage system, and impact on receiving water body are to be detailed out.

6.0 Environmental Monitoring Program

- Frequency, location, parameters of monitoring
- Summary matrix of environmental monitoring, during construction and operation stage
- Requirement of monitoring facilities
- Compilation and analysis of data and reporting system

7.0 Additional Studies

7.1 Risk Assessment (ERA) and Disaster Management Plan (DMP):

Discuss emergency plans for any environmental risks and such as earthquakes

- Types of Emergency; internal and external origin
- Emergency evacuation plan
- Emergency Procedures
- Helipad facilities for buildings with height beyond 60mts

7.2 Natural Resource Conservation

Plan of action for conservation of natural resources and recycle waste materials due to the project activity in the construction and operational phase of the project is to be discussed.

7.3 R&R Action Plan

Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns / employment for the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific R&R Plan if any is to be given. Details of provisions (capital & recurring) for the project specific R&R Plan

8.0 Project Benefits

This section details out the improvements in physical infrastructure, social infrastructure if any. Also it details out any employment potential and other benefits that are accrued if the project is taken up.

9.0 Environmental Management Plan (EMP)

- Administrative and technical set up for management of environment
- In built mechanism of self monitoring of compliance of environmental regulations
- Institutional arrangements proposed with other organizations / Govt. authorities for effective implementation of environmental measures proposed in the EIA

- Safe guards / mechanism to continue the assumptions / field conditions made in the EIA, for arriving the site suitability
- Provision of Effective Controls and Building Management Systems such as Automatic Fire Alarm and Fire Detection and Suppression System etc. must be ensured. Adequate access to fire tenders should be provided.
- Provisions should be kept for the integration of solar water heating system and other energy conservation methods.

Detailed EMP may be formulated to mitigate the residual impacts which should inter alias include the impact due to change in land use; due to loss of agricultural land and grazing land besides other impacts of the projects. Budgeting of the EMP may be included in EIA. The EIA should discuss in detail the following aspects:

Sewage Treatment Plan

- Sewage treatment plant has been designed to treat the wastewater from the township. The wastewater be treated to tertiary level and after treatment, reused for flushing of toilets in apartment building and gardening.
- Treated wastewater reused for landscaping, car washing etc. and partly discharged. Treated sewage shall conform to E(P) Rules. Sewage Treatment Plants and monitored on a regular basis

Emission from Diesel Generator (DG) Set

- The stack height and emissions from D.G. sets should conform to the norms of Central Pollution Control Board. The certification of space design for DG sets done by competent authority.

Solid Waste Management

- Spent oil from DG Sets should be stored in HDPE drums in isolated covered facility and disposed off as per the Hazardous Wastes (Handling & Management) Rules, 2003. Spent oil from DG Sets should be disposed off through registered recyclers only.

10.0 Summary & Conclusion (Summary EIA)

This document should summarize the significant findings of the EIA report. The summary must describe each significant environmental issue and its resolution in sufficient detail so that its importance and scope, as well as the appropriateness of the approach taken to resolve it are well understood. Wherever possible, the summary should make use of base maps, tables and figures given in the report. The following should be addressed in the summary if applicable: -

- The need for resettlement of families / if any agriculture / the presence of squatters or any other land titling conflicts;
- Potential interruption or limitation of accesses to dwellings, businesses or productive resources either permanently or temporarily;
- Encroachment or reduction of green areas, parks, and other recreational areas;
- Demolition of buildings high architectural or historical value;

- Potential deterioration of urban quality and property value in the immediate vicinity of the works or deterioration of unique architectural characteristics in the neighbourhood;

11.0 Disclosure of Consultants Engaged

This chapter shall include the names of the consultants engaged with their brief resume and nature of consultancy rendered.

Enclosures

Conceptual plan / Questionnaire / Photos

Annexure 2

Land use / land cover classification system

Level -I	Level -II	Level -III
1. Built – up land	1.1. Built –up land	1.1.1. Urban (towns & cities)
2. Agricultural land	2.1. Crop land	2.1.1. Irrigated crop land
	(i) kharif (ii) rabi (iii) double cropped	2.1.2. Unirrigated crop land
	2.2. Fallow	2.2.1. Fallow
	2.3. Plantation	2.3.1. Types of plantation, casuarina, coconut, tea etc.
3. Forest	3.1 evergreen / semi-evergreen	3.1.1. Dense / closed 3.1.2. Open
	3.2. Deciduous	
	3.3. Degraded scrub land	
	3.4. Forest blank	3.4.1. Degraded forest
		3.4.2. Forest blank
	3.5. Forest plantation 3.6. Mangrove	3.5.1. Types of plantation eg. teak, sal etc.
4. Wastelands	4.1. Salt affected land	
	4.2. Water logged land	
	4.3. Marshy / swampy land	
	4.4. Gullied / ravinous land	
	4.5. Land with or without scrub	
	4.6. Sandy area (coastal & desertic)	Minimum mappable unit IS 2.25 hectares on 1:50,000 scale
	4.7. Barren rocky / stony waste / sheet rock areas	
5. Water bodies	5.1. River / stream	
	5.2 Lake / reservoir / tank / canal	
6. Others	6.1. Shifting cultivation	6.1.1. Current
		6.1.2. Old / abandoned
	6.2.grassland / grazing land	6.2.1. Grassland / grazing land
	6.3. Snow covered / glacial area	6.3.1. Snow covered / glacial area
	6.4. Mining area	6.4.1. Mining dumps

Note: Land use / Land cover categories at different levels and corresponding scales for mapping are as follows:

Level – I – categories – 1:1000,000 scale
Level – II – categories – 1:250,000 scale
Level – III – categories – 1:50,000 scale and 1:25,000 scale

(Sources: Description and classification of land use / land cover : NRSA – TR – LU & CD – 01 –90)

Annexure 3

Sampling, Frequency & Method of Baseline Environment Monitoring

Attributes	Sampling		Measurement Method	Remarks
A. Air Environment	Network	Frequency		
Meteorological ▸ Wind speed ▸ Wind direction ▸ Maximum temperature ▸ Minimum temperature ▸ Relative humidity ▸ Rainfall ▸ Solar radiation ▸ Cloud cover ▸ Adiabatic Lapse Rate	1 site in the project area	1 hourly continuous	Mechanical / automatic weather station Max / Min Thermometer Hygrometer Rain gauge As per IMD specifications As per IMD specifications Mini Sonde / SODAR	IS 5182 Part 1-20 Site specific primary data is essential Secondary data from IMD CPCB guidelines
Pollutants ▸ SPM	Nos. of sampling location to be decided	24 hourly twice a week	As per CPCB guidelines	Monitoring Network ▸ Minimum one locations in upwind side, two sites in downwind side / impact zone
▸ RSPM		@4 hourly. Twice a week, One non monsoon season		▸ All the sensitive receptors need to be covered for core zone and buffer zone
▸ SO_2		8 hourly, twice a week		
▸ NO_x				
▸ Hourly equivalent noise levels	Identified study area	Once in season	Noise level meter	IS:4954-1968 as adopted by CPCB
C. Water				
Parameters for water quality ▸ pH, temperature, turbidity, magnesium hardness, total alkalinity, chloride, sulphate, nitrate,		▸ Set of grab samples for ground and surface water	Samples for water quality should be collected and analysed as per : IS : 2488 (Part 1-5) methods for sampling and testing of Industrial effluents	

fluoride, sodium, potassium, salinity ▸ Total nitrogen, total phosphorus, DO, BOD,COD ▸ Heavy metals ▸ Total coliforms, faecal coliforms ▸ Phyto plankton			▸ Standard methods for examination of water and wastewater analysis published by American Public Health Association.	
D. Land environment				
Soil ▸ Organic Matter ▸ Texture ▸ pH ▸ Electrical conductivity ▸ Permeability ▸ Water holding capacity ▸ Porosity	Sample from villages (soil samples be collected as per BIS specifications)	***One season***	Collected and analysed as per soil analysis reference	Analysis be done as per BIS specifications

Adopted from: EIA manual 2001, Ministry of Environment and Forests, New Delhi

Annexure 4

Annexure 4.1 Hydraulic Conductivities of Soil

S No.	Soils	K- values (m / day)
1	Clay surface	0.01-0.2
2	Deep clay layer	10^{-8}- 10^{-2}
3	Loam	0.1-10
4	Fine sand	1-5
5	Medium sand	5-20
6	Coarse sand	20-100
7	Gravel	100-1000
8	Sand and gravel	5-100
9	Clay, sand & gravel	0.001-0.1

Source: MoWR, GoI, 2004, pg. 15, 84

Annexure 4.2 Specific Yield of Different Formation

	Yield (%)
Sand :	10-30
Gravelly Sand (coarse sand) :	15-30
Sand and Gravel :	15-25
Sand stone coarse-grained :	10-15
Sand stone fine–grained :	5-15
Thick plastic clay :	3-5
Weathered rock :	2-5
Clay :	1-10
Fractured and jointed rock :	0.50-5

Annexure 4.3 Typical Porosities of soil

Soil Texture	Porosity
Sandstone	0.19
Sandy loam sub soil	0.36
Sandy loam plough layer	0.42
Clay loam subsoil	0.44
Recently ploughed clay loam	0.58

Source: Manual on norms and standards for EC of large construction projects-MoEF

Annexure 4.4 Rating Chart for Soil Test Values of Primary Nutrients

Nutrient	Rating*			Recommended test**
	Low	Medium	High	
Organic carbon Available nitrogen alkaline KMnO4 N (Kg/ha)	<0.50	0.50-0.75	>0.75	Colorimetric method; Datta et al
Available phosphorus Olsen's P (Kg/ha)	<280	281-560	>560	Kjeldahl apparatus
Available potassium Ammonium Acetate-K (Kg/ha)	<10 <120	11-25 121-280	>25 >280	Olsen method Ammonium acetate extraction method
*Subject to minor variation as per local conditions. **Tests to be performed at ICAR (Indian Council of Agricultural Research)–accredited laboratory.				

Source: Singh D, Chhoker, P K and Pandey, R N. 2000. Soil plant water analysis: a methods manual. New Delhi: Indian Agricultural Research Institute, 160 pp.

Annexure 5.1

Criteria for Raw Water Used for Organized Community Water Supplies (Surface and Ground Water) Primary Parameters

	Parameters	Range/Limiting Value		Note
		Use with only disinfection	Use after conventional treatment	
1.	pH	6.5 to 8.5	6.0 to 9.0	To ensure prevention of corrosion in treatment plant and distribution system and interference in coagulation and chlorinating.
2.	Colour Pt. scale Hz Units	< 10	< 50	Color may not get totally removed during treatment
3.	Suspended Solids mg/l	< 10	< 50	High SS may increase the cost of treatment.
4.	Odour, dilution factor	< 3	< 10	May not be tackled during treatment.
5.	DO, (%saturation)	90-100	80-120	May imply higher chlorine demand.
6.	BOD, mg/l	< 3	< 5	Same as above.
7.	TKN, mg/l	< 1	< 3	Same as above.
8.	Ammonia, mg/l	< 0.05	< 1	Same as above.
9.	Faecal coliform MPN/100 ml	< 200	< 2000	Not more than 20% samples show greater than limit.
10.	EC, µm/hos/cm	< 2000	< 2000	High conductivity implies dissolved high solids making water unpalatable.
11.	Chloride, mg/l	< 300	< 300	May cause physiological impact and unpalatable taste.
12.	Sulphates, mg/l	< 250	<250	May cause digestive problems
13.	Phosphates, mg/l	< 0.7	< 1.0	May interfere with coagulation
14.	Nitrate, mg/l	< 50	< 50	May cause methamoplobinemea
15.	Fluoride, mg/l	< 1.0	< 1.5	Higher value shall cause fluorosis and lower value shall carries.
16.	Surfactants, mg/l	< 0.2	< 0.2	May impair treatability and cause foaming.

Additional Parameters for Periodic Monitoring (Seasonal – Only to be done when there are known natural or anthropogenic sources in the upstream catchment region likely or apprehended to contribute or other well founded apprehensions)

Parameters	Desirable	Acceptable	Note
Dissolved Iron mg/l	< 0.3	< 0.5	Affect taste and cause stains
Copper, mg/l	—	< 1.0	May cause live damage
Zinc, mg/l	—	< 5.0	Cause bitter stringent taste
Arsenic, mg/l Cadmium, mg/l	< 0.01 < 0.001	< 0.05 < 0.005	Cause hyperkeratosis & skin cancer Toxic
Total Chromium, mg/l	< 0.05	< 0.05	Toxic
Lead, mg/l	< 0.05	< 0.05	Physiological abnormality
Selenium, mg/l	< 0.01	< 0.01	Toxic symptoms similar to arsenic
Mercury, mg/l	< 0.005	<0.0005	Carcinogenic and poisonous
Phenols, mg/l	< 0.001	< 0.001	Toxic and cause taste and odour problem
Cyanides, mg/l	< 0.05	< 0.05	Physiological abnormality
PAH, mg/l	< 0.0002	< 0.0002	Carcinogenic
Total Pesticides, mg/l	< 0.001	< 0.0025	Trend to bioaccumulates & carcinogenic

(Source: Ecological Impact Assessment Series: EIAS/03/2002-03 Published by CPCB)

Annexure 5.2 Use Based Classification of Surface Waters in India

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional disinfection	A	1. Total Coliforms OrganismMPN/100ml shall be 50 treatment but after or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 6mg/l or more 4. Biochemical Oxygen Demand 5 days 20oC 2mg/l or less
Outdoor bathing (Organized)	B	1. Total Coliforms Organism MPN/100ml shall be 500 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 5mg/l or more 4. Biochemical Oxygen Demand 5 days 20oC 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	1. Total Coliforms Organism MPN/100ml shall be 5000 or less 2. pH between 6 to 9 3. Dissolved Oxygen 4mg/l or more 4. Biochemical Oxygen Demand 5 days 20oC 3mg/l or less
Propagation of Wild life and Fisheries	D	1. pH between 6.5 to 8.5 2. Dissolved Oxygen 4mg/l or more 3. Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	1. pH between 6.0 to 8.5 2. Electrical Conductivity at 25oC micro mhos/cm Max.2250 3. Sodium absorption Ratio Max. 26 4. Boron Max. 2mg/l

(Source: Guidelines for Water Quality Management –CPCB 2008)

Annexure 6

Water Requirements for Different Types of Buildings

Sl. No	Type of Building	Consumption (liters/day)
i)	Factories with bath rooms	45 per head
ii)	Factories without bath rooms	30 per head
iii)	Hospital (including laundry):	
	a) Number of beds not exceeding 100	340 per head
	b) Number of beds exceeding 100	450 per head
iv)	Nurses' homes and medical quarters	135 per head
v)	Hostels	135 per head
vi)	Hotel (up to 4 star)	180 per head
vii)	Hotel (5 star and above)	320 per head
viii)	Offices	45 per head
ix)	Restaurants	70 per seat
x)	Cinemas, concert halls and theaters	15 per seat
xi)	Schools	
	a) Day schools	45 per head
	b) Boarding schools	135 per head

In addition, water demand of visitors to these building is considered as 15 LPCD
Source: National Building Code, 2005

Annexure 7

National Ambient Air Quality Standards (NAAQS)

S. No	Pollutant	Time Weighted Average	Concentration in Ambient Air		
			Residential, Rural and other areas	Ecologically sensitive area (notified by central government)	Methods of measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur dioxide (SO_2), µg/m^3	Annual* 24 hours**	50 50	20 80	-Improved West & Gaeke -Ultraviolet fluorescence
2	Nitrogen Dioxide (NO_2), µg/m^3	Annual* 24 hours**	40 30	80 80	-Modified Jacob & Hochheiser (Na-Arsenite) -Chemiluminescence
3	Particulate Matter (Size less than 10m) or PM_{10}µg/m^3	Annual* 24 hours**	60 100	60 100	- Gravimetric - TOEM - Beta attenuation
4	Particulate Matter (Size less than 2.5m) or $PM_{2.5}$µg/m^3	Annual* 24 hours**	40 60	40 60	- Gravimetric - TOEM - Beta attenuation
5	Ozone (O_3) µg/m^3	8 hours** 1 hour**	100 180	100 180	- UV photometric - Chemiluminescence - Chemical method
6	Lead (Pb) µg/m^3	Annual* 24 hours**	0.50 1.0	0.50 0.50	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper -ED-XRF using Teflon filter
7	Carbon Monoxide (CO) mg/ m^3	8 hours** 1 hour**	02 04	02 04	-Non Dispersive Infra Red (NDIR) spectroscopy
8	Ammonia (NH_3) µg/m^3	Annual* 24 hours**	100 400	100 400	- Chemiluminescence - Indophenol blue method
9	Benzene (C_6H_6) µg/m^3	Annual*	05	05	-Gas chromatography based continuous analyzer -Adsorption and Desorption followed by GC analysis

10	Benzo(a)Pyrene (BaP)–particulate phase only, ng/m^3	Annual*	01	01	-Solvent extraction followed by HPLC /GC analysis
11	Arsenic (As) ng/m^3	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni) ng/m^3	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note:

Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation

(Source: National Ambient Air Quality Standards, CPCB Notification dated 18th November 2009)

Annexure 8
Ambiant Noise Standards

Area Code	Category of Area	Noise Levels Db(A) eq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial	65	55
C	Residential	55	45
D	Silence	50	40
*#Day – 6 AM – 10 PM, Night 10 PM – 6 AM; Silence zone is not less than 100 m from around hospitals, schools, courts, religious places.			

Source: National Pollution Regulations In India, CPCB, Pollution Control Law Series: PCL/06/2001-02

The IS standards for noise abatement include :

- IS-4954-1968 for Noise abatement in town planning recommendations
- IS-3098-1980 for Noise emitted by moving road vehicles, measurement
- IS-10399-1982 for Noise emitted by stationary road vehicles, methods of measurement
- IS-6098-1971 for Air borne noise emitted by rotating electrical machinery
- IS-4758-1968 for Noise emitted by machines

Annexure 9
List of Critically Polluted Areas as Identified by CPCB

S. No.	Critically Polluted Industrial Area and CEPI	Industrial Clusters/Potential Impact Zones
1	Ankleshwar (Gujarat) *CEPI-88.50* (*Ac_Wc_Lc*)	GIDC Ankleshwar and GIDC, Panoli
2	Vapi (Gujarat) *CEPI-88.09 (Ac_Wc_Lc)*	GIDC Vapi
3	Ghaziabad (Uttar Pardesh) *CEPI-87.37* (*Ac_Wc_Lc*)	**Sub-cluster A** • Mohan nagar Industrial area • Rajinder nagar Industrial area • Sahibabad Industrial area **Sub-cluster B** • Pandav nagar Industrial area • Kavi nagar Industrial area • Bulandshahar Road Industrial area • Amrit nagar • Aryanagar Industrial area **Sub-cluster C** • Merrut road Industrial area **Sub-cluster D** • Loni Industrial area • Loni Road Industrial area • Roop Nagar Industrial area **Sub-cluster E** • Hapur Road Industrial area • Dasna • Phikua **Sub-cluster F** (other scattered Industrial areas) • South side of GT road • Kavi Nagar • Tronica city • Anand Nagar • Jindal Nagar • Prakash Nagar • Rural Industrial estate
4	Chandrapur (Maharashtra) *CEPI-83.88* (*Ac_Wc_Lc*)	Chandrapur (MIDC Chandrapur, Tadali, Ghuggus, Ballapur)
5	Korba (Chhatisgarh) *CEPI-83.00* (*Ac_Ws_Lc*)	a) Industrial areas and their townships of NTPC, BALCO, CSEB (East) & CSEB (West) b) Korba town
6	Bhiwadi (Rajassthan) *CEPI-82.91* (*Ac_Wc_Ls*)	a) RIICO Industrial areas Phase I to IV b) Bhiwadi town c) Other surrounding industrial areas: Chopanki, Rampura Mundana, Khuskhera Phase I to III.
7	Angul Talcher (Orissa) *CEPI-82.09* (*Ac_Wc_Lc*)	a) MCL Coal Mining Area, Angul – Talcher region b) Industrial Area (60 km x 45 km) Following blocks of Angul District: - Kohina block - Talcher block - Angul block - Chhendipada block - Banarpal block And Odapada block of Dhenkamal District
8	Vellore (North Arcot) (Tamilnadu) *CEPI-81.79 (Ac_Wc_Lc)*	Ranipet, SIPCOST Industrial Complex
9	Singurauli (Uttar Pradesh) *CEPI-81.73* (*Ac_Wc_Ls*)	Sonebhadra (UP) • Dala-Tola • Obra • Renukoot • Anpara • Renusagar • Kakri • Dudhichuwa • Bina • Khadia • Shakti Nagar • Rihand Nagar • Bijpur Sigrauli (Madhya Pradesh) Vindhyachal Nagar and Jayant, Nigahi, Dudhichua, Amlohri & Jhingurdah townships

S. No.	Critically Polluted Industrial Area and CEPI	Industrial Clusters/Potential Impact Zones
10	Ludhiana (Punjab) *CEPI-81.66* (*Ac_Wc_Ls*)	Ludhiana Muncipal limits covering industrial clusters: • Focal Point Along with NH_I_Tota Eight Phase • Industrial Area-B-From Sherpur chowk to Gill road & Gill road to Miller Kotla road (left Side of Road) • Mixed Industrail Area – Right side of Gill road • Industrial area – C (near Jugiana Village) • Industrial Area A & Extension: Area between old GT Road and Ludhiana by pass road • Industrial Estate : Near Dholwal chowk • Mixes Industrial Area (MIA) Miller gunj • MIA-By pass road • Bahdur Industrial Area • Tejpur industrial Complex.
11	Nazafgarh drain basin, Delhi *CEPI-79.54* (*As_Wc_Lc*)	Industrial areas : Anand Parvat, Naraina, Okhla and Wazirpur
12	NOIDA (Uttar Pradesh) *CEPI-78.90* (*Ac_Wc_Lc*)	Territorial jurisdiction of : • Noida Phase - 1 • Noida Phase - 2 • Noida Phase – 3 • Surajpur Industrial Area • Greater Noida Industsrial Area • Village-Chhaparaula
13	Dhanbad (Jharkhand) *CEPI-78.63* (*Ac_Ws_Lc*)	Four blocks of Dhanbad district: • Sadar (Dhanbad Municipality) • Jharia (Jharia Municipality, Sindri Industrial Area) • Govindpur (Govindpur Industrial Estate) • Nirsa
14	Dombivalli (Maharashtra) *CEPI-78.41*(*Ac_Wc_Ls*)	MIDC Phase-I, Phase-II
15	Kanpur (UttarPradesh) *CEPI-78.09* (*Ac_Wc_Ls*)	• Industrial areas: • Dada Nagar • Panki • Fazalganj • Vijay Nagar • Jajmau
16	Cuddalore (Tamilnadu) *CEPI-77.45* (*As_Wc_Lc*)	SIPCOT Industrial Complex, Phase I & II
17	Aurangabad (Maharashtra) *CEPI-77.44* (*Ac_Wc_Ls*)	MIDC Chikhalthana, midc Waluj, MIDC Shendra, and Paithan Road industrial area
18	Faridabad (Haryana) *CEPI-77.07* (*Ac_Ws_Lc*)	• Sector 27 - A, B, C, D • DLF Phase – 1, Sector 31, 32 • DLF Phase – 2, Sector 35 • Sector 4, 6, 24, 25, 27, 31, 59 • Industrial area Hatin • Industrial Model town Ship
19	Agra (Uttar Pradesh) *CEPI-76.48* (*As_Wc_Ls*)	Nunihai Industraial Estate, Rambag Nagar, UPSIDC Industrial Area, and Runukata Industrial Area
20	Manali (Tamilnadu) *CEPI-76.32* (*Ac_Ws_Ls*)	Manali Industrial Area
21 22	Haldia (West Bengal) *CEPI-75.43* (*As_Wc_Ls*) Ahmedabad (Gujarat) *CEPI-75.28* (*Ac_Ws_Ls*)	5 km wide Strip (17.4 x 5.0 km) of industrial area on the southern side of the confluence point of Rivers Hugli and Rupnarayan, covering Haldia Municipa Area & Sutahata Block-I and II • GIDC Odhav • GIDC Naroda
23	Jodhpur (Rajasthan) *CEPI-75.19 (As_Wc_Ls*)	• Industrial areas including Basni Areas (Phase-I & II), Industrial Estate, Light & Heavy industrial areas, industrial areas behind new Power House, Mandore, Bornada, Sangariya and Village Tanwda & Salawas. • Jodhpur city
24	Greater Coach (Kerala) *CEPI-75.08* (*As_Wc_Ls*)	Eloor-Edayar Industrail Belt, Ambala Mogal Industrial areas
25	Mandi Gobind Garh (Punjab) *CEPI-75.08* (*Ac_Ws_Lc*)	Mandi Govindgarh municipal limit and Khanna area
26	Howrah (West Bengal) *CEPI-74.84* (*As_Ws_Lc*)	a) Liluah-Bamangachhi Region, Howrah b) Jalah Industrial Complex-1, Howrah
27	Vatva (Gujarat) *CEPI-74.77* (*Ac_Wc_Ls*)	GIDC Vatva, Narol Industrial Area (Villages Piplaj, Shahwadi, Narol)

S. No.	Critically Polluted Industrial Area and CEPI	Industrial Clusters/Potential Impact Zones
28	Ib Valley (Orissa) *CEPI-74.00* (*Ac_Ws_Ls*)	Ib Valley of Jharsuguda (Industrial and Mining area)
29	Varansi-Mirzapur (Uttar Pradesh) *CEPI-73.79* (*As_Wc_Ls*)	• Industrial Estate, Mirzapur • Chunar • Industrial Estate, Chandpur Varanasi • UPSIC, Industrial Estate, Phoolpur • Industrial Area, Ramnagar, Chandaull
30	Navi Mumbai (Maharashtra) *CEPI-73.77* (*Ac_Ws_Ls*)	TTC Industrial Area, MIDC, Navi Mumbai (including Blocks-D, C, EL, A, R, General, Kalva)
31	Pali (Rajasthan) *CEPI-73.73* (*As_Wc_Ls*)	a) Existing industrial areas: Mandia Road, Puniyata Road, Sumerpur b) Pali town
32	Mangalore (Karnataka) *CEPI-73.68* (*Ac_Ws_Ls*)	Baikampady Industrial Area
33	Jharsuguda (Orissa) *CEPI-73.34* (*Ac_Ws_Ls*)	Ib Valley of Jharsuguda (Industrial and Mining area)
34	Coimbatore (Tamil Nadu) *CEPI-72.38* (*Ac_Ws_Ln*)	SIDCO, Kurichi Industrial Clusters
35	Bhadravati (Karnataka) *CEPI-72.33* (*Ac_Ws_Ln*)	KSSIDC Industrial Area Mysore Paper Mill & VISL Township Complex
36	Tarapur (Maharashtra) *CEPI-72.01* (*Ac_Ws_Ls*)	MIDC Tarapur
37	Panipat (Haryana) *CEPI-71.91* (*As_Ws_sc*)	Panipat Municipal limit and its industrial clusters
38	Indore (Madhya Pradesh) *CEPI-71.26* (*As_Ws_Ls*)	Following 09 industrial areas: • Sanwer Road • Shivaji Nagar • Pologround • Laxmibai Nagar • Scheme No. 71 • Naviakha, • Pipliya • Palda • Rau • Indore city • Other surrounding industrial areas : Manglia, Rajoda, Barlal, Asrawad, Tejpur Gadwadi
39	Bhavnagar (Gujarat) *CEPI-70.99* (*As_Ws_Ls*)	GIDC Chitra, Bhavnagar
40	Vishakhapatnam (Andhra Pradesh) *CEPI-70.82* (*As_Ws_Ls*)	Bowl area (the area between Yarada hill range in the south to Simhachalam hill range in the north and sea on the east and the present NH-5 in the West direcdtion)
41	Junagarh (Gujarat) *CEPI-70.82* (*As_Ws_Ls*)	Industrial Areas: • Sabalpur • Jay Bhavani • Jay Bhuvneshwari • GIDC Junagarh (I&II)
42	Asansole (West Bengal) *CEPI-70.20* (*As_Ws_Ls*)	Burnpur area surrounding IISCO
43	Patancheru- -Bollaram (Andhra Pradesh) *CEPI-70.07* (*As_Ws_Ls*)	Industrial Area: • Patancheru • Bollaram

Note: Names of identified industrial clusters/ potential impact zones are approximate location based on rapid survey and assessment and may alter partially subject to the detailed field study and monitoring. Detailed mapping will be made available showing spatial boundaries of the identified industrial clusters including zone of influence/buffer zone, after in depth field study.

Aggregated Comprehensive Environmental Pollution Index (CEPI) scores of 70 and above are considered as critically polluted industrial clusters/ areas.

Source: Ecological Impact Assessment Series: EIAS/5/2009-10
Details of Critically Polluted Industrial Areas and Clusters/ Potential Impact Zone in terms of the Office Memorandum no. J-11013/5/2010-IA.II(I) dated 13.1.2010

Annexure 10

General Standards for Discharge of Effluents

S. No	Parameter	Standards			
		Inland surface water	Public sewers	Land for irrigation	Marine coastal areas
		(a)	(b)	(c)	(d)
1	Color & odour				
2.	Suspended solids mg/l, Max	100	600	200	1. For process waste water-100 2. For cooling water effluent 10% above total suspended matter of effluent
3	Particle size of suspended solids	Shall pass 850 Micron IS sieve	—	—	1. Floatable solids max. 3 mm 2. Settleable solids max. 850 microns
4	pH Value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
5	Temperature	Shall not exceed 5^0 C above the receiving water temperature	—	—	Shall not exceed 5^0 C above the receiving water temperature
6	Oil and grease mg/l Max.	10	20	10	20
7	Total residual chlorine mg/l Max.	1.0	—	—	1.0
8	Ammonical Nitrogen (as N), mg/l Max.	50	50	—	50
9	Total Kjeldahl nitrogen (as NH_3), mg/l Max.	100	—	—	100
10	Free ammonia (as NH_3), mg/l Max.	5.0	—	—	5.0
11	Bio-chemical oxygen demand (3 days at 27^0 C), mg/l max.	30	350	100	100

12	Chemical oxygen demand, mg/l max.	250	—	—	250
13	Arsenic (as As), mg/l max.	0.2	0.2	0.2	0.2
14	Mercury (as Hg), mg/l max.	0.01	0.01	—	0.01
15	Lead (as Pb), mg/l max.	0.1	1.0	—	2.0
16	Cadmium (as Cd), mg/l max.	2.0	1.0	—	2.0
17	Hexavalent chromium (as Cr +6), mg/l max.	2.0	1.0	—	2.0
18	Total chromium (as Cr), mg/l max.	2.0	2.0	—	2.0
19	Copper (as Cu), mg/l max.	3.0	3.0	—	3.0
20	Zinc (as Zn), mg/l max.	5.0	15	—	15
21	Selenium (as Se), mg/l max.	0.05	0.05	—	0.05
22	Nickel (as Ni), mg/l max.	3.0	3.0	—	5.0
23	Cyanide (as CN), mg/l max.	0.2	2.0	0.2	0.2
24	Fluoride (as F), mg/l max.	2.0	15	—	15
25	Dissolved phosphates (as P), mg/l max.	5.0	—	—	—
26	Sulphide (as S), mg/l max.	2.0	—	—	5.0
27	Phenolic compounds (as C_6H_5OH), mg/l max.	1.0	5.0	—	5.0
28	Radio active materials:	10^{-7}	10^{-7}	10^{-7}	10^{-7}
	a. Alpha emitter micro curie/ml				
	b. Beta emitter micro curie/ml	10^{-6}	10^{-6}	10^{-6}	10^{-6}

29	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
30	Manganese (as Mn), mg/l	2	2	—	2
31	Iron (as Fe), mg/l	3	3	—	3
32	Vanadium (as V), mg/l	0.2	0.2	—	0.2
33	Nitrate nitrogen, mg/l	10	—	—	20
* These standards shall be applicable for industries, operations or processes other than those industries, operations or process for which standards have been specified of the Environment Protection Rules, 1989					

Source: G.S.R 422 (E) dated 19.05.1993 and G.S.R 801 (E) dated 31.12.1993 issued under the provisions of E (P) Act 1986

Annexure 11
Drought Resistant Species

Tree species	Common Name	Tree species	Common Name
Prosopis cineraria	Khejri	Azadirachta indica	Neem
Capparis deciduas	Kiari , Caperbrush	Diospyros melanoxylon	Tendu
Tamarix aphylla		Ougeinia oojeinensis	
Acacia tortillas		Commiphora caudata	
Zizyphus nummularia	Jungli Ber	Bauhinia variegata	Kachnar
Prosopis juliflora	Kikar	Eucalyptus tereticornis	
Tecomella undulata	Rugtora / Wavy leafed Tufmella	Pongamia Pinnata	Karanj
Colophospermum mopane		Casia siamea	
Salvadora oleoides		Anacardium occidentale	Cashew
Acacia aneura		Holoptelia integrifolia	
Parkinsonia aculeate		Acacia catechu	Katha
Dichrostachys cineraria		Boswellia serrata	Lobaw
Acacia holosericea		Butea monosperma	Palash
Borassus flabellifera	Tar	Cassea fistula	Amaltas
Grewia tenax	Falsa	Albizia amara	
Commiphora wightii	Guggal	Dalbergia latifolia	Eastern Rose wood
Acacia seyal		Erythrina Indica	Coral Tree
Eucalyptus camaldulensis	Eucalyptus	Ficus bengalensis	Banyan
Hardwickia binnata		Ficus religiosa	Peepal
Pithecelobium dulce	Jungle Jalebi	Santalum album	Sandal
Celtis australis		Syzgium cuminii	Clove
Acacia albida		Terminalia alata	
Albizia lebbek	Shirish	Madhuca latifolia	Mahua
Acacia nilotica	Babul	Acacia auriculiformis	
Acacia ferruginea		Terminalia bellirica	Harad
Casuarina equisetifolia	Jhar	Dendrocalamus strictus	Lathi Baans
Leucaena leucocephala	Subabul	Moringa oleifera	Drumstick
Melea azedirach		Terminalia arjuna	Arjun
Sesbania grandiflora			
Tamarindus indica	Imli		
Wrightia Tinctoria			
Morus indica / alba	Mulberry		
Ailanthus excelsa			

Source : Manual on norms and standards for EC of large construction projects-MoEF

Annexure 12

For General Structural Safety

1. IS: 456:2000 “Code of Practice for Plain and Reinforced Concrete
2. IS: 800-1984 “Code of Practice for General Construction in Steel
3. IS: 801-1975 “Code of Practice for Use of Cold Formal Light Gauge Steel Structural Members in General Building Construction
4. IS 875 (Part 2):1987 Design loads (other than earthquake) for buildings and structures Part2 Imposed Loads
5. IS 875 (Part 3):1987 Design loads (other than earthquake) for buildings and structures Part 3 Wind Loads
6. IS 875 (Part 4):1987 Design loads (other than earthquake) for buildings and structures Part 4 Snow Loads
7. IS 875 (Part 5):1987 Design loads (other than earthquake) for buildings and structures Part 5 special loads and load combination
8. IS: 883:1966 “Code of Practice for Design of Structural Timber in Building
9. IS: 1904:1987 “Code of Practice for Structural Safety of Buildings: Foundation”
10. IS1905:1987 “Code of Practice for Structural Safety of Buildings: Masonry Walls
11. IS 2911 (Part 1): Section 1: 1979 “Code of Practice for Design and Construction of Pile Foundation Section 1

    Part 1: Section 2 Based Cast-in-situ Piles

    Part 1: Section 3 Driven Precast Concrete Piles

    Part 1: Section 4 Based precast Concrete Piles

    Part 2: Timber Piles

    Part 3 Under Reamed Piles

    Part 4 Load Test on Piles

For Cyclone/Wind Storm Protection

12. IS 875 (3)-1987 “Code of Practice for Design Loads (other than Earthquake) for Buildings and Structures, Part 3, Wind Loads”
13 IS Guidelines for improving the Cyclonic Resistance of Low rise houses ad other building

For Earthquake Protection

14 IS: 1893-2002 “Criteria for Earthquake Resistant Design of Structures (Fifth Revision)”
15 IS:13920-1993 “Ductile Detailing of Reinforced Concrete Structures subjected to Seismic Forces - Code of Practice”
16 IS:4326-1993 “Earthquake Resistant Design and Construction of Buildings - Code of Practice (Second Revision)”

17 IS:13828-1993 “Improving Earthquake Resistance of Low Strength Masonry Buildings - Guidelines”

18 IS:13827-1993 “Improving Earthquake Resistance of Earthen Buildings - Guidelines”,

19 IS:13935-1993 “Repair and Seismic Strengthening of Buildings - Guidelines”

For Protection of Landslide Hazard

20 IS 14458 (Part 1): 1998 Guidelines for retaining wall for hill area: Part 1 Selection of type of wall.

21 IS 14458 (Part 2): 1997 Guidelines for retaining wall for hill area: Part 2 Design of retaining / breast walls

22 IS 14458 (Part 3): 1998 Guidelines for retaining wall for hill area: Part 3 Construction of dry stone walls

23 IS 14496 (Part 2): 1998 Guidelines for preparation of landslide – Hazard zonation maps in mountainous terrains: Part 2 Macro-zonation

Note 1 : Whenever an Indian Standard including those referred in the National Building Code or the National Building Code is referred, the latest revision of the same shall be followed except specific criteria, if any, mentioned above against that code.

Note 2: Codal Provisions / Guidelines Pertaining To Protection For Cyclone Or Landslide Hazard Can Be Omitted Whenever Not Applicable.

Annexure 13

Annexure 13.1 Interior lighting power

Space Function LPD (W / m2) Space Function LPD (W / m2)			
Space Function	LPD (W/m^2)	Space Function	LPD (W/m^2)
Office-enclosed	11.8	Library	
Office-open plan Conference / Meeting / Multipurpose	11.8 14.0	Card File & Cataloging Stacks	11.8 18.3
Classroom / Lecture / Training	15.1	Reading Area	12.9
Lobby	14.0	Hospital	
For Hotel	11.8	Emergency	29.1
For Performing Arts Theater	35.5	Recovery	8.6
For Motion Picture Theater	11.8	Nurse Station	10.8
Audience / Seating Area	9.7	Exam Treatment	16.1
For Gymnasium	4.3	Pharmacy	12.9
For Exercise Center	3.2	Patient Room	7.5
For Convention Center	7.5	Operating Room	23.7
For Religious Buildings	18.3	Nursery	6.5
For Sports Arena	4.3	Medical Supply	15.1
For Performing Arts Theater	28.0	Physical Therapy	9.7
For Motion Picture Theater	12.9	Radiology	4.3
For Transportation	5.4	Laundry – Washing	6.5
Atrium-first three floors	6.5	Automotive – Service Repair	7.5
Atrium-each additional floor	2.2	Manufacturing	
Lounge / Recreation	12.9	Low Bay (<8m ceiling)	12.9
For Hospital Area	8.6 9.7	High Bay (>8m ceiling) Detailed Manufacturing	18.3 Dining 22.6
For Hotel	14.0	Equipment Room	12.9
For Motel	12.9	Control Room	5.4
For Bar Lounge / Leisure Dining	15.1	Hotel / Motel Guest Rooms	11.8
For Family Dining	22.6	Dormitory – Living Quarters	11.8
Food Preparation	12.9	Museum	
Laboratory	15.1	General Exhibition	10.8
Restrooms	9.7	Restoration	18.3
Dressing / Locker / Fitting Room	6.5	Bank Office – Banking Activity Area	16.1

Corridor / Transition	5.4	Religions Buildings	
For Hospital	10.8	Worship-pulpit, choir	25.8
For Manufacturing Facility	5.4	Fellowship Hall	9.7
Stairs-active	6.5	Retail	
Active Storage	8.6	Sales Area	18.3
For Hospital	9.7	Mall Concourse	18.3
Inactive Storage	3.2	Sports Arena	
For Museum	8.6	Ring Sports Area	29.1
Electrical / Mechanical	16.1	Court Sports Area	24.8
Workshop	20.5	Indoor Field Area	15.1
Sleeping Quarters	3.2	Warehouse	
Convention Center – Exhibit Space	14.0	Fine Material Storage	15.1
Medium / Bulky Material Storage	9.7	Parking Garage – Garage Area	2.2
		Transportation	
		Airport – Concourse	6.5
		Air / Train / Bus – Baggage Area	10.8
		Terminal – Ticket Counter	16.1

Source: Manual on norms and standards for EC of large construction projects-MoEF

Annexure 13.2 Exterior Building Lighting Power

Exterior Lighting Applications	Power Limits
Building entrance (with canopy)	13 W / m^2 (1.3 W / ft^2) of canopied area
Building entrance (without canopy)	90 W / lin m (30 W / lin f) of door width
Building exit	60 W / lin m (20 W / lin f) of door width
Building facades	2 W / m^2 (0.2 W / ft^2) of vertical facade area

Source: Manual on norms and standards for EC of large construction projects-MoEF

Annexure 14

Recommended Values of Illuminance for Some Common Activities as Recommended by National Building Code 2005

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
1	Commerce			
1.1	Offices			
1.1.1	General Offices	300-500-700	1	
1.1.2	Deep plan general offices	500-750-1000	1	
1.1.3	Computer work stations	300-500-750	1	
1.1.4	Conference rooms, executive offices	300-500-750	1	
1.1.5	Computer and data preparation rooms	300-500-750	1	
1.1.6	Filing rooms	200-300-500	1	
1.2	Drawing offices			
1.2.1	General	300-500-750	1	
1.2.2.	Drawing boards	500-750-1000	1	
1.2.3	Computer aided design and drafting	-	-	Special lighting is required
1.2.4	Print rooms	200-300-500	1	
1.3	Banks and building societies			
1.3.1	Counter office area	300-500-750	1	
1.3.2	Public area	200-300-500	1	
2	Retailing			
2.1	Small shops with counters	300-500-750	1	The service illuminance should be provided on the horizontal plane of the counter. Where wall displays are used, a similar illuminance on the wall is desirable.
2.2	Small service shops with Island Displays	300-500-750	1	
2.3	Supper markets, Hyper Markets			
2.3.1	General	300-500-750	2	
2.3.2	Checkout	300-500-750	2	

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
2.3.3	Showroom for large objects, for example, cars, furnitures.	300-500-750	1	
2.3.4	Shopping precincts and arcades	100-150-200	2	
3	Places of Public Assembly			
3.1	Public rooms, village halls, worship halls	200-300-500	1	
3.2	Concert Halls, Cinemas and Theaters			
3.2.1	Foyer	150-200-300	-	
3.2.2	Booking Office	200-300-500	-	Local or localized lighting may be appropriate
3.2.3	Auditorium	50-100-150	-	Dimming facilities will be necessary. Special lighting of the aisles is desirable.
3.2.4	Dressing rooms	200-300-500	-	Special mirror lighting for make up may be required.
3.2.5	Projection room	100-150-200	-	
3.3	Churches			
3.3.1	Body of church	100-150-200	2	
3.3.2	Pulpit, lectern	200-300-500	2	Use local lighting
3.3.3	Choir stalls	200-300-500	2	Local lighting may be appropriate.
3.3.4	Alter, communion table, chancel	100-150-200	2	Additional lighting to provide emphasis is desirable
3.3.5	Vestries	100-150-200	2	
3.3.6	Organ	200-300-500	-	
3.4	Hospitals			
3.4.1	Anaesthatic rooms			
3.4.1.1	General	200-300-500	-	
3.4.1.2	Local	750-1000-1500	-	
3.4.2	Consulting area			
3.4.2.1	General	200-300-500	-	
3.4.2.2	Examination	750-1000-1500	-	
3.4.3	Corridors			

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
3.4.3.1	General	100-150-200	-	
3.4.4	Ward corridors			
3.4.4.1	Day, screened from bays	150-200-300	-	
3.4.4.2	Day, open to natural light	150-200-300 (Total)		
3.4.4.3	Morning/ Evening	100-150-200	-	
3.4.4.4	Night	5-10	-	
3.4.5	Cubicles			
3.4.5.1	General	200-300-500	-	
3.4.5.2	Treatment	750-1000-1500	-	
3.4.6	Examination			
3.4.6.1	General	200-300-500		
3.4.6.2	Local inspection	750-1000-1500		
3.4.7	Intensive therapy			
3.4.7.1	Bed head	30-50		
3.4.7.2	Circulation between bed ends	50-100-150		
3.4.7.3	Observation	200-300-500	-	
3.4.7.4	Local Observation	750-100-1500		
3.4.7.5	Staff base (day)	200-300-500		
3.4.7.6	Staff base (night)	30		
3.4.8	Laboratories			
3.4.8.1	General	200-300-500	-	
3.4.8.2	Examination	300-500-750	-	
3.4.9	Nurse's station			
3.4.9.1	Morning/day/evening	200-300-500	-	
3.4.9.2	Night desks	30	-	
3.4.9.3	Night, medical trolleys	50-100-150	-	
3.4.10	Operating Theatres			
3.4.10.1	General	300-500-750		
3.4.10.2	Local	10000 to 50000	-	Special operating lights are used
3.4.11	Pathology departments			
3.4.11.1	General	200-300-500		
3.4.11.2	Examination	300-500-750		

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
3.4.11.3	Pharmacies	200-300-500		
3.4.11.4	Reception/ enquiry	200-300-500		
3.4.11.5	Recovery rooms	200-300-500		
3.4.12	Ward-circulation			
3.4.12.1	Day	50-100-150		
3.4.12.2	Morning / Evening	50-100-150		
3.4.12.3	Night	3-5		
3.4.13	Ward-bed head			
3.4.13.1	Morning/ Evening	30-50		
3.4.13.2	Reading	100-150-200		
3.4.14	Night			
3.4.14.1	Adult	0.1-1		
3.4.14.2	Pediatric	1		
3.4.14.3	Psychiatric	1-5		
3.4.14.4	Watch	5		
3.4.15	X-Ray areas			
3.4.15.1	General	150-200-300		
3.4.15.2	Diagnostic	150-200-300		
3.4.15.3	Operative	200-300-500		
3.4.15.4	Process dark room	50		
3.4.16	Surgeries			
3.4.16.1	General	150-200-300		
3.4.16.2	Waiting rooms	100-150-200		
3.4.17	Dental Surgeries			
3.4.17.1	Chair	Special lighting		
3.4.17.2	Laboratories	300-500-750	-	
3.4.18	Consulting Rooms			
3.4.18.1	General	200-300-500		
3.4.18.2	Desk	300-500-750	-	
3.4.18.3	Examination Couch	300-500-750	-	
3.4.18.4	Ophthalmic Walls and near –vision charts	300-500-750	-	
3.5	Hotels			

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
3.5.1	Entrance Halls	50-100-150		
3.5.2	Reception, cashier's and	200-300-500 porter's desk	-	Localised lighting may be appropriate
3.5.3	Bars, Coffee base, dining rooms, grill rooms, restaurants, lounges	50-200		The lighting should be designed to create an appropriate atmosphere.
3.5.4	Cloak Rooms, baggage rooms	50-100-150	3	
3.5.5	Bed Rooms	30-50-100	-	Supplementary local lighting at the bed head, writing table should be provided.
3.5.6	Bathroom	50-100-150	-	Supplementary local lighting near the mirror is desirable
3.5.7	Food preparation and stores, cellars, lifts and corridors	-	-	See 'General Building Areas'
3.6	Libraries			
3.6.1	Lending Library			
3.6.1.1	General	200-300-500	1	
3.6.1.2	Counters	300-500-750	1	Localised lighting may be appropriate
3.6.1.3	Bookshelves	100-150-200	2	The service illuminance should be provided on the vertical face at the bottom of the bookstack.
3.6.1.4	Reading Rooms	200-300-500	1	
3.6.1.5	Reading Tables	200-300-500	1	Localised lighting may be appropriate
3.6.2	Catalogues			
3.6.2.1	Card	100-150-200	2	
3.6.2.2	Microfiche / Visual display units	100-150-200	2	
3.6.3	Reference Libraries			
3.6.3.1	General	200-300-500	1	
3.6.3.2	Counters	300-500-750	1	Localised lighting may be appropriate

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
3.6.3.3	Bookshelves	100-150-200	2	The service illuminance should be provided on a vertical surface at the foot of the bookshelves.
3.6.3.4	Study tables, carrels	300-500-750	1	
3.6.3.5	Map room	200-300-500	1	
3.6.4	Display and exhibition areas			
3.6.4.1	Exhibits insensitive to lights	200-300-500	-	
3.6.4.2	Exhibit sensitive to light, for example, pictures, prints, rare books in archives	50 to 150	-	
3.6.5	Library Workrooms			
3.6.5.1	Book repair and book binding	300-500-750	2	
3.6.5.2	Catalogue and sorting	300-500-750	2	
3.6.5.3	Remote book stores	100-150-200	3	
3.7	Museums and Art Galleries			
3.7.1	Exhibits insensitive to light	200-300-500	-	
3.7.2	Light sensitive exhibits for example, oil and temper paints, undyed leather, bone, ivory, wood etc.	150	-	This is the maximum illuminance to be provided on the principal plane of the exhibit.
3.7.3	Extremely light sensitive exhibits, for example, oil and temper paints, undyed leather, bone, ivory, wood, etc.	50	-	This is the maximum illuminance to be provided on the principal plane of the object.
3.8	Sports Facilities Multi purpose sports halls	300-750	-	The lighting system should be sufficiently flexible to provide lighting suitable for the variety of sports and activities that take place in sports halls. Higher illuminance of 1000-2000 lux would be required for television coverage.

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
4	Education			
4.1	Assembly Halls			
4.1.1.	General	200-300-500	3	
4.1.2.	Platform and stage	-	-	Special lighting to provide emphasise and to facilitate the use of the platform / stage is desirable.
4.2	Teaching spaces General	200-300-500	1	
4.3	Lecture Theatres			
4.3.1	General	200-300-500	1	
4.3.2	Demonstration benches	300-500-750	1	Localised lighting may be appropriate
4.4	Seminar rooms	300-500-750	1	Localized lighting may be appropriate
4.5	Art rooms	300-500-750	1	
4.6	Needlework Rooms	300-500-750	1	
4.7	Laboratories	300-500-750	1	
4.8	Libraries	200-300-500	1	
4.9	Music Rooms	200-300-500	1	
4.10	Sports Halls	200-300-500	1	
4.11	Workshops	200-300-500	1	
5	General Building Areas			
5.1	Entrance			
5.1.1	Entrance halls, lobbies, waiting rooms	150-200-300	2	
5.1.2	Enquiry desks	300-500-750	2	Localised lighting may be appropriate.
5.1.3	Gatehouses	150-200-300	2	
5.2	Circulation areas			
5.2.1	Lifts	50-100-150	-	
5.2.2	Corridors, passageways, stairs	50-100-150	2	
5.2.3 5.3	Escalators, travelators Medical and First aid centers	100-150-200		

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
5.3.1	Consulting rooms, treatment rooms	300-500-750	2	
5.3.2	Rest rooms	100-150-200	1	
5.3.3	Medical stores	100-150-200	1	
5.4	Staff Rooms			
5.4.1	Changing, locker and cleaners rooms, cloakrooms, lavatories	50-100-150	-	
5.4.2	Rest rooms	100-150-200	1	
5.5	Staff Restaurants			
5.5.1	Canteens, cafeterias, dining rooms, mess rooms	150-200-300	2	
5.5.2	Servery, vegetable preparation, washing-up area	200-300-500	2	
5.5.3	Food Preparation and cooking	300-500-750	2	
5.5.4	Food stores, cellars	100-150-200	2	
5.6	Communications			
5.6.1.	Switchboard rooms	200-300-500	2	
5.6.2	Telephone apparatus rooms	100-150-200	2	
5.6.3	Telex room, post room	300-500-750	2	
5.6.4	Reprographic room	200-300-500	2	
5.7	Building Services			
5.7.1	Boiler houses			
5.7.1.1	General	50-100-150	3	
5.7.1.2	Boiler Front	100-150-200	3	
5.7.1.3	Boiler Control Room	200-300-500	2	Localized lighting of the control display and the control desk may be appropriate
5.7.1.4.	Control rooms	200-300-500	2	Localized lighting of the control display and the control desk may be appropriate

Sl. No.	Type of interior or activity	Range of service Illuminance in Lux limitation	Quality class of direct glare	Remarks
5.7.1.5	Mechanical Plant room	100-150-200	2	
5.7.1.6	Electrical power supply and distribution rooms	100-150-200	2	
5.7.1.7	Store rooms	50-100-150	3	
5.8	Car Parks			
5.8.1	Covered Car Parks			
5.8.1.1	Floors	5-20	-	
5.8.1.2	Ramps and Corners	30	-	
5.8.1.3	Entrances and exits	50-100-150	-	
5.8.1.4	Control booths	150-200-300	-	
5.8.1.5	Outdoor Car Parks	5-20	-	

Source: Manual on norms and standards for EC of large construction projects-MoEF

Annexure 15

Air Conditioning, Heating and Mechanical Ventilation in Various Places

Sl. No (1)	Category (2)	Inside design conditions		
		Summer (3)		Winter(4)
1	Restaurants	DB 23 TO 26ºC RH 55 TO 60%		DB 21 TO 23ºC RH not less than 40 %
2	Office buildings	DB 23 TO 26ºC RH 50 TO 60%		DB 21 TO 23ºC RH not less than 40 %
3	Radio & Television Studio	DB 23 TO 26ºC RH 45 TO 55%		DB 21 TO 23ºC RH 40 to 50 %
4	Departmental stores	DB 23 TO 26ºC RH 50 TO 60%		DB 21 TO 23ºC RH not less than 40 %
5	Hotel guest rooms	DB 23 TO 26ºC RH 50 TO 60%		DB 23 TO 24ºC RH not less than 40 %
6	Class rooms	DB 23 TO 26ºC RH 50 TO 60%		DB 23 TO 24ºC RH not less than 40 %
7	Auditoriums	DB 23 TO 26ºC RH 50 TO 60%		DB 23 TO 24ºC RH not less than 40 %
8	Recovery rooms		DB 23 TO 26ºC RH 50 TO 60%	
9	Patient rooms		DB 23 TO 26ºC RH 50 TO 60%	
10	Operation theaters		DB 17 TO 27ºC RH 45 TO 55%	
11	Museums and libraries		DB 20 TO 22ºC RH 40 TO 55%	
12	Telephone terminal rooms		DB 22 TO 26ºC RH 40 TO 50%	

Source: Table-2 of Part 8 Building services – section 3 – Air conditioning, heating and mechanical ventilation of National Building Code – 2005

Annexure 16

Outdoor Conditions Source

Station	cooling DB/MCWB						cooling WB/MCDB						Heating DB/MCWB				
	0.4%		1.0%		2.0%		0.4%		1.0%		2.0%		99.6%		99.0%		
	DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	DB	MCWB	DB		
MCWB																	
1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17
Ahmedabad	42.3	24.1	41.2	23.5	40.0	24.3	28.7	34.3	28.2	33.6	27.8		33.1	11.5	9.0	12.9	9.8
Akola	43.4	24.0	42.2	23.3	41.0	23.6	27.6	37.8	26.7	34.4	26.1		33.5	12.7	10.3	13.9	10.6
Allahabad	43.7	23.4	42.2	23.5	40.8	22.7	28.8	33.0	28.4	32.8	28.0		32.6	7.9	7.0	9.1	8.3
Amritsar	41.6	23.2	40.3	24.6	38.9	24.4	29.3	34.8	28.8	34.8	28.4		33.4	2.7	2.3	4.0	3.5
Aurangabad	40.3	22.1	39.3	22.9	38.3	21.3	26.3	36.2	25.3	33.1	24.7		31.4	10.6	8.2	12.0	9.1
Banglore	34.7	19.6	34.0	19.6	33.1	19.2	23.5	28.9	22.9	28.2	22.5		27.7	14.9	13.0	15.7	13.8
Barmer	43.1	24.2	42.0	23.6	41.0	23.3	28.5	37.9	27.8	35.3	27.2		33.3	9.5	5.1	10.7	5.5
Belgaum	36.5	19.4	35.7	19.6	34.7	19.2	24.3	29.2	23.8	29.5	23.2		28.2	13.2	11.3	14.3	12.2
Bhagalpur	42.4	26.8	40.7	27.4	38.9	25.6	30.0	37.1	29.6	36.4	29.2		35.2	11.4	10.3	12.6	12.4
Bhopal	41.7	22.0	40.5	21.7	39.3	21.3	26.0	31.0	25.6	30.3	25.2		29.9	9.8	6.8	11.0	8.0
Bhubaneshwar	38.9	25.5	37.6	26.6	36.3	26.3	29.4	35.2	28.9	33.3	28.5		32.7	14.4	13.1	15.4	14.0
Bikaner	44.8	22.4	43.4	22.4	42.0	23.1	28.5	34.6	27.9	33.1	27.3		34.7	3.8	2.2	5.3	3.1
Chennai	38.4	26.2	37.3	26.7	36.3	26.4	29.1	33.8	28.6	33.2	28.1		31.9	19.5	20.2	18.7	19.3
Chitradurg	36.6	18.8	35.8	19.0	35.0	19.6	23.9	28.9	23.5	28.2	23.2		28.5	15.4	12.5	16.4	13.3
Dehradun	37.8	23.5	36.3	23.9	34.8	22.8	27.0	31.3	26.5	30.1	26.0		29.8	5.9	5.0	6.8	5.8
Dibrugarh	34.0	27.4	33.2	26.8	32.3	26.7	28.3	32.6	27.8	31.8	27.4		31.3	7.5	7.2	8.7	8.4
Gorakpur	41.1	26.2	40.3	26.0	39.1	26.4	29.9	35.2	29.7	35.5	29.4		34.7	7.9	7.5	9.0	8.4
Guwahati	34.4	26.9	33.4	27.3	32.7	26.8	28.8	32.4	28.3	31.8	27.9		31.5	10.2	9.8	11.3	10.8
Gwalior	43.9	23.0	42.5	22.9	41.3	23.5	27.9	32.9	27.6	32.4	27.3		32.7	4.9	3.8	6.4	5.3
Hissar	44.7	26.5	43.3	25.8	41.7	27.9	30.1	40.2	29.9	39.0	29.4		36.8	5.0	4.2	6.1	5.2
Hyderabad	40.4	22.5	39.2	22.5	38.2	22.4	25.6	33.7	25.2	32.4	24.8		32.0	14.4	12.4	15.5	12.9
Imphal	31.1	23.3	30.2	23.5	29.6	22.9	25.0	29.5	24.6	28.6	24.3		28.3	3.9	3.6	5.0	4.6
Indore	41.1	20.7	40.4	20.6	38.9	21.0	25.7	31.0	25.2	30.0	24.8		29.8	8.2	5.0	9.7	6.5
Jabalpur	42.6	22.7	41.2	23.2	39.8	22.5	26.8	31.8	26.4	32.0	26.0		31.2	7.8	6.7	9.3	7.6
Jagdelpur	39.4	22.3	38.6	22.5	37.4	22.4	26.4	32.4	25.9	31.8	25.4		30.7	8.9	7.9	10.1	8.7
Jaipur	42.8	22.5	41.4	22.6	39.4	22.6	27.4	33.1	27.0	32.1	26.6		31.7	6.4	4.5	8.0	5.8
Jaisalmer	43.7	23.7	42.5	23.1	41.4	23.5	27.7	34.8	27.3	34.5	26.9		34.4	5.0	2.5	6.5	3.7
Jamnagar	37.1	24.4	36.1	25.6	35.3	25.1	29.2	33.0	28.4	32.5	27.9		32.0	10.0	8.6	11.7	10.5
Jodhpur	42.0	23.2	40.8	23.0	39.6	22.7	28.0	35.4	27.4	33.7	26.9		33.8	7.5	4.3	8.7	5.4
Jorhat	34.4	28.2	33.6	27.7	32.9	27.3	28.7	32.7	28.3	32.1	28.0		31.8	9.6	9.0	10.6	10.1
Kolkata	37.2	25.4	36.2	26.1	35.2	26.5	29.5	34.3	29.0	33.4	28.6		32.7	12.0	10.9	13.1	12.9
Kota	43.5	23.0	42.4	22.6	41.2	22.6	27.3	35.2	26.8	33.0	26.5		31.8	9.9	6.7	10.8	7.6
Kurnool	41.6	23.2	40.3	24.6	38.9	24.4	29.3	34.8	28.8	34.8	28.4		33.4	2.7	2.3	4.0	3.5
Lucknow	42.0	24.2	40.8	24.8	39.3	24.5	28.8	33.3	28.4	32.4	28.0		32.2	7.5	6.8	8.4	7.7
Manglore	33.9	24.4	33.9	24.0	33.4	24.2	27.1	31.0	26.7	31.0	26.4		30.7	19.7	17.0	20.5	18.1
Mumbai	35.3	22.8	34.3	23.3	33.5	24.0	27.9	31.8	27.5	31.3	27.2		31.1	16.5	13.9	17.8	14.8
Nagpur	43.8	23.6	42.6	23.9	41.4	23.6	27.3	31.2	26.6	33.2	26.2		31.9	11.5	9.4	12.8	10.2
Nellore	40.4	27.8	39.0	28.1	37.8	27.2	30.0	37.1	29.4	35.4	28.8		34.0	19.4	18.3	20.2	19.3
New Delhi	41.8	23.6	40.6	23.8	39.4	23.5	28.4	33.3	28.0	33.3	27.6		32.7	6.0	5.2	7.1	6.3
Panjim	34.0	24.8	33.5	25.2	33.0	25.2	27.7	32.3	27.4	31.5	27.0		30.9	19.6	17.8	20.3	18.7
Patna	40.7	23.4	39.5	23.7	38.0	24.7	29.0	33.9	28.6	33.1	28.3		32.6	8.0	7.6	9.2	8.6
Pune	38.4	20.5	37.4	20.4	36.3	20.6	24.8	30.9	24.4	30.6	24.0		29.6	9.2	8.0	10.3	9.2
Raipur	43.6	23.3	42.2	23.3	40.8	23.0	27.1	31.8	26.8	32.0	26.5		31.2	11.3	9.9	12.6	10.4
Rajkot	40.8	23.1	39.9	23.8	38.9	23.4	28.1	33.9	27.6	33.3	27.1		32.3	10.9	6.5	12.2	7.7
Ramgundam	43.4	25.6	42.2	25.1	40.7	25.8	28.3	37.3	27.9	35.6	27.4		34.4	12.5	11.2	13.7	12.5
Ranchi	38.9	22.1	37.7	21.8	36.4	21.5	26.2	31.7	25.6	30.4	25.2		29.2	9.1	7.2	10.4	8.3
Ratnagiri	34.1	22.4	33.4	23.2	32.8	23.6	27.6	31.1	27.3	30.8	27.0		30.2	18.3	14.9	19.2	16.5

Annexure 16

Outdoor Conditions Source

Station	cooling DB/MCWB						cooling WB/MCDB						Heating DB/MCWB				
	0.4%		1.0%		2.0%		0.4%		1.0%		2.0%		99.6%		99.0%		
	DB	MCWB	DB	MCWB	DB	MCWB	WB	MCDB	WB	MCDB	WB	MCDB	DB	MCWB	DB		
MCWB																	
1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17
Ratnagiri	34.1	22.4	33.4	23.2	32.8	23.6	27.6	31.1	27.3	30.8	27.0		30.2	18.3	14.9	19.2	16.5
Raxaul	38.6	23.1	36.9	24.5	35.5	24.6	28.9	33.0	28.4	32.0	28.1		31.8	7.5	7.3	8.5	8.2
Saharanpur	41.3	23.8	39.6	24.6	38.1	24.0	28.5	33.6	28.1	32.9	27.8		32.5	1.7	1.5	3.0	2.7
Shilong	24.2	19.7	23.5	19.4	22.8	18.9	20.7	23.3	20.3	22.7	19.9		22.2	-1.0	-1.1	0.1	-0.5
Sholapur	41.1	21.6	40.1	21.6	39.1	21.2	26.6	32.6	25.8	32.1	25.1		31.5	16.3	12.4	17.2	12.5
Sundernagar	36.1	19.1	34.6	19.9	33.1	19.4	25.2	30.1	24.8	29.2	24.4		28	1.8	1.3	2.8	2.2
Surat	38.4	22.7	36.9	23.9	35.7	23.4	28.3	32.4	27.9	31.7	27.6		31.4	14.8	12.6	16.2	12.5
Tezpur	34.2	27.4	33.3	26.5	32.5	27.1	28.9	32.8	28.4	31.8	28.0		31.4	10.5	10.0	12.4	10.9
Trichirapalli	39.6	24.6	38.7	25.1	37.8	24.9	27.7	34.5	27.2	33.7	26.9		33.3	19.3	18.2	20.1	18.7
Thiruvanatha-puram	33.9	26.0	33.4	26.1	32.9	25.9	27.7	32.4	27.4	31.9	27.0		31.0	21.6	20.1	22.2	20.8
Veraval	35.2	23.9	33.8	23.5	32.8	26.6	29.1	32.3	28.7	31.6	28.4		31.1	14.3	10.1	15.6	12.3
Visakhapatanam	36.4	26.5	35.6	27.3	35.0	27.1	29.2	33.8	28.8	33.0	28.4		32.5	15.4	14.9	16.8	16.2

NOTE: Abbreviations used:
DBT – Dry-bulb temperature
WBT - Wet-bulb temperature
MCDB – Mean coincidental dry-bulb temperature
MCWB – Mean coincidental wet -bulb temperature

Source: Table-3 of Part 8 Building services – section 3 – Air conditioning, heating and mechanical ventilation of National Building Code – 2005

Annexure 17

Minimum Air Requirements for Ventilation of all Common Areas and Commercial Facilities

Sl. No	Application	Estimated Maximum occupancy	Outdoor air requirement		Remarks
		Persons / m2	I / s / person	(I / s) / m^2	
1	2	3	4	5	6
1	**Commercial dry cleaner**	30	15		
2		***Food and Beverage Service***			
	Dinning rooms	70	10		
	Cafeteria, fast food	100	10		
	Bars. Cocktail lounges	100	15		Supplementary smoke equipment may be required.
	Kitchen (cooking)	20	8		Make up air for food exhaust may require more ventilating air. The sum of the outdoor air and transfer air of acceptable quality from adjacent spaces shall be sufficient to provide an exhaust rate of not less than 27.5 m2 / h / m2 (7.51 / sm2)
3	**Hotels, Motels, Resorts, Dormitories**				Independent of room size
	Bed rooms	15			
	Living rooms			15	
	Baths			18	Installed capacity for intermittent use.
	Lobbies	30	8		
	Conference rooms	50	10		
	Assemble rooms	120	8		
	Dormitory sleeping areas	20	8		See also food and beverage services, merchandising, barber and beauty shops, garages, offices.
	Office space	7	10		Some office equipment may require local exhaust

Sl. No	Application	Estimated Maximum occupancy	Outdoor air requirement		Remarks
		Persons / m2	I / s / person	(I / s) / m^2	
1	2	3	4	5	6
	Reception areas Telecommunication centers and data entry areas	60 60	8 10		
	Conference rooms	50	10		
4	**Public Space** Corridors and utilities			0.25	
	Public restrooms / s / we or urinal		25		Normally supplied transfer air
	Lockers and dressing rooms			2.5	Local mechanical exhaust with no re-circulations recommended
	Elevators			5.0	Normally supplied by transfer air
	Retail stores, sales				
	floor and show				
	rooms floors				
	Basement and street	30		1.50	
	Upper floors	20		1.00	
	Storage rooms	15		0.75	
	Dressing rooms	1.00			
	Malls and arcades	20		1.00	
	Shipping and				
	receiving	10		0.75	
	Warehouse	5		0.25	
	Smoking lounge	70	30		Normally supplied by transfer air, local mechanical exhaust, exhaust with no recirculation recommended
5	**Specialty shops**				
	Barber shop	25	8		
	Beauty parlour	25	13		
	Florists	8	8		Ventilation to optimize growth may dictate requirements

Sl. No	Application	Estimated Maximum occupancy	Outdoor air requirement		Remarks
		Persons / m2	I / s / person	(I / s) / m^2	
1	2	3	4	5	6
	Clothiers, furniture			1.50	
	Hardware, drugs, fabric	8	8		
	Supermarkets	8	8		
	Pet shops				
6	**Sports & amusement** Spectator areas	150	8		When internal combustion engines are operated for maintance of playing surface, increased ventilation rates may be required
	Game rooms	70	13		
	Ice arenas (playing areas)				
	Swimming pools (pool and deck area)			2.50	Higher values may be required for humidity control
	Playing floors (gymnasium)	30	10		
	Ballrooms & discos	100	13		
	Bowling alleys (seating area)	70	13		
7	**Theatre** Ticket booths	60	10		
	Lobbies	150	10		Special ventilation will be needed to eliminate special stage effects (for example. Dry ice vapors mists.etc)
	Auditorium	10	8		
	Stages, studies	70	8		
8	**Transportation** Waiting rooms	100	8		
	Platforms	100	8		Ventilation within vehicles may require special consideration
	Vehicles	150	8		

Sl.No	Application	Estimated Maximum occupancy	Outdoor air requirement		Remarks
		Persons / m2	I / s / person	(I / s) / m^2	
1	2	3	4	5	6
9	**Workrooms** Meat processing	10	8		Spaces maintained at low temperature at (-10o f to +50o F or –23 to +10 C) are not covered by these requirements unless the occupancy is continuous; ventilation from adjoining space is permissible. When the occupancy is intermittent. Infiltrations will normally exceed the ventilation requirements
	Photo studio	10	8		
	Darkrooms	10	2.50		
	Pharmacy	20	8		
	Bank vaults	5	8		
	Duplicating,				
	Printing	2.50			Installed equipment shall incorporate positive exhaust and control (as required) of undesirable contaminates (toxic and otherwise)
	Education Classrooms	50	8		
	Laboratories	30	10		Special contaminant control systems may be required for process or functions including laboratory animal occupancy.
	Training shop	30	10		
	Music rooms	50	8		
	Libraries	20	8		
	Lock rooms	2.50			
	Corridors	2.50			
	Auditoriums	150	8		

Sl.No	Application	Estimated Maximum occupancy	Outdoor air requirement		Remarks
		Persons / m2	I / s / person	(I / s) / m^2	
1	2	3	4	5	6
11	**Hospital, Nurses and convalescent homes** Patient rooms	10	13		Special requirements or codes provisions and pressure relationships may determine minimum ventilation rates and filter efficiency.
	Medical procedure	20	8		
	Operating rooms	20	15		
	Procedure recovery and ICU	20	8		Greening contaminants may require higher rates.
	Autopsy			2.50	Air shall not be re-circulated into other spaces.
	Physical therapy	20	8		
	Correctional cells	10	10		
	Dinning halls	100	8		
	Guard stations	40	8		

- This table prescribes supply rates of acceptable outdoor air required for acceptable indoor air quality. These values have been chosen to dilute human bioeffluents and other contaminants with an adequate margin of safety and to account for health variations among people and varied activity levels.
- Net occupiable space

Source: Table-4 Part 8 Building Services – Section 3 – Air conditioning, heating and mechanical ventilation of National Building Code – 2005.

Annexure 18

Space Standards for Footpath

Capacity (Persons)		Required width of footpath (m)
All in one direction	In both directions	
1220	800	1.5
2400	1600	2.0
3600	2400	2.5
4800	3200	3.0
6000	4000	4.0

Source: UDPFI Guidelines volume 1 August 1996

Annexure 19.1

Space standards for Car Parking

S.No	Use / Use Premises	Equivalent car spaces (ECS) per 100 sq mt of floor area 0.50 – 1.50
1	Residential Group housing, plotted housing (plots above 250 sq.mt) and mixed use	
2.	Commercial	
	i. Wholescale trade and freight complex (including parking for loading and unloading	1.50 – 2.50
	ii. City centre, district centre, hotel, cinema and others	1.00 – 2.00
	iii. Community centre, local shopping centre, convenience shopping centre	0.50 – 1.50
3	Public and semi-public facilities	
	i. Nursing home, hospitals, (other than government), social cultural and other institutions, government and semi-government offices	0.50 – 1.50
	ii. Schools, college and university, government hospitals	0.25 – 0.75
4	Industrial Light and service industry, flatted group industry, extensive industry	0.50 – 1.00

Note:

1. For the provision of car parking spaces, the space standards shall be as under:

i) For open parking 18.0 sq.mt. per equivalent car space.

ii) For ground floor covered parking 23.0 sq.mt. per equivalent car space.

iii) For basement 28.0 sq.mt. per equivalent car space.

2. In the use premises, parking on the above standards may be provided on the ground floor, or in the basement (where the provision exists).

3. In case of organized centers like strict centre and community centre to meet with the above demand of parking, additional underground space (besides the basement) may be provided below the piazzas or pedestrian or open spaces but within the setback lines.

4. Plots forming part of any commercial development, basement(s) maximum equivalent to the plot area within the building envelope line, may be permitted for parking and services such as electric substation with specifications and approval, installation of electrification for fire fighting equipment with the approval and any other services with appropriate approval.

Annexure 19.2
Area requirements for parking

Sl No.	Occupancy	One Car parking Space for Every				
		Populaton less than 50 000	Population between 50 000 to 200 000	Population between 200 000 to 1 000 000	Population between 1 000 000 to 5 000 000	Population above 5 000 000
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)a)	Residential			a) 2 tenements having built-up area 101 to 200 m^2	I tenement of 100 m^2 built up area	1 tenement of 75 m^2 built up area
b)	Lodging establishments, tourist homes and hotels, with lodging accommodation	12 guest rooms	8 guest rooms	4 guest rooms	3 guest rooms	2 guest rooms
ii)	Educational			70 m^2 area or fraction thereof of the administrative office area and public service areas	50 m^2area or fraction there of of the administrative office area and public service areas	35 m^2 area or fraction thereof of the administrative office area and public service reas
(iii)	Institutional (Medical)	20 beds (Private)	15 beds (Private)	10 beds (Private)	5 beds (Private)	2 beds (Private)
		30 beds	25 beds (Public)	15 beds (Public) (Public)	10 (Public)	5 beds
(iv)	a) Assembly halls, cinema theatres	20 seats	80 seats	25 seats	15 seats	10 seats
	b) Restaurants	60 seats	40 seats	20 seats	10 seats	5 seats
	c) Marriage Halls, community halls	600 m^2 plot area	400 m^2 plot area	200 m^2 plot area	50 m^2 plot area	25 m^2 plot area
	d) Stadia and exhibition center	240 seats	160 seats	50 seats	30 seats	20 seats
a)v)	Business Offices and firms for private business	300 m^2 area or fraction thereof	200 m^2 area or fraction thereof	100 m^2 or fraction thereof	50 m^2 area or fraction thereof	25 m^2 area or fraction thereof
b)	Public or semi-public offices thereof	500 m^2 area or thereof	300 m^2 area or fraction thereof	200 m^2 area or fraction thereof	100 m^2 area or fraction thereof	50 m^2 area or fraction

Sl No.	Occupancy	One Car parking Space for Every				
vi)	Mercantile (See Note 2)	300 m^2 area or fraction thereof	200 m^2 area or fraction thereof	100 m^2 area or fraction thereof	50 m^2 area or fraction there of	25 m^2 area or fraction thereof
vii)	Industrial	400 m^2 area or fraction thereof	300 m^2 area or fraction thereof	200 m^2 area or fraction thereof	100 m^2 area or fraction thereof	50 m^2 area or fraction thereof
viii)	Storage			500 m^2 area or fraction thereof	250 m^2 area or fraction thereof	125 m^2 area or fraction thereof

Source: National Building Code of India, 2005

Annexure 20

Step-By-Step Guide To Greening An Existing Roof

1. Designing

Planning and Design

- contact local planning authority if necessary
- contact experts as needed
- calculate
- loadbearing capacity
- angle and aspect of roof
- area of roof
- strength and durability of existing waterproofing
- draw roof to scale, including various extensions, ducts, chimneys etc.
- make planting plan, including consideration of sunlight, sheltered areas, areas visible from ground level
- select roof seals, drainage method, and possible subsidence preventions for roofs > 20º
- calculate soil and plant needs

Preparation

- identify possible sites for obtaining 'threatened' turf
- obtain quotes for materials, and professional and contractors fees where necessary
- order materials

2. Installing

Setting up the framework

- position clamps and connectors
- install timbers at eaves and batons to prevent soil slippage
- construct border drainage

Sealing the roof

- clean the roof
- prepare all technical fittings
- lay first layer of protection foil and seal all edges
- lay second layer of protective fleece
- weigh down with stones

Putting in a Drainage Layer

(for flat roofs 0º-5º)

- install drain plates
- cover with fleece layer
- install clay layer for 0º roof
- cover with filter layer
- check border drainage

3. Greening

Laying the soil

- mix materials (topsoil, sand, clay aggregate etc.)
- lift soil to roof (using soil bags, hoists, cranes as necessary)
- lay even depth of soil and rake to smooth out surface

Planting

- collect turves and purchase plants
- roll out turf perpendicular to ridge
- bed in additional plants
- sow with wildflower seed mix for dry conditions, rake in
- water well
- plant self-clinging climbers at base of chimneys, ducts etc. to cover vertical surfaces

Maintenance

- water well for initial few weeks, then water only during periods of severe drought
- remove tree seedlings occasionally

Annexure 21

Rain water run-off for different roof top areas

Rain Fall in mm	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
Roof Top Area m^2																				
20	2	3	5	6	8	10	11	13	14	16	18	19	21	22	24	26	27	29	30	32
30	2	5	7	10	12	14	17	19	22	24	26	29	31	34	36	38	41	43	46	48
40	3	6	10	13	16	19	22	26	29	32	35	38	42	45	48	51	54	58	61	64
50	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
60	5	10	14	19	24	29	34	38	43	48	53	58	62	67	72	77	82	86	91	96
70	6	11	17	22	28	34	39	45	50	56	62	67	73	78	84	90	95	101	106	112
80	6	13	19	26	32	38	45	51	58	64	70	77	83	90	96	102	109	115	122	128
90	7	14	22	29	36	43	50	58	65	72	79	86	94	101	108	115	125	134	144	154
100	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
110	9	18	26	35	44	53	62	70	79	88	97	106	114	123	132	141	150	158	167	176
120	10	19	29	38	48	58	67	77	86	96	106	115	125	134	144	154	163	173	182	192
130	10	21	31	42	52	62	73	83	94	104	114	125	135	146	156	166	177	187	198	208
140	11	22	34	45	56	67	78	90	101	112	123	134	146	157	168	179	190	202	213	224
150	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240
200	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320
250	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400
300	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480
400	32	64	96	128	160	192	224	256	288	320	352	384	416	448	480	512	544	576	608	640
500	40	80	120	160	200	240	280	320	360	400	440	480	520	560	600	640	680	720	760	800
1000	80	160	240	320	400	480	560	640	720	800	880	960	1040	1120	1200	1280	1360	1440	1520	1600
2000	160	320	480	640	800	960	1120	1280	1440	1600	1760	1920	2080	2240	2400	2560	2720	2880	3040	3200
3000	240	480	720	960	1200	1440	1680	1920	2160	2400	2640	2880	3120	3360	3600	3840	4080	4320	4560	4800

Source: Manual on norms and standards for EC of large construction projects-MoEF

4146

Questionnaire
for
Environmental Impact Assessment of

BUILDING CONSTRUCTION

2231

Questionnaire for Environmental Impact Assessment of Building and Construction Projects

Note 1: All information to be given in the form of Annexures should be properly numbered and form part o this proforma
Note 2: No abbreviations to be used – Not available or not applicable should be clearly mentioned

I. General Information

1.1 Name of the project :

(a) Name of the authorized signatory :

(b) Mailing Address :

E-mail :

Telephone :

Fax No. :

(c) Does the proposal relate to new project / expansion / modernization :

1.2 Site Information

(a) Project Site :

Village(s)	Tehsil	District	State

(b) Geographical information

- Latitude :
- Longitude :
- Total area envisaged for setting up of project (in ha) :
- Nature of terrain (hilly, valley, plains, coastal plains etc) :
- Nature of soil (sandy, clayey, sandy loam etc) :
- Seismic zone classification :
- Does the site falls under CRZ classification? :
- Land usage of the proposed project site :

1.3 Environmental sensitivity details within 10 km from the boundary of the project for applicability of "General Condition (GC)" as per EIA notification dated 14.9.2006 and amendments as on date

S.No	Item	Name	Aerial Disance (in Km)
1	Protected areas notified under the wild life (Protection) Act, 1972		
2	Critically polluted areas as identified by the CPCB		
3	Eco-sensitive areas as notified unedr section 3 of the E (P) Act 1986		
4	Inter-state boundaries and international boundaries		

1.4 Environmental sensitivity areas as mentioned at column 9(III) of EIA Notification 2006

S.No	Areas	Name/ Identity	Aerial distance (within 15 km) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value		
2	Areas which are important or sensitive for ecological reasons – Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, resting, migration etc		
4	Inland, coastal, marine or underground waters		
5	State, National boundaries		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas		
7	Defense installations		
8	Densely populated for built-up area		
9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*		
10	Areas containing important, high quality or scarce resources *(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*		
11	Areas already subjected to pollution or environmental damage *(those where existing legal environmental standards are exceeded)*		
12	Areas susceptible to natural hazard which could cause the project to present environmental		

	problems *(earthquakes, subsidence, land slides, erosion, flooding or extreme or adverse climatic conditions)*		

*** 0.5 km from Railway lines/National / State Highway should be maintained**

Description of the flora / vegetation in the project area

Description of fauna (non-domesticated) in the project area

1.5 Baseline data

Meteorological Data

Ambient Air Quality Data

Water Quality Data

Human Settlement

	With in the project site	With in 1 km from the project boundary
Population*		
No. of villages		
Number of households		
village-wise		

1.6 Current Land Use of the Proposed Project Site Area(in ha) :

Level –I
1. Built – up land
2. Agricultural land
3. Forest
4. Wastelands
5. Water bodies
6. Others
Total

2. Land Use Plan:

2.1 Does the proposed project conform to the approved land use all over the site? (To be certified by the concerned Department of State Government).

Yes ☐ No ☐

If not, clearly indicate which of the stretches are not as per approved land use.

2.2 Project Site Preparation:

Is the proposed project located in low- lying area?

Yes ☐ No ☐

Level before filling (above MSL in m) ☐

Level after filling (above MSL in m)

Details of fill material required: ☐

Quantity of Fill material required (in cu.m) / / / ☐

Source ☐

Gradient Details: ☐

2.3 Would the above filling result in complete / partial filling of water bodies

2.4 Does the site involve stripping? ☐

Yes ☐ No ☐

If yes, provide the following details:

1. Size of the area to be stripped ☐
2. Location, ☐

3. Soil Type,
4. Volume and quantity of earth to be removed,
5. Location of dump site,
6. Proposal for utilisation of removed topsoil.

2.5 Does it involve cutting?

Yes ☐ No ☐

If yes , please furnish the following details:

1. Size of the area to be cut,
2. Depth of cut,
3. Location,
4. Soil Type,
5. Volume and quantity of earth and other material to be removed
6. Location of dump site.

2.6 Does the site preparation require cutting of trees?

Yes ☐ No ☐

If yes, please furnish the following details:

1. How many trees are proposed to be cut?
2. Species of the above trees
3. Are there any protected / endangered species?

Yes ☐ No ☐

If yes, please provide details.

2.7 In case the site covers a flood plain of a river , please furnish:

1. detailed micro- drainage,
2. Flood passages,
3. Flood periodicity in the area.

2.8 Does the proposed project involve construction on any sandy stretch?

Yes ☐ No ☐

If yes, please furnish details

Height (above MSL in metres)

2.9 Does the project involve extraction of sand, levelling or digging of sandy stretches within 500 metres of high tide line?

Yes ☐ No ☐

If yes, mention the activity involved and area.

1. Stretch
2. Area (sq. metre)

2.10 Does the project involve any dredging?

Yes ☐ No ☐

2.11 Whether there will be any change in the drainage pattern after the proposed activity?

Yes ☐ No ☐

If yes, what are the changes?

A. What is the maximum extent?

B. Is any additional area to be flooded?

3. Raw Material Required During Construction :

S. No.	Item	Quantity (Tonnes)	Mode of transport	Source
1)	Bricks			
2)	Sand			
3)	Cement			
4)	Metal			
5)	Diesel			
6)	Others			

4. Water Required for Construction and Operational Phases:

4.1 Water Requirement

Water Requirement (cu.m / day)					
S. No.	Purpose	Average demand	Peak demand	Source	Type - Treated / untreated / Recycled
1.	Construction				

2.	Air Pollution reduction (dust suppression etc,)				
3.	Domestic purposes				
4.	Others				
	Total				

4.2 Source of Raw Water Supply During Construction Phase

	Source of Raw Water Supply during construction phase	
S.No	Source	Cu.m / day
1	Sea	
2	River	
3	Water body	
4	Ground water	
5	Municipal water supply	
6	Others	

4.3 Water Supply During Operational Phase

Water Supply during operational phase		
S.No	Source	Cu.m / day
1	Sea	
2	River	
3 4	Water body Ground water	
5	Municipal water supply	
6	Others	

4.4 Sewage, Collection, Treatment and Disposal

Sewage, Collection Treatment and Disposal		
S.No	Item	Quantity / day
1	Mode of collection of domestic effluent	
a.	Surface drains	
b.	Underground	
C	System and capacity	
2.	Mode of treatment	
a.	Septic tank and filters (capacity)	
b.	Biological treatment capacity	
c.	Others	
3.	Mode of disposal	

a.	Soakpits	
b.	Disposal to local sewer	
C.	water bodies	
d.	Others	

5. Energy Consumption:

- Hydrocarbons, Yes _____ No _____
- gas, Yes _____ No _____
- electricity and Yes _____ No _____
- any other non-conventional energy source Yes _____ No _____

6. Power Distribution in the Region

Power system		
S.No	Item	Remarks
	Source and power supply capacity	
	Distribution system at present	
	Alternate supply if any	
	In case of DG set (Fuel type)	

7. State the impacts predicted on the quality and quantity of Transport linkages:

a. Road _____

b. Rail _____

c. Water _____

d. Air _____

e. Others _____

8. Impact of the Developmental activity on surroundings

Impact of the new development on the surrounding areas		
S.no	Item	Impact
1	Traffic management at peak hours	
2	Buffer zone planned, if so, details	
3	Provision of service roads	
4	Measures proposed to regulate unplanned slums, shops, etc.	
5	Others	

9. Landscaping / Tree Plantation

S.No	Phase	Areas / no. with reference to total project area
1	Total area of project	
2	Area planted during construction phase	
3	Area to be planted during operational phase	
4	No. of trees already planted	
5	No. of trees proposed to be planted	
6	Parks and gardens to be developed	
7	impacts from proposed landscaping	
8	special features of proposed landscape design	

10. Special features in development / construction

S.No	Phase	Areas / no. with reference to total project area
1	Greening of supply chain	
2	Flyash utilization	
3	Green rating	
4	Intelligent building	
5	Timber-free construction	
6	energy efficiency for lighting & ventilation	
7	measurable impacts on human health	
8	Impact on heat islands and inversions	

11 Environmental Management Plan

11.1. Details of Pollution Control Systems :

	Existing	Proposed
Air		
Water		
Noise		
Solid Waste		

11.2. Expenditure on Environmental Measures :

S. No		Capital cost		Annual recurring cost	
		Existing	Proposed	Existing	Proposed
1	Pollution control (provide break-up separately)				
2	Pollution monitoring				

	(provide break-up separately)		
3	Fire fighting & emergency handling		
4	Green Belt		
5	Training in the area of environment & occupational health		
6	Others (specify)		

11.3. Details of organizational set up/cell for environmental management and monitoring:

11.4. Details of community welfare/peripheral development programmes envisaged/being undertaken by the project proponent:

12. Compliance with environmental safeguards (for existing units)

a. Status of the compliance of conditions of Environmental Clearance issued by MoEF, if any enclosed — Yes ☐ No ☐

b. Status of compliance of 'Consent to Operate' issued by SPCB, if any, enclosed — Yes ☐ No ☐

Date : .....

Name and Signature of the Competent Officer / authority

E-mail:

Phone and Fax nos:

Given under the seal of organization on behalf of whom the applicant is signing

Note:

The project authorities are earnestly advised in their own interest to provide complete information

on points, which they think are relevant to their proposal. Non-supply of required information may result in considerable delay in according environmental clearance.

All correspondence with MoEF shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project (refer notification No. SO. 3067 (E) dated 1st December 2009)

Questionnaire
for
Environmental Impact Assessment of

TOWNSHIPS
AND
AREA DEVELOPMENT PROJECTS

Questionnaire for Environmental Impact Assessment of Townships and Area Development Projects

Note 1: All information to be given in the form of Annexures should be properly numbered and form part o this proforma

Note 2: No abbreviations to be used – Not available or not applicable should be clearly mentioned

I. General Information

1.1 Name of the project :

(a) Name of the authorized signatory :

(b) Mailing Address :

E-mail :

Telephone :

Fax No. :

(c) Does the proposal relate to new project / expansion / modernization :

1.2 Site Information

(a) Project Site :

Village(s)	Tehsil	District	State

(b) Geographical information

- Latitude :
- Longitude :
- Total area envisaged for setting up of project (in ha) :
- Nature of terrain (hilly, valley, plains, coastal plains etc) :
- Nature of soil (sandy, clayey, sandy loam etc) :
- Seismic zone classification :
- Does the site falls under CRZ classification? :
- Land usage of the proposed project site :

1.3 Environmental sensitivity details within 10 km from the boundary of the project for applicability of "General Condition (GC)" as per EIA notification dated 14.9.2006 and amendments as on date

S.No	Item	Name	Aerial Disance (in Km)
1	Protected areas notified under the wild life (Protection) Act, 1972		
2	Critically polluted areas as identified by the CPCB		
3	Eco-sensitive areas as notified unedr section 3 of the E (P) Act 1986		
4	Inter-state boundaries and international boundaries		

1.4 Environmental sensitivity areas as mentioned at column 9(III) of EIA Notification 2006

Sl. No	**Areas**	**Name/ Identity**	**Aerial distance (within 15 km) Proposed project location boundary**
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value		
2	Areas which are important or sensitive for ecological reasons – Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, resting, migration etc		
4	Inland, coastal, marine or underground waters		
5	State, National boundaries		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas		
7	Defense installations		
8	Densely populated for built-up area		
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)		

10	*Areas containing important, high quality or scarce resources* (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)		
11	*Areas already subjected to pollution or environmental damage* (those where existing legal environmental standards are exceeded)		
12	*Areas susceptible to natural hazard which could cause the project to present environmental problems* (earthquakes, subsidence, land slides, erosion, flooding or extreme or adverse climatic conditions)		

*** 0.5 km from Railway lines/National / State Highway should be maintained**

Description of the flora / vegetation in the project area

Description of fauna (non-domesticated) in the project area

1.5 Baseline data

Meteorological data

Ambient air quality data

Water quality data

Human Settlement

	With in the project site	With in 1 km from the project boundary
Population*		
No. of villages		
Number of households village-wise		

1.6 Current land use of the proposed project site Area(in ha) :

Level –I
1. Built – up land
2. Agricultural land
3. Forest
4. Wastelands
5. Water bodies
6. Others
Total

2. Land use plan :

2.1 Does the proposed project conform to the approved land use all over the site? (To be certified by the concerned Department of State Government).

Yes ☐ No ☐

If not, clearly indicate which of the stretches are not as per approved land use.

2.2 Project Site Preparation:

Is the proposed project located in low- lying area?

Yes ☐ No ☐

Level before filling (above MSL in m) ☐

Level after filling (above MSL in m)

Details of fill material required: ☐

Quantity of Fill material required (in cu.m) / / /

Source

Gradient Details:

2.3 Would the above filling result in complete / partial filling of water bodies

2.4 Does the site involve stripping?

Yes ☐ No ☐

If yes, provide the following details:

1. Size of the area to be stripped
2. Location,
3. Soil Type,
4. Volume and quantity of earth to be removed,
5. Location of dump site,
6. Proposal for utilisation of removed topsoil.

2.5 Does it involve cutting?

Yes ☐ No ☐

If yes , please furnish the following details:

1. Size of the area to be cut,
2. Depth of cut,
3. Location,
4. Soil Type,
5. Volume and quantity of earth and other material to be removed
6. Location of dump site.

2.6 Does the site preparation require cutting of trees?

Yes ☐ No ☐

If yes, please furnish the following details:

1. How many trees are proposed to be cut?
2. Species of the above trees

3. Are there any protected / endangered species?

Yes ☐ No ☐

If yes, please provide details. ☐

2.7 In case the site covers a flood plain of a river , please furnish:

1. detailed micro- drainage,
2. Flood passages,
3. Flood periodicity in the area.

2.8 Does the proposed project involve construction on any sandy stretch?

Yes ☐ No ☐

If yes, please furnish details
Height (above MSL in metres)

2.9 Does the project involve extraction of sand, levelling or digging of sandy stretches within 500 metres of high tide line?

Yes ☐ No ☐

If yes, mention the activity involved and area.

1. Stretch
2. Area (sq. metre)

2.10 Does the project involve any dredging?

Yes ☐ No ☐

2.11 Whether there will be any change in the drainage pattern after the proposed activity?

Yes ☐ No ☐

If yes, what are the changes?

A. What is the maximum extent?

B. Is any additional area to be flooded?

3. Details of New Town

- Provide a Key map showing the location of the New Town
- Area of the New Town.
- Population (Dwelling units).
- Township density:
  - gross density
  - net density

- Provide a land use map of the proposed town giving the break up of area and percentages under different land use types
- Total number of houses to be constructed and percentage of the demand which these will satisfy.
- House types-Areas / Income levels.
- Attach master plan for the New Town, indicating sectors / neighborhoods with densities / population and amenities provided.

4. Details of facilities provided in the New Town

4.1 Residential

i. Type of development
   - low rise / high rise / medium rise / mixed.
   Specify the number of storeys in each case.

ii. Population in each of the neighborhood sectors.

iii. Density, plot size, floor area ration, site coverage

iv. Development controls , if any

4.2 Commercial

i. Hierarchy of commercial activities and approximate population served by each.

ii. Types and numbers of commercial establishments

iii. Extent of commercial activities in the formal sector / informal sector

4.3. Educational: No. Areas

a. Nursery school

b. Primary school

c. Higher secondary school

d. College

e. Technical / Vocational Training Institutes

4.4. Health No. Areas

a. Dispensaries

b. Health Clinics

c. Nursing Homes (No. of beds)

d. Bio-medical waste management

4.5. Parks, Playgrounds: No. Areas

a. Totlots

b. Cluster Open spaces

a. Neighborhood open spaces.

b. Sector open spaces

c. Open spaces at town level

4.6. Recreational:

a. Area and percentage of open spaces under recreation

b. Cinema Hall

c. Swimming pools

d. Water-based recreation

e. Others

4.7. Other facilities No

a. Post Office

b. Bank

c. Telephone Booth

d. Milk Booth

e. Police Station

f. Any other, specify

4.8. Infrastructural Facilities :

Transport

a. Mode of travel from residence to work place

b. Mode of travel to surrounding areas

c. Mode of travel within the town.

5. Phase wise development of the New Town

1. Provide a phase wise breakup of area, population and facilities planned.
2. Indicate the time lag between the phases
3. Densities at different phases of town development
4. Future development envisaged

6. Impact of the new Town on Surrounding Areas

1. Proposed land use plan for peripheral area, if any
2. Is there a buffer zone planned around the new town? Details thereof.
3. What are the activities that are likely to come up in the surrounding areas relating to the demand of the proposed new town during the construction phase (stone quarrying, manufacturing of lime, bricks, extraction of timber, etc)
4. Agencies and the measures proposed to regulate development in the periphery.

Proposed institutional set up

a. Management of the town –

Name of the authority and functions.

b. Association of residents, if any

7. Raw material required during construction:

S. No.	Item	Quantity (Tonnes)	Mode of transport	Source
1)	Bricks			
2)	Sand			
3)	Cement			
4)	Metal			
5)	Diesel			
6)	Others			
7)				

8. Water required for construction and operational phases:

8.1 Water requirements

Water Requirement (cu.m / day)					
S. No.	Purpose	Average demand	Peak demand	Source	Type - Treated / untreated / Recycled
1.	Construction				
2.	Air Pollution reduction (dust suppression etc,)				
3.	Domestic purposes				
4.	Others				
	Total				

8.2 Sources of raw water supply during construction phase

Source of Raw Water Supply during construction phase		
S.No	Source	Cu.m / day
1	Sea	
2	River	
3	Water body	
4	Ground water	
5	Municipal water supply	
6	Others	

8.3 Sources of water supply during operational phase

Water Supply during operational phase		
S.No	Source	Cu.m / day
1	Sea	
2	River	
3	Water body	
4	Ground water	
5	Municipal water supply	
6	Others	

8.4 Sewage, collection, treatment and disposal

Sewage, Collection Treatment and disposal		
S.No	Item	Quantity / day
1	Mode of collection of domestic effluent	
a.	Surface drains	
b.	Underground	
c.	System and capacity	
2.	Mode of treatment	
a.	Septic tank and filters (capacity)	
b.	Biological treatment capacity	
c.	Others	
3.	Mode of disposal	
a.	Soakpits	
b.	Disposal to local sewer	
c.	water bodies	
d.	Others	

8.5 Water Harvesting and Recharging Scheme

8.6 Storms water drainage

a. Collection

b. Disposal

c. Treatment, if any

9.Energy Consumption :

- Hydrocarbons, Yes _____ No _____
- gas, Yes _____ No _____
- electricity and Yes _____ No _____
- any other non-conventional energy source Yes_____ No_____

10. Power distribution in the region

Power system		
S.No	Item	Remarks
	Source and power supply capacity	
	Distribution system at present	
	Alternate supply if any	
	In case of DG set (Fuel type)	

11. State the impacts predicted on the quality and quantity of Transport linkages:

1. Road	
2. Rail	
3. Water	
4. Air	
5. Others	

12. Impact of the Developmental activity on surroundings

Impact of the new development on the surrounding areas		
S.No	Item	Impact
1	Traffic management at peak hours	
2	Buffer zone planned, if so, details	
3	Provision of service roads	
4	Measures proposed to regulate unplanned slums, shops, etc.	
5	Others	

13. Is the new town population likely to utilize any of the facilities in the surrounding region? Specify the extent of use in each case:

a. Education

b. Health

c. Transport

d. Commerce

e. Recreation

f. Others

14. Landscaping / Tree Plantation

S.No	Phase	Areas / no. with reference to total project area
1	Total area of project	
2	Area planted during construction phase	
3	Area to be planted during operational phase	
4	No. of trees already planted	
5	No. of trees proposed to be planted	
6	Parks and gardens to be developed	
7	impacts from proposed landscaping	
8	special features of proposed landscape design	

15. Other information

(i) Measures proposed for construction labour – their living requirement, health and hygienic conditions, sewage treatment and disposal arrangements etc.

(ii) Measures proposed to counter encroachments in and near the new town.

(iii) Housing of construction workers in the different construction phases and the amenities provided for them. What is the future of such Housing?

(iv) How are the service population proposed to be accommodated in the new town? What percentage of service population has been catered to?

(v) How are the informal sector population proposed to be accommodated in the New Town in regard to their living and working.

(vi) Does the New Town intend to provide services and amenities (ex Education, Health, Recreation, etc) to population living in the surrounding areas? Specify the type of services and approximate number of people likely to utilize these services.

(vii) How are the running costs of the town proposed to be met? Mention the approximate amount and percentage of total - by residents, town authorities and others

(viii) Proposed employment prospects within the New Town to dependents of the employees other than jobs in the agency building the New Town.

(ix) Any other relevant information

Describe in detail the manner in which the promoters of new town will interact with the township management, township population and township amenities on a day-to-day and month-to-month basis.

16 Environmental Management Plan

16.1. Details of Pollution Control Systems:

	Existing	Proposed
Air		
Water		
Noise		
Solid Waste		

16.2. Expenditure on environmental measures:

S. No		Capital cost		Annual recurring cost	
		Existing	Proposed	Existing	Proposed
1	Pollution control (provide break-up separately)				
2	Pollution monitoring (provide break-up separately)				
3	Fire fighting & emergency handling				
4	Green Belt				
5	Training in the area of environment & occupational health				
6	Others (specify)				

16.3. Details of organizational set up/cell for environmental management and monitoring:

16.4. Details of community welfare/peripheral development programmes envisaged/being undertaken by the project proponent:

17. Compliance with environmental safeguards (for existing units)

a. Status of the compliance of conditions of Environmental Clearance issued by MoEF, if any enclosed Yes ☐ No ☐

b. Status of compliance of 'Consent to Operate' issued by SPCB, if any, enclosed Yes ☐ No ☐

Date .....

Name and Signature of the

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Given under the seal of organization on behalf of whom the applicant is signing

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4173

Gmail

Proof of serivce

raghunath mahabal <adv.rbmahabal@gmail.com>

RE:NGT OA 65/2019 (WZ) Ajay Bhosale Vs UoI : Next Date: 28/07/2023 : R-11 BramhaCorp Ltd.: REVISED COMPREHENSIVE AFFIDAVIT

raghunath mahabal <adv.rbmahabal@gmail.com> 28 July 2023 at 14:17
To: nitinlonkar@gmail.com, Manasi Joshi <adv.manasi.joshi@outlook.com>, Rahul Garg <rahul.garg@mgklegal.com>, secy-moef@nic.in, chiefsecretary@maharashtra.gov.in, pscc.env@maharashtra.gov.in, "Principal Secretary Environment Dept. Govt. of Maharashtra" <psec.env@maharashtra.gov.in>, ms@mpcb.gov.in, ropune@mpcb.gov.in, pmcmco@gmail.com, rraut@punecorporation.org, rdc.pune-mh@gov.in, adv.mukessh@tosslegal.co.in, sropune1@mpcb.gov.in, National Green Tribunal Pune <ngt-pune@gov.in>, ajay bhosale <ajaybhosale2772@gmail.com>, Aniruddha Kulkarni <aniruddha1488@gmail.com>
Cc: Raghunath Mahabal <mahabal60@gmail.com>, admin@bramhacorp.in, Srinivas Reddy <srinivas.reddy@bramhacorp.in>, Adv Sachin S Gore 7350212877 <ssgore2005@gmail.com>, ajay.agrawal@bramhacorp.in, EC BramhaCorp <ec@bramhacorp.in>, adv.mukessh@tosslegal.co.in

I am pleased to circulate the REVISED submissions as above under the subject. Advance E copy.

2023-07-26 OA 65_2019 R-11 Bramha FULL AiR fina...

Regards

Dhananjay Chavan 7038383654
= Raghunath Mahabal, Advocate +91-74-0011-6222 adv. rbmahabal@gmail.com =
B-202 Chandravijay, Phule Road, Mulund East, Mumbai-400081
| Adv. Sumedha Marathe | Adv. Ashlesha Gondhalekar | Adv. Antima Bazaz New Delhi |