S.L. No. 18/25

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

EASTERN ZONE BENCH AT KOLKATA

ORIGINAL APPLICATION NO. 101/2025/EZ

BETWEEN

IN THE MATTER OF:

ANKUR SHARMA;

... APPLICANT

VERSUS

THE STATE OF WEST BENGAL & ORS.

... RESPONDENTS

AFFIDAVIT IN OPPOSITION ON BEHALF OF THE RESPONDENT NOS. 11 AND 13 TO THE ORIGINAL APPLICATION

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NOTARY SUMITRA BHATTACHARYYA Civil Court Calcutta Regn. No. 065 of 2022 Expiry Date 31.03.2027 Govt. of West Bengal

08 DEC 2025

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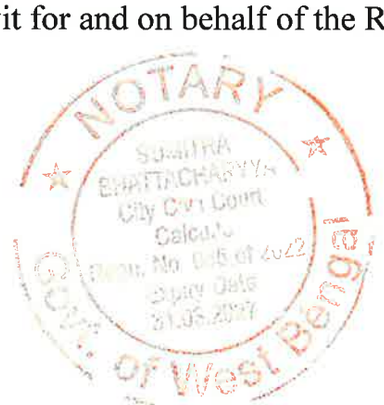
I, Subhankar Bhattacharjee, son of Kalyan Kumar Bhattacharjee, aged about 48 years, by faith - Hindu, by occupation service and residing at 87/5, Bose Pukur Road, Kasba S.O. Kasba, Kolkata, West Bengal - 700042, do hereby solemnly affirm and say as follows:-

1. I am the authorised signatory of the Respondent Nos. 11 and 13. I have made myself well acquainted with the facts and circumstances of the instant case. I have been duly authorized and as such I am competent to sign and affirm the instant affidavit for and on behalf of the Respondent Nos. 11 and 13.



2. I have received a copy of the application being O.A. No. 101/2025/EZ on 29.07.2025 supported by an affidavit purportedly affirmed by one Ankur Sharma on 23.05.2025 (hereinafter referred to as the "said application"). I have read and understood the true meaning, scope and purport thereof.

3. At the outset, I say that the said Application is misconceived, frivolous, vexatious, harassive, devoid of merits, unsupported by law and has been filed with vested interest and is *mala fide*.

4. I say that the said Application is not maintainable under Section 18(1), read with Sections 14 or 15 or 18(2) of the National Green Tribunal Act, 2010 (hereinafter referred to as the said Act) for the following reasons:

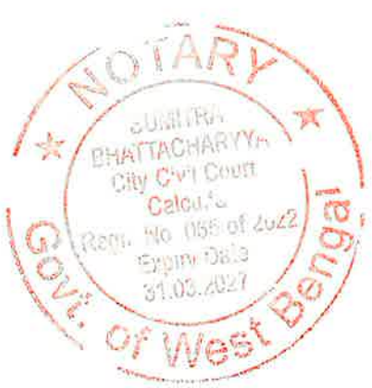
   a. The applicant has failed to establish himself as a "person aggrieved" in terms of Section 18 of the said Act. Accordingly, the applicant has no cause of action to maintain the instant proceeding.

   b. The instant Application is premature as the allegation that the said project is being constructed without obtaining prior Environmental Clearance (hereinafter referred to as "**EC**") from the State Environment Impact Assessment Authority, (hereinafter referred to as "**SEIAA**"), West Bengal in consonance with the Notification of the Ministry of Environment and Forests dated 14.09.2006 (hereinafter referred to as the "**EIA Notification**") is false and misconceived. Further details of the said project which is being constructed after thorough compliance with all the stipulated rules and/or guidelines are more fully stated hereinafter.

c. The Ministry of Environment and Forests to regulate and impose certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts formulated and published the Environmental Impact Assessment Notification, 2006. A copy of the said notification of 2006 is annexed hereto and marked with the letter "A".

d. I say that the respondent no.12 presently does not exist. It has merged with respondent no.11. Accordingly, the respondent no.12 should be deleted from the array of parties. In this regard, a copy of the order dated 04.09.2024 passed by the Hon'ble National Company Law Tribunal, Kolkata is annexed hereto and marked with the letter "B".

e. I respectfully submit that Respondent Nos. 11 and 13 are law-abiding and reputable entities that conduct their operations in strict adherence to all applicable laws, regulations, and environmental norms. They have consistently demonstrated their intent to obtain all necessary permissions and approvals from the competent authorities prior to initiating any project or activity. They are deeply conscious of their social and environmental responsibilities. They are committed to sustainable development and strive to contribute positively to the communities they engage with. Their actions reflect a genuine respect for nature and a continuous effort to operate in a manner that upholds public interest and legal compliance. They have successfully completed various projects in the State.



f. The answering respondents started construction of Phase I, Phase II and Phase III having total built-up area of 14,821.78 sq. meters, which is much below the prescribed limit of 20,000 sqm. The following table indicates the area of land and built-up area of the three phases.

Sl. No.	Phases	Total Land Area	Total Built-Up Area
1.	Phase I	6794.82 sqm	5492.32 sqm
2.	Phase II	9015.52 sqm	7747.1 sqm
3.	Phase III	2891.39 sqm	1582.36 sqm
	Total	**18,701.73 sqm**	**14,821.78 sqm**

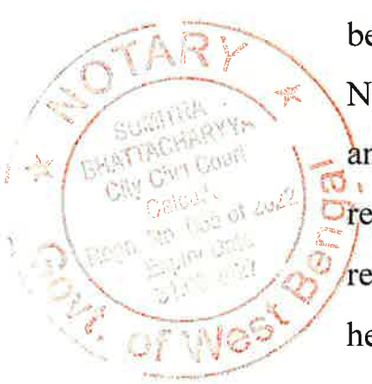
Thus, for the three phases for which the construction has been undertaken, there was no requirement of obtaining EC prior to starting of the construction as the threshold limit for such requirement was not even reached, the total constructed built-up area being 14,821.78 sqm.

g. At the time when such construction work was undertaken for phases I, II and III, the answering respondents did not contemplate construction of the other phases and thus there was no requirement of obtaining any EC prior to construction. The sanctioned building plans for phases I, II and III are annexed hereto and collectively marked with the letter "C". From the aforesaid sanctioned building plans it would be evident that the answering respondents had obtained the sanctioned building plan for phase I on 28.12.2022 and at that point of time the answering respondents never contemplated construction of phases IV and V as they were not sure of the commercial viability of the project and in the event proper response was not received, the answering respondents

would not proceed with any further phase. As would be evident from the sanctioned plans of phases I, II and III, the answering respondents did not obtain the same showing the entire land as the area of land under such phase. The area of land for phase I as shown in the sanctioned plan is 6794.82 sqm., the area of land for phase II as shown in the sanctioned plan is 9015.52 sqm and the area of land for phase III as shown in the sanctioned plan is 2891.39 sqm. This was done as the answering respondents was not sure of the commercial viability of the project and in the event, it did not find the project to be commercially viable it would not have undertaken any action for phases IV and V.

h. However, it remains a fact that the total project area and built-up area for phases I, II and III are 18,701.73 sqm and 14,821.78 sqm respectively for which construction work has been undertaken.

i. Thus, it is not the case that the answering respondents deliberately did not obtain EC or attempted to break the project into several parts to evade the requirement of obtaining prior EC. However, after getting good response in respect of phases I, II and III, the answering respondents decided to undertake phases IV and V. However, since phases IV and V, if added to phases I, II and III, the total built-up area would exceed the threshold limit and thus the answering respondents have applied for EC on 03.04.2025 before they would take up the construction of phases IV and V. No construction work has been undertaken in respect of phases IV and V as the answering respondents are awaiting EC. In this regard, a copy of the letter dated 03.04.2025 issued by the respondent no. 13 to the Member Secretary, SEIAA, is annexed hereto and marked with the letter "D".



5. In course of hearing of the said application on 1st August, 2025, it fell from this Hon'ble Tribunal that whether the application of the project proponent for EC can be processed in view of the Judgment of Hon'ble Supreme Court of India in *Vanashakti -vs- Union of India* dated 16th May, 2025 is required to be ascertained. It is humbly submitted that the said Judgment is inapplicable in the facts of the present case inasmuch as:-

a) The said Judgment concerns post facto grant of EC. In other words, the said Judgment dealt with the issue whether a project proponent after having violated the EC requirements and after having undertaken construction without obtaining prior EC could have applied for obtaining post facto EC.

b) The Hon'ble Supreme Court, by and under the said Judgment stated that post facto EC, when the project proponent had already constructed/undertaken construction in violation of the EIA notification, cannot be granted.

c) It is respectfully submitted that the said Judgment is inapplicable to the facts of the present case as the answering respondents have not carried out any construction in relation to phases IV and V without obtaining EC. It is stated that EC would only be required if the constructed area exceeds 20,000 sqm being the threshold limit for the said circular to be applicable.

d) As stated earlier, the answering respondents had only contemplated construction of phases I, II and III initially which aggregated to 14,821.78 sqm. and thus the answering respondents did not require to obtain any prior EC for carrying out construction so far it concerns phases I, II and III.

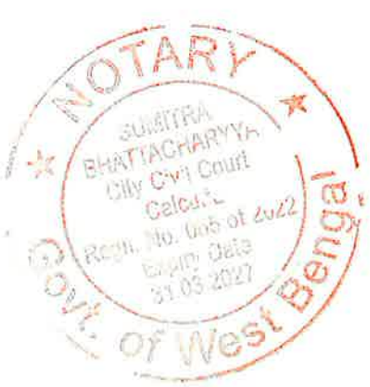
e) However, after finding phases I, II and III to be commercially viable, the answering respondents have decided to proceed with phases IV and V and thus have applied for EC prior to

undertaking any form of construction work for phases IV and V.

f) As on the date of undertaking commencement of construction for phases I, II and III, the total built-up for phases I, II and III area did not cross the threshold limit and thus no EC was required. However, prior to undertaking construction for phases IV and V, the answering respondents have duly applied for EC which is pending clearance. On such identical facts, this Hon'ble Tribunal in the case of *Ankush Sharma vs. The State of West Bengal* in O.A. No. 82/2021/EZ by a judgment and order dated 2nd February, 2022 disposed of the said application by holding that since phase I did not cross the threshold limit of 20,000 sqm, there was no requirement of EC in relation to phase I. A copy of the said Judgment is annexed hereto and marked with the letter "E".

g) Thus, in the said Judgment, the validity of the construction of phase I which was below the threshold limit was not undone and what was directed was that construction of the later phase would not be done prior to obtaining EC.

h) Similarly, in the present case, total built up area of phases I, II and III do not cross the threshold limit for requirement of obtaining prior EC. However, since now the answering respondents have decided to proceed with phases IV and V, they have applied for obtaining EC prior to undertaking any form of construction of phases IV and V. The facts of this Judgment are squarely applicable in our case whereas the facts of the Judgment of the Hon'ble Supreme Court of India in *Vanashakti (Supra)* is inapplicable as in that case construction of more than 20,000 sqm was already done without obtaining EC which is not the case for the project of the answering respondents. It is not the case that the answering respondents



have already constructed more than 20,000 sqm without obtaining EC.

i) Furthermore, the said Judgment of the Hon'ble Supreme Court of India in *Vanashakti (Supra)* has been recalled by the Hon'ble Supreme Court vide judgement dated 18.11.2025. The answering respondent craves leave to refer to a copy of the said judgement at the time of hearing, if necessary.

6. I say that the answering respondents had already applied for Consent to Establish which would be evident from the affidavit filed by SEIAA. The application has been auto rejected in the online system due to non-submission of documents, however, the answering respondents have initiated due steps to re-apply for obtaining the Consent to Establish.

7. I say that during planning of phases I to III, the answering respondents had considered water consumption per individual per day considering the National Building Code 2016 and had estimated that total water requirement for the occupants in Phases I to III would be 58 KLD. Furthermore, considering the Manual on Sewerage and Sewage Treatment issued by the Ministry of Urban Development, Government of India, the answering respondents have calculated 80% of the water supply to be the wastewater generation 46.2 KLD (80% of 58 KLD). A copy of a chart evidencing the same is annexed hereto and marked with the letter "F". The answering respondents had also estimated waste water of 2 KLD for car washing and as such the total waste water generation was estimated as 48.4 KLD and thus less than 50 KLD. Accordingly, the answering respondents did not apply for Consent to Establish at the initial stage. Thereafter, when the answering respondents contemplated construction of phase IV and V, the answering respondents duly applied for EC and thereafter also applied for Consent to Establish as it is a mandatory requirement for obtaining EC. In any event, the answering

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respondents would require Consent to Establish for the five phases as the total waste water generation for five phases would be in excess of 50 KLD. Moreover, the answering respondents in the application for EC, have now declared the waste water generation as more than 50 KLD for the three phases in view of the fact that the answering respondents, as advised by the State Level Expert Appraisal Committee (SEAC), West Bengal, have now calculated the flushing consumption as 45 lpcd whereas earlier it had considered a reduced flushing consumption as 21 lpcd (which was also permissible as per the prevalent rules). In this regard, copies of the relevant extracts of the National Building Code 2016, Manual on Sewerage and Sewage Treatment issued by the Ministry of Urban Development, Government of India and CONSTRUCTION MANUAL for large construction projects issued by Ministry of Environment and Forest and Climate Change, Govt. of India are annexed hereto and collectively marked with the letter "G".

8. Before dealing with the statements and/or allegations made in the said application, I state that all allegations contained in the said application are denied and disputed as if set out in seriatim and specifically traversed. Save and except what are matters of record and save and except what arises therefrom, each and every allegation contrary thereto and/or inconsistent therewith are denied as if the same are set out herein and denied and disputed in seriatim and specifically traversed.

9. With reference to paragraph nos. 1 and 2 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or inconsistent therewith, are denied. The applicant has no locus to file the said application. The applicant is put to strict proof thereof. I reiterate

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that respondent no.12 has merged with respondent no.1 and as such has no existence at present.

10. With reference to paragraph nos. 3 to 5 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or inconsistent therewith, are denied. I deny that any gross pollution or environmental damages has been caused or that there is any illegal construction of a housing complex as alleged or at all. It is denied that the answering Respondents have been carrying construction activities without obtaining Environmental Clearance (EC) from SEIAA, West Bengal or acting in gross violation of the Environment (Protection) Act, 1986 or Environment Impact Assessment Notification, 2006 as alleged or at all. It is denied that no Consent to Establish from West Bengal Pollution Control Board has been obtained by the answering respondents. The answering respondents had applied for Consent to Establish, however, the application got auto rejected vide online portal. The answering respondents have thereafter taken steps required for issuance of the Consent to Establish. It is denied that a huge means of ingress and egress to and from the project site has been constructed over a natural canal/channel forming part of East Kolkata Wetlands or that the same is blocking the flow of the said canal/channel as alleged or at all. It is further denied that the said canal/channel passes along the East Kolkata Wetlands or that any pollutant is released into the said canal/channel as alleged or at all. It is denied that the ecology of the said area is being devastated due to construction of the said housing complex or that the environmental impact assessment is not proper. It is denied that Cement, sand etc. are lying scattered openly within the project site in uncovered condition, or that no screen covers are provided for the blocks under construction or that there is any air pollution. It is further

denied that ground water is being illegally extracted by the unit to further worsen the situation.

11. With reference to paragraph nos. 6 to 10 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or inconsistent therewith, are denied. It is denied that the answering respondents are violators or polluters and as such question of stopping any construction or imposing any compensation does not and cannot arise. The contents of the emails dated 30.12.2024, 31.12.2024 and 08.04.2025 are incorrect and are denied. It is denied that the answering respondents are violators or flouters of law or that the answering respondents have flouted any environmental norms or laws. I say that the SEIAA has not extended any undue favours to the answering respondents and all allegations contrary thereto are denied.

12. With reference to paragraph no. 11 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or inconsistent therewith, are denied. It is denied that answering respondents showed a thumb to the rule of law or to the statutory authorities. The allegations are absolutely baseless and without any proof whatsoever.

13. With reference to paragraph nos. 12 to 15 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or inconsistent therewith, are denied. It is stated that the total built-up area

of the five phases is 26,070.24 sqm. It is denied that in order to escape from complying with the EIA, Notification 2006 the project proponents attempted to divide a single project into four parts or used separate indicative number attached to those different parts. It is an usual practice in the country that large residential projects are constructed in phases due to various factors. Neither the authorities nor the Courts of law have found anything wrong in that. It is stated that the order passed in O.A. No. 32 of 2021 has no manner of application to the facts and circumstances of this case. The facts in O.A. No. 32 of 2021 are completely different. In that matter the project proponent had already started construction of 4 phases having total built up area of more than 41,000 sqm which is far more than the threshold limit of 20,000 sqm without obtaining the environmental clearance (EC). In the instant case, the answering respondents have undertaken construction of three phases having total built-up area of 14,821.78 sqm which is much less than the threshold limit of 20,000 sqm. The answering respondents have not started any construction with regard to phase IV and phase V and have duly applied for grant of EC. The answering respondent would start construction of phases IV and V only when the EC is granted by SEIAA and not before that. The answering respondents relies upon the order dated 02.02.2022 passed by this Hon'ble Tribunal in O.A. No. 82 of 2021 filed by the same applicant herein. The said judgement squarely applies to the facts and circumstances of this case. The Hon'ble Tribunal was pleased to hold in O.A. No. 82 of 2021 that since phase 1 did not exceed 20,000 sqm the project proponent was not required to obtain EC and that there was no violation of the Notification of 2006. The Hon'ble Tribunal made it clear that the project proponent should start phase 2 only after the EC is granted. Therefore, the answering respondents undertake that they would start construction of phases 4 and 5 only after issuance of EC. It is denied that the answering respondents have attempted to divide a single project into four in guise of "phases" constructed in contiguous

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plots within the same project, or did not even make any application for grant of EC. It is specifically stated that the answering respondents have already applied for grant of EC in the month of July 2025. It is denied that cement, sand etc. were lying openly at the construction site without bothering for obtaining prior EC. The photographs are manufactured and does not show the correct picture. I say that whatever construction work is going on pertains to phases 1 to 3 which is much below the 20,000 sqm.

14. With reference to paragraph no. 16 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or inconsistent therewith, are denied. It is denied that the answering respondents evaded EIA Notification 2006 desperately or conspicuously or aiming at flouting mandatory conditions as alleged or at all. It is denied that there is no water supply or drainage facilities as alleged or at all. It is denied that the project proponents have drawn groundwater at their whims without making adequate safe provision for drainage/discharge of sewage from the project site. It is denied that there would be any burden upon the environment as alleged or at all. It is denied that no proper environmental impact assessment has been carried or that no pollution abatement measures are being undertaken as alleged or at all. It is denied that the answering respondents are desperate as alleged or at all and accordingly question of countermand does not and cannot arise.

15. With reference to paragraph nos. 17 to 19 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or

inconsistent therewith, are denied. It is denied that the owners and developers have also constructed a pathway upon a canal/channel which is blocking the flow of the canal/channel. It is denied that the said canal/channel passes along the East Kolkata Wetlands or that any pollutant is released into the said canal/channel as alleged or at all. I say that the pathway does not restrict the natural flow of water. It is denied that the answering respondents are continuing any illegal construction or polluting the environment or are violators as alleged or at all.

16. With reference to paragraph nos. 20 to 25 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or inconsistent therewith, are denied. It is denied that directions of varied dimensions are required to be passed by this Hon'ble Tribunal. I say that the answering respondents are not polluters and as such no order is required to be passed penalizing the answering respondents. I deny that order is required to be passed directing demolition of all structures. I say that no construction has been made in relation to phases 4 and 5 without prior EC. I say that no damage has been caused to the environment. I say that neither the answering respondents are violators of law nor made any illegal construction. The answering respondents have not polluted the environment. I say that the answering respondents have not made any indiscriminate or unauthorized construction. It is denied that any unauthorized or illegal activities are being carried out by the answering respondents. It is denied that the conducts of the answering Respondents are contrary to every environmental legislation or every principle of environmental protection. It is denied that any damage is being done to the nature by the answering Respondents. It is denied that the property on which the said housing complex being constructed is originally comprised of green verge or its vicinity is still covered with acres of

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greenery. It is denied that the area which was once covered with green verge is now transforming into a concrete jungle as alleged or at all. It is denied that the answering respondents are carrying out any illegal construction. It is denied that environment of the said area is getting deteriorated.

17. With reference to paragraph nos. 26 to 37 of the said application, save and except what are matters of record, all allegations are denied and save what have been stated hereinabove, all allegations contained in the paragraphs under reference which are contrary thereto and/or inconsistent therewith, are denied. It is denied that construction of the said complex is being done without proper environmental impact assessment. It is denied that any action on part of the private respondents have changed the demography of the entire area or that compromised the environment. It is denied that numerous complexes/projects are being constructed in the vicinity of the subject unit. It is denied that the area has no provision of municipal water supply or sewerage or solid waste management or traffic or transportation or other basic infrastructure. I say that it is the South 24 Pgs. Zila Parishad which has sanctioned the building plans and therefore all allegations contrary thereto and inconsistent therewith are denied. It is denied that the area lacks basic infrastructural facilities as alleged or at all. It is denied that the housing complex would in any way result in environmental overload in the area affecting groundwater or noise levels or ambient air or water quality or the population residing in or around the area. It is denied that the

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answering respondents are carrying out construction activities without proper environmental impact assessment or without obtaining EC as alleged or at all. It is denied that the activities of the answering respondents are illegal or that the vicinity of the complex including East Kolkata Wetlands or vast stretches of low lying green verges are under threat or getting polluted. It is denied that the answering respondents have carried out any construction activity without complying with pollution abatement measures. It is denied that the answering respondents have made any illegal construction or that are guilty of flouting environmental norms or laws as alleged or at all. It is denied that the answering respondents are liable to pay any compensation. I say that no construction activity is going on without EC or consent in relation to phases 4 and 5. It is denied that construction activities are going on without proper environmental impact assessment or without obtaining EC. It is denied that the answering Respondents are wrong doers or that have flouted any orders as alleged or at all. It is denied that the answering respondents are in violation of any environmental laws as alleged or at all. It is denied that the answering respondents have turned norm or law into a hoax.

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18. I say that the grounds made by the applicant are baseless and without any justification. I say that the applicant has not made any good ground that warrants the interference of this Hon'ble Tribunal.

19. I say that the reliefs sought for by the applicant are illegal, misconceived and beyond the jurisdiction of this Hon'ble Tribunal. I say that none of the reliefs as sought for by the applicant are within the scope of Section 18 of the said Act and therefore cannot be granted.

20. Hence, for the aforesaid facts and circumstances, the instant Original Application is an abuse of the process of this Hon'ble Tribunal and the same should be dismissed *in limine* with exemplary costs.

21. The statements made in paragraphs 1 to 7 are true to my knowledge and the rest are my humble submissions before this Hon'ble Tribunal.

Prepared in my office

Advocate

DEPONENT

NOTARY SUMITRA BHATTACHARYYA City Civil Court Calcutta Regn. No. 065 of 2022 Expiry Date 31.03.2027 Govt. of West Bengal

NOTARY NOTARIAL NOTARIAL West Bengal

Solemnly Affirmed and Declared before me U/S 139 CPC, (C)

Notary

Sumitra Bhattacharyya Notary, Govt. of W.B Regd. No. 065 of 2022 City Civil Court, Calcutta

08 DEC 2025

ANNEXURE -A

(Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii)
MINISTRY OF ENVIRONMENT AND FORESTS

New Delhi 14th September, 2006

Notification

S.O. 1533 Whereas, a draft notification **under sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986 for imposing** certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts as indicated in the Schedule to the notification, being undertaken in any part of India[1], unless prior environmental clearance has been accorded in accordance with the objectives of National Environment Policy **as approved by the Union Cabinet on 18th May, 2006** and the procedure specified in the notification, by the Central Government or the State or Union territory Level Environment Impact Assessment Authority (SEIAA), to be constituted by the Central Government in consultation with the State Government or the Union territory Administration concerned under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 for the purpose of this notification, was published in the Gazette of India ,Extraordinary, Part II, section 3, sub-section (ii) vide number S.O. 1324 (E) dated the 15th September ,2005 inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date on which copies of Gazette containing the said notification were made available to the public;

And whereas, copies of the said notification were made available to the public on 15th September, 2005;

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 the 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 and in supersession of the notification number S.O. 60 (E) dated the 27th January, 1994, except in respect of things done or omitted to be done before such supersession, the Central Government hereby directs that on and from the date of its publication the required construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to this notification entailing capacity addition with change in process and or technology shall be undertaken in any part of India only after the 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 hereinafter in this notification.

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[1]Includes the territorial waters

2. **Requirements of prior Environmental Clearance (EC):-** The following projects or activities shall require prior environmental clearance from the concerned regulatory authority, which shall hereinafter referred to be as the Central Government in the Ministry of Environment and Forests for matters falling under Category 'A' in the Schedule and at State level the State Environment Impact Assessment Authority (SEIAA) for matters falling under Category 'B' in the said Schedule, before any construction work, or preparation of land by the project management except for securing the land, is started on the project or activity:

(i) All new projects or activities listed in the Schedule to this notification;

(ii) Expansion and modernization of existing projects or activities listed in the Schedule to this notification with addition of capacity beyond the limits specified for the concerned sector, that is, projects or activities which cross the threshold limits given in the Schedule, after expansion or modernization;

(iii) Any change in product - mix in an existing manufacturing unit included in Schedule beyond the specified range.

3. **State Level Environment Impact Assessment Authority:- (1)** A State Level Environment Impact Assessment Authority hereinafter referred to as the SEIAA shall be constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 comprising of three Members including a Chairman and a Member – Secretary to be nominated by the State Government or the Union territory Administration concerned.

(2) The Member-Secretary shall be a serving officer of the concerned State Government or Union territory administration familiar with environmental laws.

(3) The other two Members shall be either a professional or expert fulfilling the eligibility criteria given in Appendix VI to this notification.

(4) One of the specified Members in sub-paragraph (3) above who is an expert in the Environmental Impact Assessment process shall be the Chairman of the SEIAA.

(5) The State Government or Union territory Administration shall forward the names of the Members and the Chairman referred in sub- paragraph 3 to 4 above to the Central Government and the Central Government shall constitute the SEIAA as an authority for the purposes of this notification within thirty days of the date of receipt of the names.

(6) The non-official Member and the Chairman shall have a fixed term of three years (from the date of the publication of the notification by the Central Government constituting the authority).

(7) All decisions of the SEIAA shall be unanimous and taken in a meeting.

4. **Categorization of projects and activities:-**

(i) All projects and activities are broadly categorized in to two categories - Category A and Category B, based on the spatial extent of potential impacts and potential impacts on human health and natural and man made resources.

(ii) All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, shall require prior environmental clearance from the Central Government in the Ministry of Environment and Forests (MoEF) on the recommendations of an Expert Appraisal Committee (EAC) to be constituted by the Central Government for the purposes of this notification;

(iii) All projects or activities included as Category 'B' in the Schedule, including expansion and modernization of existing projects or activities as specified in sub paragraph (ii) of paragraph 2, or change in product mix as specified in sub paragraph (iii) of paragraph 2, but excluding those which fulfill the General Conditions (GC) stipulated in the Schedule, *will* require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union territory level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. In the absence of a duly constituted SEIAA or SEAC, a Category 'B' project shall be treated as a Category 'A' project;

5. Screening, Scoping and Appraisal Committees:-

The same Expert Appraisal Committees (EACs) at the Central Government and SEACs (hereinafter referred to as the (EAC) and (SEAC) at the State or the Union territory level shall screen, scope and appraise projects or activities in Category 'A' and Category 'B' respectively. EAC and SEAC's shall meet at least once every month.

(a) The composition of the EAC shall be as given in Appendix VI. The SEAC at the State or the Union territory level shall be constituted by the Central Government in consultation with the concerned State Government or the Union territory Administration with identical composition;

(b) The Central Government may, with the prior concurrence of the concerned State Governments or the Union territory Administrations, constitutes one SEAC for more than one State or Union territory for reasons of administrative convenience and cost;

(c) The EAC and SEAC shall be reconstituted after every three years;

(d) The authorised members of the EAC and SEAC, concerned, may inspect any site(s) connected with the project or activity in respect of which the prior environmental clearance is sought, for the purposes of screening or scoping or appraisal, with prior notice of at least seven days to the applicant, who shall provide necessary facilities for the inspection;

(e) The EAC and SEACs shall function on the principle of collective responsibility. The Chairperson shall endeavour to reach a consensus in each case, and if consensus cannot be reached, the view of the majority shall prevail.

6. Application for Prior Environmental Clearance (EC):-

An application seeking prior environmental clearance in all cases shall be made in the prescribed Form 1 annexed herewith and 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 applicant shall furnish, along with the application, a copy of the pre-feasibility project report except that, in case of construction projects or activities (item 8 of the Schedule) in addition to Form 1 and the Supplementary Form 1A, a copy of the conceptual plan shall be provided, instead of the pre-feasibility report.

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7. Stages in the Prior Environmental Clearance (EC) Process for New Projects:-

7(i) The environmental clearance process for new projects will comprise of a maximum of four stages, all of which may not apply to particular cases as set forth below in this notification. 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

I. **Stage (1) - Screening**:

In case of Category 'B' projects or activities, this stage will entail the scrutiny of an application seeking prior environmental clearance made in Form 1 by the concerned State level Expert Appraisal Committee (SEAC) for determining whether or not the project or activity requires further environmental studies for preparation of an Environmental Impact Assessment (EIA) for its appraisal prior to the grant of environmental clearance depending up on the nature and location specificity of the project . The projects requiring an Environmental Impact Assessment report shall be termed Category 'B1' and remaining projects shall be 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 shall issue appropriate guidelines from time to time.

II. **Stage (2) - Scoping**:

(i) "Scoping": refers to the process by which the Expert Appraisal Committee in the case of Category 'A' projects or activities, and State level Expert Appraisal Committee in the case of Category 'B1' projects or activities, including applications for expansion and/or modernization and/or change in product mix of existing projects or activities, determine detailed and comprehensive Terms Of Reference (TOR) addressing all relevant environmental concerns for the preparation of an Environment Impact Assessment (EIA) Report in respect of the project or activity for which prior environmental clearance is sought. The Expert Appraisal Committee or State level Expert Appraisal Committee concerned shall determine the Terms of Reference on the basis of the information furnished in the prescribed application Form1/Form 1A including Terms of Reference proposed by the applicant, a site visit by a sub- group of Expert Appraisal Committee or State level Expert Appraisal Committee concerned only if considered necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, Terms of Reference suggested by the applicant if furnished and other information that may be available with the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned. 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.

(ii) The Terms of Reference (TOR) shall be conveyed to the applicant by the Expert Appraisal Committee or State Level Expert Appraisal Committee as concerned within sixty days of the receipt of Form 1. In the case of Category A Hydroelectric projects Item 1(c) (i) of the Schedule the Terms of Reference shall be conveyed along with the clearance for pre-construction activities .If the Terms of Reference are not finalized and conveyed to the applicant within sixty days of the receipt of Form 1, the Terms of Reference suggested by the applicant shall be deemed as the final Terms of Reference approved for the EIA studies. The approved Terms of

Reference shall be displayed on the website of the Ministry of Environment and Forests and the concerned State Level Environment Impact Assessment Authority.

(iii) Applications for prior environmental clearance may be rejected by the regulatory authority concerned on the recommendation of the EAC or SEAC concerned at this stage itself. In case of such rejection, the decision together with reasons for the same shall be communicated to the applicant in writing within sixty days of the receipt of the application.

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,.

(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.

IV. Stage (4) - Appraisal:

(i) Appraisal means the detailed scrutiny by the Expert Appraisal Committee or State Level Expert Appraisal Committee of the application and other documents like the Final EIA report, outcome of the public consultations including public hearing proceedings, submitted by the applicant to the regulatory authority concerned for grant of environmental clearance. This appraisal shall be made by Expert Appraisal Committee or State Level Expert Appraisal Committee concerned in a transparent manner in a proceeding to which the applicant shall be invited for furnishing necessary clarifications in person or through an authorized representative. On conclusion of this proceeding, the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall make categorical recommendations to the regulatory authority concerned either for grant of prior environmental clearance on stipulated terms and conditions, or rejection of the application for prior environmental clearance, together with reasons for the same.

(ii) The appraisal of all projects or activities which are not required to undergo public consultation, or submit an Environment Impact Assessment report, shall be carried out on the basis of the prescribed application Form 1 and Form 1A as applicable, any other relevant

validated information available and the site visit wherever the same is considered as necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

(iii) The appraisal of an application be shall be completed by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned within sixty days of the receipt of the final Environment Impact Assessment report and other documents or the receipt of Form 1 and Form 1 A, where public consultation is not necessary and the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee shall be placed before the competent authority for a final decision within the next fifteen days .The prescribed procedure for appraisal is given in Appendix V ;

7(ii). Prior Environmental Clearance (EC) process for Expansion or Modernization or Change of product mix in existing projects:

All applications seeking prior environmental clearance for expansion with increase in the production capacity beyond the capacity for which prior environmental clearance has been granted under this notification or with increase in either lease area or production capacity in the case of mining projects or for the modernization of an existing unit with increase in the total production capacity beyond the threshold limit prescribed in the Schedule to this notification through change in process and or technology or involving a change in the product –mix shall be made in Form I and they shall be considered by the concerned Expert Appraisal Committee or State Level Expert Appraisal Committee within sixty days, who will decide on the due diligence necessary including preparation of EIA and public consultations and the application shall be appraised accordingly for grant of environmental clearance.

8.Grant or Rejection of Prior Environmental Clearance (EC):

(i) The regulatory authority shall consider the recommendations of the EAC or SEAC concerned and convey its decision to the applicant within forty five days of the receipt of the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned or in other words within one hundred and five days of the receipt of the final Environment Impact Assessment Report, and where Environment Impact Assessment is not required, within one hundred and five days of the receipt of the complete application with requisite documents, except as provided below.

(ii) The regulatory authority shall normally accept the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned. In cases where it disagrees with the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, the regulatory authority shall request reconsideration by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned within forty five days of the receipt of the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned while stating the reasons for the disagreement. An intimation of this decision shall be simultaneously conveyed to the applicant. The Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, in turn, shall consider the observations of the regulatory authority and furnish its views on the same within a further period of sixty days. The decision of the regulatory authority after considering the views of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall be final and conveyed to the applicant by the regulatory authority concerned within the next thirty days.

(iii) In the event that the decision of the regulatory authority is not communicated to the applicant within the period specified in sub-paragraphs (i) or (ii) above, as applicable, the

applicant may proceed as if the environment clearance sought for has been granted or denied by the regulatory authority in terms of the final recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

(iv) On expiry of the period specified for decision by the regulatory authority under paragraph (i) and (ii) above, as applicable, the decision of the regulatory authority, and the final recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall be public documents.

(v) Clearances from other regulatory bodies or authorities shall not be required prior to receipt of applications for prior environmental clearance of projects or activities, or screening, or scoping, or appraisal, or decision by the regulatory authority concerned, unless any of these is sequentially dependent on such clearance either due to a requirement of law, or for necessary technical reasons.

(vi) Deliberate concealment and/or submission of false or misleading information or data which is material to screening or scoping or appraisal or decision on the application shall make the application liable for rejection, and cancellation of prior environmental clearance granted on that basis. Rejection of an application or cancellation of a prior environmental clearance already granted, on such ground, shall be decided by the regulatory authority, after giving a personal hearing to the applicant, and following the principles of natural justice.

9. Validity of Environmental Clearance (EC):

The "Validity of Environmental Clearance" is meant the period from which a prior environmental clearance is granted by the regulatory authority, or may be presumed by the applicant to have been granted under sub paragraph (iv) of paragraph 7 above, to the start of production operations by the project or activity, or completion of all construction operations in case of construction projects (item 8 of the Schedule), to which the application for prior environmental clearance refers. The prior environmental clearance granted for a project or activity shall be valid for a period of ten years in the case of River Valley projects (item 1(c) of the Schedule), project life as estimated by Expert Appraisal Committee or State Level Expert Appraisal Committee subject to a maximum of thirty years for mining projects and five years in the case of all other projects and activities. However, in the case of Area Development projects and Townships [item 8(b)], the validity period shall be limited only to such activities as may be the responsibility of the applicant as a developer. This period of validity may be extended by the regulatory authority concerned 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). In this regard the regulatory authority may also consult the Expert Appraisal Committee or State Level Expert Appraisal Committee as the case may be.

10. Post Environmental Clearance Monitoring:

(i) It shall be mandatory for the project management to submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.

(ii) All such compliance reports submitted by the project management shall be public documents. Copies of the same shall be given to any person on application to the concerned regulatory authority. The latest such compliance report shall also be displayed on the web site of the concerned regulatory authority.

11. Transferability of Environmental Clearance (EC):

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 by 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. No reference to the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned is necessary in such cases.

12. Operation of EIA Notification, 1994, till disposal of pending cases:

From the date of final publication of this notification the Environment Impact Assessment (EIA) notification number S.O.60 (E) dated 27th January, 1994 is hereby superseded, except in suppression of the things done or omitted to be done before such suppression to the extent that in case of all or some types of applications made for prior environmental clearance and pending on the date of final publication of this notification, the Central Government may relax any one or all provisions of this notification except the list of the projects or activities requiring prior environmental clearance in Schedule I , or continue operation of some or all provisions of the said notification, for a period not exceeding one year from the date of issue of this notification.

[No. J-11013/56/2004-IA-II (I)]

(R.CHANDRAMOHAN)
JOINT SECRETARY TO THE GOVERNMENT OF INDIA

SCHEDULE

(See paragraph 2 and 7)

LIST OF PROJECTS OR ACTIVITIES REQUIRING PRIOR ENVIRONMENTAL CLEARANCE

Project or Activity		Category with threshold limit		Conditions if any
		A	B	
1		**Mining, extraction of natural resources and power generation (for a specified production capacity)**		
(1)	(2)	(3)	(4)	(5)
1(a)	Mining of minerals	≥ 50 ha. of mining lease area Asbestos mining irrespective of mining area	<50 ha ≥ 5 ha .of mining lease area.	General Condition shall apply Note Mineral prospecting (not involving drilling) are exempted provided the concession areas have got previous clearance for physical survey
1(b)	Offshore and onshore oil and gas exploration, development & production	All projects		Note Exploration Surveys (not involving drilling) are exempted provided the concession areas have got previous clearance for physical survey
1(c)	River Valley projects	(i) ≥ 50 MW hydroelectric power generation; (ii) ≥ 10,000 ha. of culturable command area	(i) < 50 MW ≥ 25 MW hydroelectric power generation; (ii) < 10,000 ha. of culturable command area	General Condition shall apply
1(d)	Thermal Power Plants	≥ 500 MW (coal/lignite/naphta & gas based); ≥ 50 MW (Pet coke diesel and all other fuels -)	< 500 MW (coal/lignite/naptha & gas based); <50 MW ≥ 5MW (Pet coke ,diesel and all other fuels)	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
1(e)	Nuclear power projects and processing of nuclear fuel	All projects	-	
2		**Primary Processing**		
2(a)	Coal washeries	≥ 1 million ton/annum throughput of coal	<1million ton/annum throughput of coal	General Condition shall apply (If located within mining area the proposal shall be appraised together with the mining proposal)
2 (b)	Mineral beneficiation	≥ 0.1million ton/annum mineral throughput	< 0.1million ton/annum mineral throughput	General Condition shall apply (Mining proposal with Mineral beneficiation shall be appraised together for grant of clearance)

3		Materials Production		
(1)	(2)	(3)	(4)	(5)
3(a)	Metallurgical industries (ferrous & non ferrous)	a)Primary metallurgical industry All projects		
		b) Sponge iron manufacturing ≥ 200TPD	Sponge iron manufacturing <200TPD	General Condition shall apply for Sponge iron manufacturing
		c)Secondary metallurgical processing industry All toxic and heavy metal producing units ≥ 20,000 tonnes /annum	Secondary metallurgical processing industry i.)All toxic andheavymetal producing units <20,000 tonnes /annum ii.)All other non –toxic secondary metallurgical processing industries >5000 tonnes/annum	
3(b)	Cement plants	≥ 1.0 million tonnes/annum production capacity	<1.0 million tonnes/annum production capacity. All Stand alone grinding units	General Condition shall apply

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4		**Materials Processing**		
(1)	**(2)**	**(3)**	**(4)**	**(5)**
4(a)	Petroleum refining industry	All projects	-	-
4(b)	Coke oven plants	≥2,50,000 tonnes/annum -	<2,50,000 & ≥25,000 tonnes/annum	-
4(c)	Asbestos milling and asbestos based products	All projects	-	-
4(d)	Chlor-alkali industry	≥300 TPD production capacityor a unit located out side the notified industrial area/ estate	<300 TPD production capacity and located within a notified industrial area/ estate	Specific Condition shall apply No new Mercury Cell based plants will be permitted and existing units converting to membrane cell technology are exempted from this Notification
4(e)	Soda ash Industry	All projects	-	-
4(f)	Leather/skin/hide processing industry	New projects outside the industrial area or expansion of existing units out side the industrial area	All new or expansion of projects located within a notified industrial area/ estate	Specific condition shall apply
5		**Manufacturing/Fabrication**		
5(a)	Chemical fertilizers	All projects	-	-
5(b)	Pesticides industry and pesticide specific intermediates (excluding formulations)	All units producing technical grade pesticides	-	-

(1)	(2)	(3)	(4)	(5)
5(c)	Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	All projects -	-	-
5(d)	Manmade fibres manufacturing	Rayon	Others	General Condition shall apply
5(e)	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	Located out side the notified industrial area/ estate -	Located in a notified industrial area/ estate	Specific Condition shall apply
5(f)	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)	Located out side the notified industrial area/ estate	Located in a notified industrial area/ estate	Specific Condition shall apply
5(g)	Distilleries	(i)All Molasses based distilleries (ii) All Cane juice/ non-molasses based distilleries ≥30 KLD	All Cane juice/non-molasses based distilleries – <30 KLD	General Condition shall apply
5(h)	Integrated paint industry	-	All projects	General Condition shall apply

(1)	(2)	(3)	(4)	(5)
5(i)	Pulp & paper industry excluding manufacturing of paper from waste paper and manufacture of paper from ready pulp with out bleaching	Pulp manufacturing and Pulp& Paper manufacturing industry -	Paper manufacturing industry without pulp manufacturing	General Condition shall apply
5(j)	Sugar Industry	- -	≥ 5000 tcd cane crushing capacity	General Condition shall apply
5(k)	Induction/arc furnaces/cupola furnaces 5TPH or more	- -	All projects	General Condition shall apply
6		**Service Sectors**		
6(a)	Oil & gas transportation pipe line (crude and refinery/ petrochemical products), passing through national parks /sanctuaries/coral reefs /ecologically sensitive areas including LNG Terminal	All projects -		-

(1)	(2)	(3)	(4)	(5)
6(b)	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)	-	All projects	General Condition shall apply
7		**Physical Infrastructure including Environmental Services**		
7(a)	Air ports	All projects	-	-
7(b)	All ship breaking yards including ship breaking units	All projects	-	-
7(c)	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes.	If at least one industry in the proposed industrial estate falls under the Category A, entire industrial area shall be treated as Category A, irrespective of the area. Industrial estates with area greater than 500 ha. and housing at least one Category B industry.	-Industrial estates housing at least one Category B industry and area <500 ha. Industrial estates of area> 500 ha. and not housing any industry belonging to Category A or B.	Special condition shall apply Note: Industrial Estate of area below 500 ha. and not housing any industry of category A or B does not require clearance.
7(d)	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	All integrated facilities having incineration &landfill or incineration alone	All facilities having land fill only	General Condition shall apply

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(1)	(2)	(3)	(4)	(5)
7(e)	Ports, Harbours	≥ 5 million TPA of cargo handling capacity (excluding fishing harbours)	< 5 million TPA of cargo handling capacity and/or ports/ harbours ≥10,000 TPA of fish handling capacity	General Condition shall apply
7(f)	Highways	i) New National High ways; and ii) Expansion of National High ways greater than 30 KM, involving additional right of way greater than 20m involving land acquisition and passing through more than one State.	i) New State High ways; and ii) Expansion of National / State Highways greater than 30 km involving additional right of way greater than 20m involving land acquisition.	General Condition shall apply
7(g)	Aerial ropeways		All projects	General Condition shall apply
7(h)	Common Effluent Treatment Plants (CETPs)		All projects	General Condition shall apply
7(i)	Common Municipal Solid Waste Management Facility (CMSWMF)		All projects	General Condition shall apply

(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

Note:-

General Condition (GC):

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 Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries.

Specific Condition (SC):

If any Industrial Estate/Complex / Export processing Zones /Special Economic Zones/Biotech Parks / Leather Complex with homogeneous type of industries such as Items 4(d), 4(f), 5(e), 5(f), or those Industrial estates with pre –defined set of activities (not necessarily homogeneous, obtains prior environmental clearance, individual industries including proposed industrial housing within such estates /complexes will not be required to take prior environmental clearance, so long as the Terms and Conditions for the industrial estate/complex are complied with (Such estates/complexes must have a clearly identified management with the legal responsibility of ensuring adherence to the Terms and Conditions of prior environmental clearance, who may be held responsible for violation of the same throughout the life of the complex/estate).

APPENDIX I

(See paragraph – 6)

FORM 1

(I) Basic Information

Name of the Project:

Location / site alternatives under consideration:

Size of the Project: *

Expected cost of the project:

Contact Information:

Screening Category:

- *Capacity corresponding to sectoral activity (such as production capacity for manufacturing, mining lease area and production capacity for mineral production, area for mineral exploration, length for linear transport infrastructure, generation capacity for power generation etc.,)*

(II) 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 thereof (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)		
1.2	Clearance of existing land, vegetation and buildings?		
1.3	Creation of new land uses?		
1.4	Pre-construction investigations e.g. bore houses, soil testing?		
1.5	Construction works?		

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1.6	Demolition works?		
1.7	Temporary sites used for construction works or housing of construction workers?		
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations		
1.9	Underground works including mining or tunneling?		
1.10	Reclamation works?		
1.11	Dredging?		
1.12	Offshore structures?		
1.13	Production and manufacturing processes?		
1.14	Facilities for storage of goods or materials?		
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?		
1.16	Facilities for long term housing of operational workers?		
1.17	New road, rail or sea traffic during construction or operation?		
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?		
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?		
1.20	New or diverted transmission lines or pipelines?		
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?		
1.22	Stream crossings?		
1.23	Abstraction or transfers of water form ground or surface waters?		
1.24	Changes in water bodies or the land surface affecting drainage or run-off?		

1.25	Transport of personnel or materials for construction, operation or decommissioning?		
1.26	Long-term dismantling or decommissioning or restoration works?		
1.27	Ongoing activity during decommissioning which could have an impact on the environment?		
1.28	Influx of people to an area in either temporarily or permanently?		
1.29	Introduction of alien species?		
1.30	Loss of native species or genetic diversity?		
1.31	Any other actions?		

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)		
2.2	Water (expected source & competing users) unit: KLD		
2.3	Minerals (MT)		
2.4	Construction material – stone, aggregates, and / soil (expected source – MT)		
2.5	Forests and timber (source – MT)		
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)		
2.7	Any other natural resources (use appropriate standard units)		

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)		
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)		
3.3	Affect the welfare of people e.g. by changing living conditions?		
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,		
3.5	Any other causes		

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		
4.2	Municipal waste (domestic and or commercial wastes)		
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)		

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4.4	Other industrial process wastes		
4.5	Surplus product		
4.6	Sewage sludge or other sludge from effluent treatment		
4.7	Construction or demolition wastes		
4.8	Redundant machinery or equipment		
4.9	Contaminated soils or other materials		
4.10	Agricultural wastes		
4.11	Other solid wastes		

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		
5.2	Emissions from production processes		
5.3	Emissions from materials handling including storage or transport		
5.4	Emissions from construction activities including plant and equipment		
5.5	Dust or odours from handling of materials including construction materials, sewage and waste		

5.6	Emissions from incineration of waste		
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)		
5.8	Emissions from any other sources		

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 with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers		
6.2	From industrial or similar processes		
6.3	From construction or demolition		
6.4	From blasting or piling		
6.5	From construction or operational traffic		
6.6	From lighting or cooling systems		
6.7	From any other sources		

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		
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)		
7.3	By deposition of pollutants emitted to air into the land or into water		
7.4	From any other sources		
7.5	Is there a risk of long term build up of pollutants in the 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		
8.2	From any other causes		
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?		

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. lities, 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		
9.2	Lead to after-use of the site, which could havean impact on the environment		
9.3	Set a precedent for later developments		
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects		

(III) Environmental Sensitivity

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, foraging, resting, over wintering, migration		
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	Defence installations		
8	Densely populated or 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, landslides, erosion, flooding or extreme or adverse climatic conditions)*		

(IV). Proposed Terms of Reference for EIA studies

APPENDIX II

(See paragraph 6)

FORM-1 A (only for construction projects listed under item 8 of the Schedule)

CHECK LIST OF ENVIRONMENTAL IMPACTS

(Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed environmental management plan & monitoring programme)

1. LAND ENVIRONMENT

(Attach panoramic view of the project site and the vicinity)

1.1. Will the existing landuse get significantly altered from the project that is not consistent with the surroundings? (Proposed landuse must conform to the approved Master Plan / Development Plan of the area. Change of landuse if any and the statutory approval from the competent authority be submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii)the site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans.

1.2. List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.

1.3. What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing landuse, disturbance to the local ecology).

1.4. Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc may be given).

1.5. Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)

1.6. What are the quantities of earthwork involved in the construction activity-cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc.)

1.7. Give details regarding water supply, waste handling etc during the construction period.

1.8. Will the low lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)

1.9. Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labour and the means of disposal)

2. WATER ENVIRONMENT

2.1. Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement met? State the sources & quantities and furnish a water balance statement.

2.2. What is the capacity (dependable flow or yield) of the proposed source of water?

2.3. What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)

2.4. How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)

2.5. Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)

2.6. What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)

2.7. Give details of the water requirements met from water harvesting? Furnish details of the facilities created.

2.8. What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?

2.9. What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)

2.10. What precautions/measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)

2.11. How is the storm water from within the site managed?(State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels)

2.12. Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)

2.13. What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal)

2.14. Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use.

3. VEGETATION

3.1. Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with it's unique features, if any)

3.2. Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project)

3.3. What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale)

4. FAUNA

4.1. Is there likely to be any displacement of fauna- both terrestrial and aquatic or creation of barriers for their movement? Provide the details.

4.2. Any direct or indirect impacts on the avifauna of the area? Provide details.

4.3. Prescribe measures such as corridors, fish ladders etc to mitigate adverse impacts on fauna

5. AIR ENVIRONMENT

5.1. Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)

5.2. What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.

5.3. Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site.

5.4. Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.

5.5. Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.

5.6. What will be the impact of DG sets & other equipment on noise levels & vibration in & ambient air quality around the project site? Provide details.

6. AESTHETICS

6.1. Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?

6.2. Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?

6.3. Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.

6.4. Are there any anthropological or archaeological sites or artefacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.

7. SOCIO-ECONOMIC ASPECTS

7.1. Will the proposal result in any changes to the demographic structure of local population? Provide the details.

7.2. Give details of the existing social infrastructure around the proposed project.

7.3. Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?

8. BUILDING MATERIALS

8.1. May involve the use of building materials with high-embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)

8.2. Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?

8.3. Are recycled materials used in roads and structures? State the extent of savings achieved?

8.4. Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.

9. ENERGY CONSERVATION

9.1. Give details of the power requirements, source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?

9.2. What type of, and capacity of, power back-up to you plan to provide?

9.3. What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation?

9.4. What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.

9.5. Does the layout of streets & buildings maximise the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.

9.6. Is shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof? How much energy saving has been effected?

9.7. Do the structures use energy-efficient space conditioning, lighting and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions? Are you using CFC and HCFC free chillers? Provide specifications.

9.8. What are the likely effects of the building activity in altering the micro-climates? Provide a self assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?

9.9. What are the thermal characteristics of the building envelope? (a) roof; (b) external walls; and (c) fenestration? Give details of the material used and the U-values or the R values of the individual components.

9.10. What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans.

9.11. If you are using glass as wall material provides details and specifications including emissivity and thermal characteristics.

9.12. What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.

9.13. To what extent the non-conventional energy technologies are utilised in the overall energy consumption? Provide details of the renewable energy technologies used.

10. Environment Management Plan

The Environment Management Plan would consist of all mitigation measures for each item wise activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire.

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APPENDIX III

(See paragraph 7

GENERIC STRUCTURE OF ENVIRONMENTAL IMPACT ASSESSENT DOCUMENT

S.NO	EIA STRUCTURE	CONTENTS
1.	Introduction	• Purpose of the report • Identification of project & project proponent • Brief description of nature, size, location of the project and its importance to the country, region • Scope of the study – details of regulatory scoping carried out (As per Terms of Reference)
2.	Project Description	• Condensed description of those aspects of the project (based on project feasibility study), likely to cause environmental effects. Details should be provided to give clear picture of the following: • Type of project • Need for the project • Location (maps showing general location, specific location, project boundary & project site layout) • Size or magnitude of operation (incl. Associated activities required by or for the project • Proposed schedule for approval and implementation • Technology and process description • Project description. Including drawings showing project layout, components of project etc. Schematic representations of the feasibility drawings which give information important for EIA purpose • Description of mitigation measures incorporated into the project to meet environmental standards, environmental operating conditions, or other EIA requirements (as required by the scope) • Assessment of New & untested technology for the risk of technological failure

3.	Description of the Environment	• Study area, period, components & methodology • Establishment of baseline for valued environmental components, as identified in the scope • Base maps of all environmental components
4.	Anticipated Environmental Impacts & Mitigation Measures	• Details of Investigated Environmental impacts due to project location, possible accidents, project design, project construction, regular operations, final decommissioning or rehabilitation of a completed project • Measures for minimizing and / or offsetting adverse impacts identified • Irreversible and Irretrievable commitments of environmental components • Assessment of significance of impacts (Criteria for determining significance, Assigning significance) • Mitigation measures
5.	Analysis of Alternatives (Technology & Site)	• In case, the scoping exercise results in need for alternatives: • Description of each alternative • Summary of adverse impacts of each alternative • Mitigation measures proposed for each alternative and • Selection of alternative
6.	Environmental Monitoring Program	• Technical aspects of monitoring the effectiveness of mitigation measures (incl. Measurement methodologies, frequency, location, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules)
7.	Additional Studies	• Public Consultation • Risk assessment • Social Impact Assessment. R&R Action Plans
8.	Project Benefits	• Improvements in the physical infrastructure • Improvements in the social infrastructure • Employment potential –skilled; semi-skilled and unskilled • Other tangible benefits

9.	Environmental Cost Benefit Analysis	If recommended at the Scoping stage
10.	EMP	• Description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored, after approval of the EIA
11	Summary & Conclusion (This will constitute the summary of the EIA Report)	• Overall justification for implementation of the project • Explanation of how, adverse effects have been mitigated
12.	Disclosure of Consultants engaged	• The names of the Consultants engaged with their brief resume and nature of Consultancy rendered

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APPENDIX III A
(See paragraph 7)

CONTENTS OF SUMMARY ENVIRONMENTAL IMPACT ASSESSMENT

The Summary EIA shall be a summary of the full EIA Report condensed to ten A-4 size pages at the maximum. It should necessarily cover in brief the following Chapters of the full EIA Report: -

1. Project Description
2. Description of the Environment
3. Anticipated Environmental impacts and mitigation measures
4. Environmental Monitoring Programme
5. Additional Studies
6. Project Benefits
7. Environment Management Plan

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APPENDIX IV

(See paragraph 7)

PROCEDURE FOR CONDUCT OF PUBLIC HEARING

1.0 The Public Hearing shall be arranged in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site(s) or in its close proximity District -wise, by the concerned State Pollution Control Board (SPCB) or the Union Territory Pollution Control Committee (UTPCC).

2. 0 **The Process:**

2.1 The Applicant shall make a request through a simple letter to the Member Secretary of the SPCB or Union Territory Pollution Control Committee, in whose jurisdiction the project is located, to arrange the public hearing within the prescribed statutory period. In case the project site is extending beyond a State or Union Territory, the public hearing is mandated in each State or Union Territory in which the project is sited and the Applicant shall make separate requests to each concerned SPCB or UTPCC for holding the public hearing as per this procedure.

2.2 The Applicant shall enclose with the letter of request, at least 10 hard copies and an equivalent number of soft (electronic) copies of the draft EIA Report with the generic structure given in Appendix III including the Summary Environment Impact Assessment report in English and in the local language, prepared strictly in accordance with the Terms of Reference communicated after Scoping (Stage-2). Simultaneously the applicant shall arrange to forward copies, one hard and one soft, of the above draft EIA Report along with the Summary EIA report to the Ministry of Environment and Forests and to the following authorities or offices, within whose jurisdiction the project will be located:

(a) District Magistrate/s
(b) Zila Parishad or Municipal Corporation
(c) District Industries Office
(d) Concerned Regional Office of the Ministry of Environment and Forests

2.3 On receiving the draft Environmental Impact Assessment report, the above-mentioned authorities except the MoEF, shall arrange to widely publicize it within their respective jurisdictions requesting the interested persons to send their comments to the concerned regulatory authorities. They shall also make available the draft EIA Report for inspection electronically or otherwise to the public during normal office hours till the Public Hearing is over. The Ministry of Environment and Forests shall promptly display the Summary of the draft Environmental Impact Assessment report on its website, and also make the full draft EIA available for reference at a notified place during normal office hours in the Ministry at Delhi.

2.4 The SPCB or UTPCC concerned shall also make similar arrangements for giving publicity about the project within the State/Union Territory and make available the Summary of the draft Environmental Impact Assessment report (Appendix III A) for inspection in select offices or public libraries or panchayats etc. They shall also additionally

make available a copy of the draft Environmental Impact Assessment report to the above five authorities/offices viz, Ministry of Environment and Forests, District Magistrate etc.

3.0 Notice of Public Hearing:

3.1 The Member-Secretary of the concerned SPCB or UTPCC shall finalize the date, time and exact venue for the conduct of public hearing within 7(seven) days of the date of receipt of the draft Environmental Impact Assessment report from the project proponent, and advertise the same in one major National Daily and one Regional vernacular Daily. A minimum notice period of 30(thirty) days shall be provided to the public for furnishing their responses;

3.2 The advertisement shall also inform the public about the places or offices where the public could access the draft Environmental Impact Assessment report and the Summary Environmental Impact Assessment report before the public hearing.

3.3 No postponement of the date, time, venue of the public hearing shall be undertaken, unless some untoward emergency situation occurs and only on the recommendation of the concerned District Magistrate the postponement shall be notified to the public through the same National and Regional vernacular dailies and also prominently displayed at all the identified offices by the concerned SPCB or Union Territory Pollution Control Committee;

3.4 In the above exceptional circumstances fresh date, time and venue for the public consultation shall be decided by the Member –Secretary of the concerned SPCB or UTPCC only in consultation with the District Magistrate and notified afresh as per procedure under 3.1 above.

4.0 The Panel

4.1 The District Magistrate or his or her representative not below the rank of an Additional District Magistrate assisted by a representative of SPCB or UTPCC, shall supervise and preside over the entire public hearing process.

5.0 Videography

5.1 The SPCB or UTPCC shall arrange to video film the entire proceedings. A copy of the videotape or a CD shall be enclosed with the public hearing proceedings while forwarding it to the Regulatory Authority concerned.

6.0 Proceedings

6.1 The attendance of all those who are present at the venue shall be noted and annexed with the final proceedings.

6.2 There shall be no quorum required for attendance for starting the proceedings.

6.3 A representative of the applicant shall initiate the proceedings with a presentation on the project and the Summary EIA report.

6.4 Every person present at the venue shall be granted the opportunity to seek information or clarifications on the project from the Applicant. The summary of the public

hearing proceedings accurately reflecting all the views and concerns expressed shall be recorded by the representative of the SPCB or UTPCC and read over to the audience at the end of the proceedings explaining the contents in the vernacular language and the agreed minutes shall be signed by the District Magistrate or his or her representative on the same day and forwarded to the SPCB/UTPCC concerned.

6.5 A Statement of the issues raised by the public and the comments of the Applicant shall also be prepared in the local language and in English and annexed to the proceedings.

6.6 The proceedings of the public hearing shall be conspicuously displayed at the office of the Panchyats within whose jurisdiction the project is located, office of the concerned Zila Parishad, District Magistrate ,and the SPCB or UTPCC . The SPCB or UTPCC shall also display the proceedings on its website for general information. Comments, if any, on the proceedings which may be sent directly to the concerned regulatory authorities and the Applicant concerned.

7.0 **Time period for completion of public hearing**

7.1 The public hearing shall be completed within a period of 45 (forty five) days from date of receipt of the request letter from the Applicant. Therefore the SPCB or UTPCC concerned shall sent the public hearing proceedings to the concerned regulatory authority within 8(eight) days of the completion of the public hearing .The applicant may also directly forward a copy of the approved public hearing proceedings to the regulatory authority concerned along with the final Environmental Impact Assessment report or supplementary report to the draft EIA report prepared after the public hearing and public consultations.

7.2 If the SPCB or UTPCC fails to hold the public hearing within the stipulated 45(forty five) days, the Central Government in Ministry of Environment and Forests for Category 'A' project or activity and the State Government or Union Territory Administration for Category 'B' project or activity at the request of the SEIAA, shall engage any other agency or authority to complete the process, as per procedure laid down in this notification.

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APPENDIX –V
(See paragraph 7)

PROCEDURE PRESCRIBED FOR APPRAISAL

1. The applicant shall apply to the concerned regulatory authority through a simple communication enclosing the following documents where public consultations are mandatory: -

- Final Environment Impact Assessment Report [20(twenty) hard copies and 1 (one) soft copy)]
- A copy of the video tape or CD of the public hearing proceedings
- A copy of final layout plan (20 copies)
- A copy of the project feasibility report (1 copy)

2. The Final EIA Report and the other relevant documents submitted by the applicant shall be scrutinized in office within 30 days from the date of its receipt by the concerned Regulatory Authority strictly with reference to the TOR and the inadequacies noted shall be communicated electronically or otherwise in a single set to the Members of the EAC /SEAC enclosing a copy each of the Final EIA Report including the public hearing proceedings and other public responses received along with a copy of Form -1or Form 1A and scheduled date of the EAC /SEAC meeting for considering the proposal .

3. Where a public consultation is not mandatory and therefore a formal EIA study is not required, the appraisal shall be made on the basis of the prescribed application Form 1 and a pre-feasibility report in the case of all projects and activities other than Item 8 of the Schedule .In the case of Item 8 of the Schedule, considering its unique project cycle , the EAC or SEAC concerned shall appraise all Category B projects or activities on the basis of Form 1, Form 1A and the conceptual plan and stipulate the conditions for environmental clearance . As and when the applicant submits the approved scheme /building plans complying with the stipulated environmental clearance conditions with all other necessary statutory approvals, the EAC /SEAC shall recommend the grant of environmental clearance to the competent authority.

4. Every application shall be placed before the EAC /SEAC and its appraisal completed within 60 days of its receipt with requisite documents / details in the prescribed manner.

5. The applicant shall be informed at least 15 (fifteen) days prior to the scheduled date of the EAC /SEAC meeting for considering the project proposal.

6. The minutes of the EAC /SEAC meeting shall be finalised within 5 working days of the meeting and displayed on the website of the concerned regulatory authority. In case the project or activity is recommended for grant of EC, then the minutes shall clearly list out the specific environmental safeguards and conditions. In case the recommendations are for rejection, the reasons for the same shall also be explicitly stated.

APPENDIX VI

(See paragraph 5)

COMPOSITION OF THE SECTOR/ PROJECT SPECIFIC EXPERT APPRAISAL COMMITTEE (EAC) FOR CATEGORY A PROJECTS AND THE STATE/UT LEVEL EXPERT APPRAISAL COMMITTEES (SEACs) FOR CATEGORY B PROJECTS TO BE CONSTITUTED BY THE CENTRAL GOVERNMENT

1. The Expert Appraisal Committees (EAC(s) and the State/UT Level Expert Appraisal Committees (SEACs) shall consist of only professionals and experts fulfilling the following eligibility criteria:

Professional: The person should have at least (i) 5 years of formal University training in the concerned discipline leading to a MA/MSc Degree, or (ii) in case of Engineering /Technology/Architecture disciplines, 4 years formal training in a professional training course together with prescribed practical training in the field leading to a B.Tech/B.E./B.Arch. Degree, or (iii) Other professional degree (e.g. Law) involving a total of 5 years of formal University training and prescribed practical training, or (iv) Prescribed apprenticeship/article ship and pass examinations conducted by the concerned professional association (e.g. Chartered Accountancy),or (v) a University degree , followed by 2 years of formal training in a University or Service Academy (e.g. MBA/IAS/IFS). In selecting the individual professionals, experience gained by them in their respective fields will be taken note of.

Expert: A professional fulfilling the above eligibility criteria with at least 15 years of relevant experience in the field, or with an advanced degree (e.g. Ph.D.) in a concerned field and at least 10 years of relevant experience.

Age: Below 70 years. However, in the event of the non-availability of /paucity of experts in a given field, the maximum age of a member of the Expert Appraisal Committee may be allowed up to 75 years

2. The Members of the EAC shall be Experts with the requisite expertise and experience in the following fields /disciplines. In the event that persons fulfilling the criteria of "Experts" are not available, Professionals in the same field with sufficient experience may be considered:

- **Environment Quality Experts**: Experts in measurement/monitoring, analysis and interpretation of data in relation to environmental quality

- **Sectoral Experts in Project Management**: Experts in Project Management or Management of Process/Operations/Facilities in the relevant sectors.

- **Environmental Impact Assessment Process Experts**: Experts in conducting and carrying out Environmental Impact Assessments (EIAs) and preparation of Environmental Management Plans (EMPs) and other Management plans and who have wide expertise and knowledge of predictive techniques and tools used in the EIA process

- **Risk Assessment Experts**

- **Life Science Experts in floral and faunal management**
- **Forestry and Wildlife Experts**

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- **Environmental Economics Expert with experience in project appraisal**

3. The Membership of the EAC shall not exceed 15 (fifteen) regular Members. However the Chairperson may co-opt an expert as a Member in a relevant field for a particular meeting of the Committee.

4. The Chairperson shall be an outstanding and experienced environmental policy expert or expert in management or public administration with wide experience in the relevant development sector.

5. The Chairperson shall nominate one of the Members as the Vice Chairperson who shall preside over the EAC in the absence of the Chairman /Chairperson.

6. A representative of the Ministry of Environment and Forests shall assist the Committee as its Secretary.

7. The maximum tenure of a Member, including Chairperson, shall be for 2 (two) terms of 3 (three) years each.

8. The Chairman / Members may not be removed prior to expiry of the tenure without cause and proper enquiry.

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ANNEXURE – B

IN THE NATIONAL COMPANY LAWTRIBUNAL
KOLKATA BENCH, (COURT –I)
KOLKATA

C.P. (CAA)/38/KB/2024
Connected with
C.A. (CAA)/233(KB)2023

In the Matter of the Companies Act, 2013 - Section 230(6) read with Section 232(3)

And

In the Matter of :

Pawanputra Tradecom Private Limited, a company incorporated under the Companies Act, 1956 and being a Company within the meaning of the Companies Act, 2013, having Corporate Identification No. U70100WB2007PTC118785 and its registered office at Shrachi Tower, 686, Anandapur, E.M.Bypass, R.B.Connector Junction, Kolkata - 700107 in the State of West Bengal.

..... Petitioner Company No. 1/ Transferee Company

And

In the Matter of :

Gagan Tradelink Private Limited, a company incorporated under the Companies Act, 1956 and being a Company within the meaning of the Companies Act, 2013, having Corporate Identification No. U70100WB2008PTC129205 and its registered office at "Shrachi Tower" 686 Anandapur E.M.By Pass-R B Connector Junction, Kolkata - 700107 in the State of West Bengal.

..... Petitioner Company No. 2/ Transferor Company

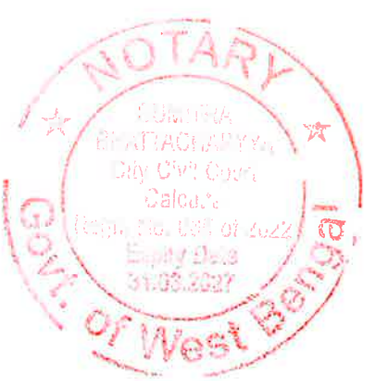
And

In the Matter of:

1. Pawanputra Tradecom Private Limited
2. Gagan Tradelink Private Limited

..... Petitioner

Date of pronouncing the order: 4/09/2024



Coram:

Smt. Bidisha Banerjee : Member (Judicial)

Shri. Balraj Joshi : Member (Technical)

Appearances (via video conferencing/physically)

Mr. Shashi Agarwal, CA : For Petitioner
Ms. Meenakshi Manot, Adv.

Mr Alok Tandon, JD : For RD (ER) MCA

ORDER

Per: Balraj Joshi, Member (Technical)

1. The instant petition has been filed under Section 232(3) and other applicable provisions of the Companies Act, 2013 ("**Act**") for sanction of the Scheme of Amalgamation of Gagan Tradelink Private Limited, being the Petitioner No. 2 abovenamed ("**Transferor Company**" or **"Gagan"**) with Pawanputra Tradecom Private Limited, being the Petitioner No. 1 abovenamed ("**Transferee Company**" or **"Pawanputra"**) whereby and whereunder the Transferor Company are proposed to be amalgamated with the Transferee Company from the Appointed Date, viz 1st Day of April, 2023 in the manner and on the terms and conditions stated in the said Scheme of Amalgamation ("**Scheme**"). **(Page No. 42-56 of Petition)**

2. The Petition has now come up for a final hearing. Authorised Representative for the Petitioners submits as follows:-

(a) The Scheme was approved unanimously by the respective Board of Directors of the Petitioner Companies at their meetings held on 30/11/2023 respectively. **(Page No. 34-41 of Petition)**

(b) The circumstances which justify and/or have necessitated the Scheme and the benefits of the same are, inter alia, as follows:-

i. For better, efficient and economical management, control and running of the business of the undertakings concerned and also for administrative convenience and to obtain the advantage of economy of large scale and to broad base the present business, the present Scheme is proposed to amalgamate the Transferor Company with the Transferee Company.

ii. Simplification of corporate structure by reducing the number of legal entities and reorganizing the legal entities in the group structure;

iii. Significant reduction in the multiplicity of legal and regulatory compliances required at present to be carried out;

iv. Elimination of duplication in administrative costs and multiple record-keeping, thus resulting in cost savings;

v. Concentrated effort and focus by the senior management to grow the business by eliminating duplicative communication and burdensome coordination efforts across multiple entities.

vi. Simply the Shareholding of Transferee Company.

(c) The Statutory Auditors of respective Petitioner Companies have by their certificates dated 30/11/2023 confirmed that the accounting treatment in the Scheme is in conformity with the accounting standards prescribed under Section 133 of the Companies Act, 2013. **(Page No. 187-188 of Petition)**

(d) No proceedings are pending under Sections 210 to 227 of the Companies Act, 2013 against the Petitioner(s).

(e) The exchange ratio of shares in consideration of the Amalgamation has been fixed on a fair and reasonable basis and on the basis of the Report thereon of SKA Business Advisory Services Private Limited, Registered Valuer. **(Page No. 191-198 of Petition)**

(f) The shares of all Petitioner Companies are not listed in any Stock exchange.

(g) By an order dated 02/02/2024 in Company Application (CAA) No. 223/(KB)/2023, this Tribunal made the following directions with regard to meetings

of shareholders and creditors under Section 230(1) :- **(Page No:- 148-152 of Petition)**

Meetings dispensed: Meetings of the Equity Shareholders, of the Petitioner No. 1 and 2, was dispensed with under Section 230(1) read with Section 232(1) of the Act.

(h) Consequently, the Petitioners presented the instant petition for sanction of the Scheme. By an order dated 10/06/2024 the instant petition was admitted by this Tribunal and initially fixed for hearing on 29/07/2024 upon issuance of notices to the Statutory / Sectoral Authorities and advertisement of date of hearing. In compliance with the said order dated 10/06/2024 an affidavit of compliance duly affirmed on 10/07/2024 in this regard has also been filed and the Petitioners have duly served such notices by hand delivery upon the Statutory / Sectoral Authorities:-

Sl No	Description of Statutory / Sectoral Authorities including mode	Date	Page of Affidavit of Service affirmed on 10/07/2024
1	The Regional Director, Eastern Region, Ministry of Corporate Affairs	24/06/2024	7
2	The Registrar of Companies, West Bengal	24/06/2024	8
3	The Official Liquidator, High Court, Calcutta	24/06/2024	9
4	Income Tax Assessing Officer , Ward: 7(1)	24/06/2024	10
5	Income Tax Assessing Officer , Ward: 6(2)	24/06/2024	11
6	The Chief Commissioner of Income Tax-1	24/06/2024	12
7	The Chief Commissioner of Income Tax-2	24/06/2024	13
8	Business Standard	9th July, 2024	5
9	Aajkal	9th July, 2024	6

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(i) Further, in compliance with the said order dated 10/06/2024 notice was also sent by speed post and the Petitioners have also duly served such notices on the Statutory / Sectoral Authorities:

Sl No	Description of Statutory / Sectoral Authorities including mode	Date	Page of Affidavit of Service sent through speed post affirmed on 10/07/2024
1	The Regional Director, Eastern Region, Ministry of Corporate Affairs	on 24/06/2024 delivered on 25/06/2024	14-15
2	The Registrar of Companies, West Bengal	on 24/06/2024 delivered on 25/06/2024	16-17
3	The Official Liquidator, High Court, Calcutta	on 24/06/2024 delivered on 25/06/2024	18-19
4	Income Tax Assessing Officer , Ward: 7(1)	on 24/06/2024 delivered on 25/06/2024	20-21
5	Income Tax Assessing Officer , Ward: 6(2)	on 24/06/2024 delivered on 25/06/2024	22-23
6	The Chief Commissioner of Income Tax-1	on 24/06/2024 delivered on 25/06/2024	24-25
7	The Chief Commissioner of Income Tax-2	on 24/06/2024 delivered on 25/06/2024	26-27

(j) Further, in compliance with the said order dated 10/06/2024 notice was also sent by email and the Petitioners have also duly served such notices on the Statutory / Sectorial Authorities:

Sl No	Description of Statutory / Sectoral Authorities including mode	Date	Page of Affidavit of Service sent through email affirmed on 10/07/2024
1	The Regional Director, Eastern Region, Ministry of Corporate Affair	01/07/2024	29-30
2	The Registrar of Companies, West Bengal	01/07/2024	31-32
3	The Official Liquidator, High Court, Calcutta	01/07/2024	33-34
4	Income Tax Assessing Officer , Ward: 7(1)	01/07/2024	35-36
5	Income Tax Assessing Officer , Ward: 6(2)	01/07/2024	37-38
6	The Chief Commissioner of Income Tax-1	01/07/2024	39-40
7	The Chief Commissioner of Income Tax-2	01/07/2024	41-42
8	Certificate under Section 65B of Evidence Act	1/07/2024	28

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(k) Further, in terms of the order dated 10/06/2024, notice of Petition was published in newspapers Business Standard (English Edition) on 09/07/2024 and in Aajkaal (Bengali Edition) on 09/07/2024. (**Page No. 5& 6 of Rejoinder dated 10/07/2024**)

(l) All statutory formalities requisite for obtaining the sanction of the Scheme have been duly complied with by the Petitioners. The Scheme has been made bona fide and is in the interest of all concerned.

3. Pursuant to the said advertisements and notices the Regional Director, Ministry of Corporate Affairs, Kolkata ("RD"), Official Liquidator, High Court, Calcutta have filed their representations before this Tribunal.

4. The Official Liquidator has filed his report dated July 24, 2024 and concluded inter alia as under: -

> *"That the Official Liquidator on the basis of information submitted by the Petitioner Companies is of the view that the affairs of the aforesaid Transferor Company do not appear to have been conducted in a manner prejudicial to the interest of its members or to the public interest as per the provisions of the Companies Act, 1956/the Companies Act, 2013 whichever is applicable."*

5. The RD has filed his reply affidavit dated ("**RD affidavit**") which has been dealt with by the Petitioners. The observations of the RD and responses of the Petitioner(s) are summarized as under:-

> ***(a) Paragraph No. 2 (a) of RD affidavit:*** *(a) That it is submitted that on the examination of Registrar of Companies, West Bengal, it appears that no complaint and/or representation has been received against the proposed Scheme of Amalgamation. Further, all the petitioner companies are updated in filing their Financial Statements and Annual Returns for the financial year 31/03/2023.*
>
> **Paragraph No. 5(a) of Rejoinder:** (a) With reference to paragraph 2(a) of the said reply, since the statements made in the said paragraphs are general hence no comments are required to the said statements.

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(b) ***Paragraph No. 2 (b) of RD affidavit:*** *(b) The Petitioner Companies should be directed to provide list/details of Assets, if any, to be transferred from the Transferor Company to the Transferee Company upon sanctioning of the proposed Scheme.*

Paragraph No. 5(b) of Rejoinder: (b).. With reference to paragraph 2(b) of the said reply, it is stated that Appointed Date is 1st April, 2022, hence assets and liabilities as per the audited financial statement as on 31/03/2023 will be transferred. List of assets and liabilities to be transferred are annexed hereto and marked with **letter "A".**

(c) ***Paragraph No. 2 (c) of RD affidavit:*** *(c) That the Petitioner company should undertake to comply with the provisions of section 232(3)[i) of the Companies Act, 2013 through appropriate affirmation.*

Paragraph No. 5(c) of Rejoinder: (c) With reference to para 2(c), it is stated that the petitioners' companies undertake to comply with the provisions of section 232(3)(i) of the Companies Act 2013. It is stated that Part- B of Clause 9 of the Scheme relating to authorised capital is in accordance with Section 232(3)(i) of the Companies Act 2013. Further, the Petitioner Companies undertake to comply with the provisions of Section 232(3)(i) of the Companies Act, 2013.

(d) ***Paragraph No. 2 (d) of RD affidavit:*** *(d) That the Transferee/Resulting Company should be directed to pay applicable stamp duty on the transfer of the immovable properties from the Transferor/Demerged Company to it.*

Paragraph No. 5(d) of Rejoinder: (d) With reference to para 2 (d), it is stated that the petitioners' companies undertake to pay applicable stamp duty on the transfer of the immovable properties from the Transferor Company to it.

(e) ***Paragraph No. 2 (e) of RD affidavit:*** *(e) The Hon'ble Tribunal may kindly direct the Petitioners to file an affidavit to the extent that the Scheme enclosed to the Company Application and Company Petition are one and same and there is no discrepancy or no change is made.*

NOTARY
SUMITRA CHATTACHARYYA
City Civil Court
Calcutta
Regn. No. 056 of 2022
Expiry Date
31.03.2027
Govt. of West Bengal

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Paragraph No. 5(e) of Rejoinder: (e) With reference to para 2(e), it is stated that the Scheme enclosed in the Company Application and Company Petition are the same and there is no discrepancy and no change.

(f) Paragraph No. 2 (f) of RD affidavit: *(f) It is submitted that as per instructions of the Ministry of Corporate Affairs, New Delhi, a copy of the scheme was forwarded to the Income Tax Department on 20/02/2024 for their views/observation in the matter. However, no such views/observation in the matter from the Income Tax Department has been received yet. Hon'ble Tribunal may peruse the same and issue order as deemed fit and proper.*

Paragraph No. 5(f) of Rejoinder: (f). With reference to para 2(f), it is stated that the petitioner companies have also served the notice two times to the respective income tax assessing officer and have received no communication. However, the Petitioner Companies undertakes that even after the sanction of the scheme, the Transferee Company will be liable for all liabilities of the Transferor Company .

6. Heard submissions made by the Ld. Authorised Representative appearing for the Petitioner, Joint Director for and on behalf of RD. Sh. Alok Tandon, JD appears for RD(ER) and submits that they do not have any objection if the scheme is sanctioned. This statement is taken on record.

Upon perusing the records and documents in the instant proceedings and considering the submissions, we allow the petition and make the following orders: -

(a) the Scheme of Amalgamation mentioned in paragraph 1 of the petition, being Annexure "A" hereto, be and is hereby sanctioned by this Tribunal to be binding with effect from 1st April, 2023 ("Appointed Date") on Transferor Company and Transferee Company, their respective shareholders and creditors and all concerned;

(b) all the property, rights and powers of the Transferor Company , including those described in the Schedule of Assets herein, be transferred from the said Appointed Date, without further act or deed, to the Transferee Company and, accordingly, the same shall pursuant to Section 232(4) of the Companies Act, 2013, be transferred to and vest in the Transferee Company for all the estate and interest of the

Transferor Company therein but subject nevertheless to all charges now affecting the same, as provided in the Scheme;

(c) all the debts, liabilities, duties and obligations of the Transferor Company be transferred from the said Appointed Date, without further act or deed to the Transferee Company and, accordingly, the same shall pursuant to Section 232(4) of the Companies Act, 2013, be transferred to and become the debts, liabilities, duties and obligations of the Transferee Company;

(d) the employees of the Transferor Company shall be engaged by the Transferee Company, as provided in the Scheme;

(e) all proceedings and/or suits and/or appeals now pending by or against the Transferor Company be continued by or against the Transferee Company, as provided in the Scheme;

(f) The Transferee Company do without further application issue and allot to the shareholders of the Transferor Company , the shares in the Transferee Company to which they are entitled in terms of the Scheme;

(g) leave is granted to the Petitioner(s) to file the Schedule of assets and liabilities of the Transferor Company in the form as prescribed in the Schedule to Form No.CAA7 of the Companies (Compromises, Arrangements and Amalgamations) Rules, 2016 within three weeks from the date of receiving a copy of this order;

(h) That any person interested shall be at liberty to apply to this Tribunal in the above matter for any directions that may be necessary.

(i) The Transferor Company and the Transferee Company shall each within thirty days of the date of the receipt of this order, cause a certified copy thereof to be delivered to the Registrar of Companies for registration and on such certified copies being so delivered, the Transferor Company shall be dissolved with effect from the date or last of the dates of filing of the certified copies of the order, as aforesaid (Effective Date) and the Registrar of Companies shall place all documents relating to the Transferor Company and registered with him on the file kept by him in relation to the Transferee Company and the files relating to the said companies shall be consolidated accordingly.

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8. The Petitioners shall supply legible print out of the scheme and schedule of assets and liabilities in acceptable form to the department and the department will append such printout, upon verification to the certified copy of the order.

9. Company Petition C.P. (CAA) No. 38/KB/2024 along with C.A. (CAA) No. 233(KB)2023 is **disposed of** accordingly.

10. Urgent certified copy of this order, if applied for, be supplied to the parties, subject to compliance with all requisite formalities.

Balraj Joshi
Member (Technical)

Bidisha Banerjee
Member (Judicial)

Order signed on 4th of September, 2024

zia

Annexure C

1. There should not be any court case or any complain from any corner in respect of the said property as per plan.
2. "South 24 Parganas Zilla Parishad" will not be liable if any dispute arises at the site.
District Engineer
South 24 Pgs. Z.P.
OTHERS LAND
12000 MM WD. ROAD
EXISTING CULVERT
CANAL
5000 MM WD. ROAD
10000 MM WD. ROAD
FUTURE DEVELOPMENT
GREEN AREA
9100 MM WD. ROAD
COMMON S.T.P.
NEW TOWN ROAD
PROPOSED SITE
LOCATION PLAN
SCALE-1:1000
SITE PLAN
SCALE-1:600
ELEVATION OF BOUNDARY WALL
SCALE 1:25
SITE PLAN WITH GROUND FLOOR PLAN OF BUNGALOWS
SCALE - 1:250
SPECIFICATIONS:
SIGNATURE OF THE ARCHITECT :
CERTIFICATE OF THE STRUCTURAL ENGINEER
CHANDI PROSAD KHANRA
PAWANPUTRA TRADECOM PVT. LTD.
Authorised Signatory
SIGNATURE OF AUTHORIZED SIGNATORY
PLAN OF PROPOSED PLOTTED DEVELOPMENT COMPRISING OF 3 KATHA BUNGALOWS (20 UNITS) & 4 KATHA BUNGALOWS (8 UNIT) AT L.R. DAG NOS.- 489(P), 496(P) & 498(P) MOUZA - CHANDA KANTHALBERIA, J.L NO.-8, BLOCK -BHANGAR II, P.S -KLC, DIST -24 PGS (S), P.O -KULBERIA, KOLKATA -743 502.
SITE PLAN WITH BUNGALOWS , SITE PLAN, LOCATION PLAN AND DETAIL OF BOUNDARY WALL
REV. 01 02 03 04 05 06 07
DATE
SCALE = 1:250
CHECK BY :
SHEET NO. :01
ARCHITECTS :
MANIRAMKA AND ASSOCIATES
74 B, A. J. C. BOSE ROAD, KOLKATA-700 016
PHONE : (033) 2217 5329
NOTARY
Govt. of West Bengal

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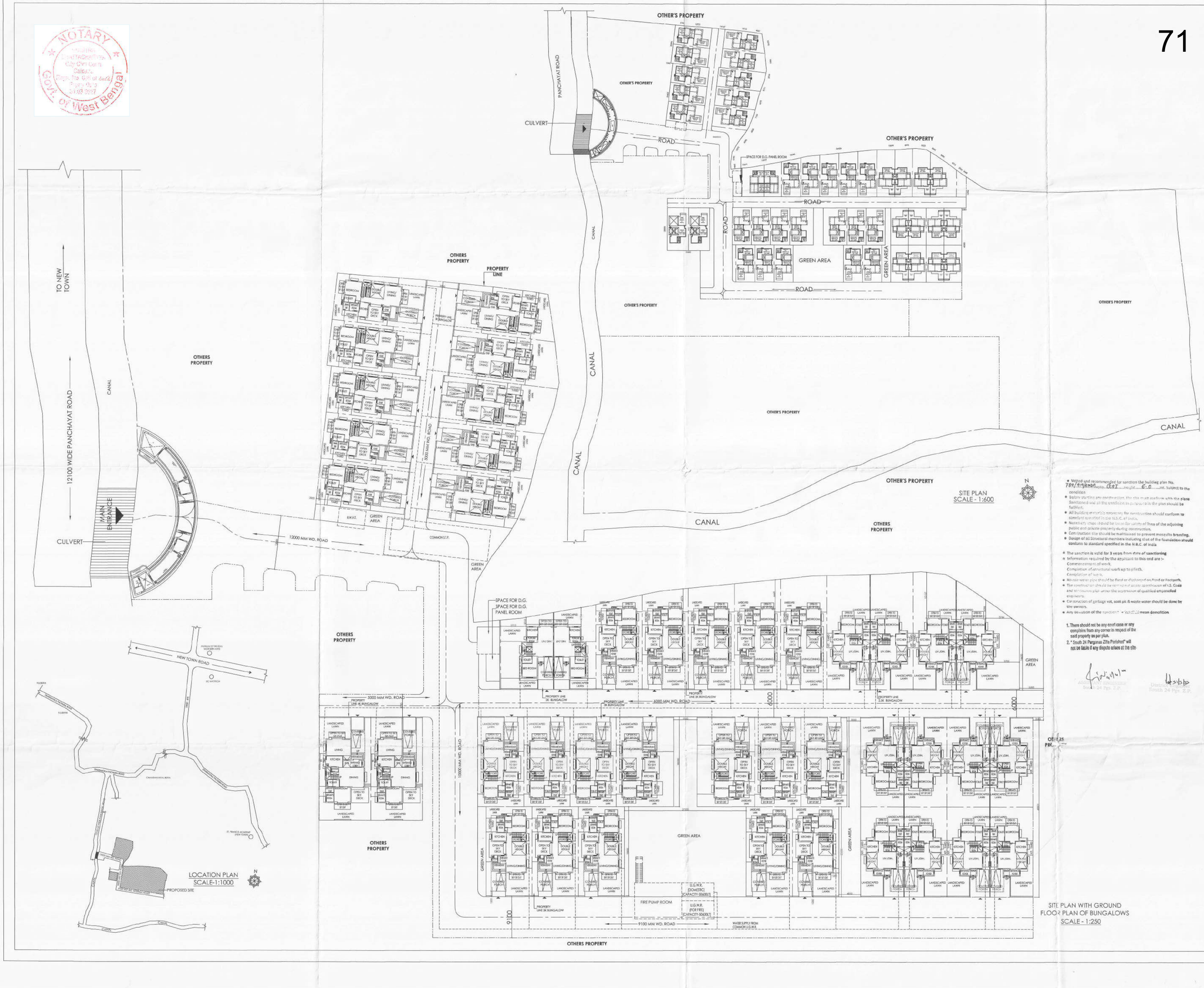
NOTARY
Sulekha Chattopadhyay
City Civil Court
Calcutta
Regn. No. 9/91 of 2017
Expiry On 2
31.03.2017
Govt. of West Bengal



SPECIFICATIONS:

1. ALL DIMENSIONS ARE IN MM.
2. FIGURED DIMENSIONS ONLY TO BE SCALED ONLY WHEREIN DIMENSIONS TO BE FOLLOWED.
3. EXTERNAL WALLS ARE 200 MM/INTERNAL WALLS ARE 125 MM, IN 1:6 CEMENT MORTAR.
4. EXTERNAL PLASTER IS 19 MM. THK. AND INTERNAL PLASTER 12 MM. THK. IN 1:5 CEMENT MORTAR.
5. ALL DOORS FRAMES ARE OF GOOD QUALITY SAND WOOD.
6. ALL REINFORCEMENT TO CONFIRM WITH I.S. 456 1978.
7. ALL P.C.C. IS IN 1:3:6. (CEMENT : SAND : AGGRE.)
8. ROOF TELTS OVER WATER PROOF SCREED PLASTER.
9. ALL INTERNAL WALLS ARE TO BE PAINTED WITH PLASTER OF PARIS WHILE EXTERNAL SURFACE TO BE WASHED WITH TWO COATS OF CEMENT BASED PAINT.

AREA STATEMENT

AREA OF LAND	9015.52 SQM.
WIDTH OF ROAD	10.0 M.
PERMISSIBLE BUILDING HEIGHT	60.0 MT.
PROPOSED BUILDING HEIGHT	6.0 MT.
PERMISSIBLE F.A.R	2.25
PROPOSED F.A.R	0.66
PERMISSIBLE GROUND COVERAGE	45% = 5249.19 SQM.
PROPOSED GROUND COVERAGE	31.94% =2726 SQM.
PERMISSIBLE GREEN AREA	1399.76 SQM. (12% OF PLOT AREA)
PROPOSED GREEN AREA (GREEN AREA + TOTAL GREEN AREA OF PLOTS)	4196.3 SQM. (35.97% OF PLOT AREA) [1123.28+3073.02]

NO OF TOTAL BUNGALOWS	
NO. OF 3 KATHA BUNGALOWS	43 NOS
NO. OF 2.5 KATHA BUNGALOWS	02 NOS X 150.59 SQM= 301.18 SQM
NO. OF 2 KATHA BUNGALOWS	12 NOS. X 166.94 SQM=2003.28 SQM.
NO. OF 3 KATHA BUNGALOWS	27 NOS. X 184.98 SQM=4994.46 SQM.
NO. OF 4 KATHA BUNGALOWS	02 NOS. X 224.09 SQM= 448.18 SQM.

AREA STATEMENT (2K BUNGALOW SINGLE UNIT)

1. PLOT SIZE (APPROX)	=	8400X16000
2. PLOT AREA (APPROX)	=	134.40 SQM.
3. TOTAL BUILT-UP AREA	=	150.59 SQM.
4. GROUND FLOOR AREA	=	64.89 SQM.
5. FIRST FLOOR AREA	=	57.29 SQM.
6. SERVICE AREA ON ROOF	=	12.95 SQM.
7. PORCH AREA (COVERED)	=	15.46 SQM.
8. GREEN AREA	=	41.71 SQM.
9. GROUND COVERAGE	=	64.76 SQM. (48.18%)

AREA STATEMENT (2.5K BUNGALOW SINGLE UNIT)

1. PLOT SIZE (APPROX)	=	9600 X 18240
2. PLOT AREA (APPROX)	=	175.10 SQM.
3. TOTAL BUILT-UP AREA	=	166.94 SQM.
4. GROUND FLOOR AREA	=	73.36 SQM.
5. FIRST FLOOR AREA	=	62.21 SQM.
6. SERVICE AREA ON ROOF	=	11.96 SQM.
7. PORCH AREA (COVERED)	=	19.41 SQM.
8. GREEN AREA	=	61.36 SQM.
9. GROUND COVERAGE	=	77.69 SQM. (44.36%)

AREA STATEMENT (3K BUNGALOW SINGLE UNIT)

1. PLOT SIZE (APPROX)	=	10000 X 20000
2. PLOT AREA (APPROX)	=	206.00 SQM.
3. TOTAL BUILT-UP AREA	=	184.98 SQM.
4. GROUND FLOOR AREA	=	86.81 SQM.
5. FIRST FLOOR AREA	=	72.09 SQM.
6. SERVICE AREA ON ROOF	=	11.40 SQM.
7. PORCH AREA (COVERED)	=	14.68 SQM.
8. GREEN AREA	=	75.38 SQM.
9. GROUND COVERAGE	=	90.82 SQM. (44.08%)

AREA STATEMENT (4K BUNGALOW SINGLE UNIT)

1. PLOT SIZE (APPROX)	=	11500X23000
2. PLOT AREA (APPROX)	=	264.50 SQM.
3. TOTAL BUILT-UP AREA	=	224.09 SQM.
4. GROUND FLOOR AREA	=	104.15 SQM.
5. FIRST FLOOR AREA	=	90.94 SQM.
6. SERVICE AREA ON ROOF	=	13.62 SQM.
7. PORCH AREA (COVERED)	=	15.38 SQM.
8. GREEN AREA	=	109.01 SQM.
9. GROUND COVERAGE	=	104.03 SQM. (40.08%)

TOTAL BUILT -UP AREA OF THE PROJECT = 7747.10 SQM.

SIGNATURE OF THE ARCHITECT

SUNIL MANIRAMKA, (B. Arch.)
Consulting Architect
Council of Architecture (Regn. No. CA/93/16636)

SUNIL KUMAR MANIRAMKA
(REG. NO.-CA/ 93/16636)
MANIRAMKA AND ASSOCIATES. 74B, A.J.C. BOSE ROAD, KOL-16

CERTIFICATE OF THE STRUCTURAL ENGINEER

THE STRUCTURAL DESIGN AND DRAWINGS OF BOTH FOUNDATION AND SUPER STRUCTURE OF THE BUILDING HAS BEEN MADE BY ME CONSIDERING THE SOIL TEST REPORT AND ALSO CONSIDERING ALL POSSIBLE LOADS, SEISMIC LOAD AND THE MOMENTS GENERATED BY THE PROPOSED STRUCTURE AS PER IS6 & THE NATIONAL BUILDING CODE OF INDIA & CERTIFIED THAT IT IS SAFE & STABLE IN ALL RESPECT & THESE PROVISIONS SHALL BE ADHERED TO DURING THE CONSTRUCTION.

CHANDI PROSAD KHANRA
BE (Civil), ME (Struct.), MIE (India)
ESE-I/2

CHANDI PRASAD KHANRA
63/22, BRINDABAN MULLICK LANE, HOWRAH- 711101

PANKAJ CONSTRUCTION PVT. LTD.
AUTHORISED SIGNATORY

SIGNATURE OF AUTHORISED SIGNATORY

* Vetted and recommended for sanction the building plan No. 784/P/KMC dated 06.07.2017 height 6:0 mt. subject to the condition

- Before starting any construction, the site must conform with the plans Sanctioned and all the conditions as proposed in the plan should be fulfilled.
- All building materials necessary for construction should conform to standards specified in the N.B.C. of India.
- Necessary steps should be taken for safety of lives of the adjoining public and private property during construction.
- Construction site should be maintained to prevent mosquito breeding.
- Design of all Structural members including that of the foundation should conform to standard specified in the N.B.C. of India

- The sanction is valid for 3 years from date of sanctioning
- Information required by the applicant to this end are :-
  Commencement of work
  Completion of structural work up to plinth.
  Completion of work.
- No rain water pipe should be fixed or discharged on Road or Footpath.
- The construction should be carried out as per specification of I.S. Code and structural plan under the supervision of qualified empanelled engineers.
- Construction of garbage vat, soak pit & waste water should be done by the owners.
- Any deviation of the sanctioned plan will mean demolition

1. There should not be any court case or any complains from any corner in respect of the said property as per plan.
2. " South 24 Parganas Zilla Parishad" will not be liable if any dispute arises at the site.

Addl. Executive Officer
South 24 Pgs. Z.P.

District Engineer
South 24 Pgs. Z.P.

PLAN OF PROPOSED PLOTTED DEVELOPMENT COMPRISING OF 2 KATHA (DOUBLE) BUNGALOWS (2 UNITS),2.5 KATHA (DOUBLE) BUNGALOWS (12 UNITS), 3 KATHA BUNGALOWS (27 UNITS) & 4 KATHA BUNGALOWS (2 UNIT) AT L.R. DAG NOS.- 488(P), 489(P) & 498(P) MOUZA - CHANDA EANTHALBERIA, J.L NO.-8, BLOCK -BHANGAR II, P.S -KLC., DIST -24 PGS (S), P.O -KULBERIA, KOLKATA -743 502.

SITE PLAN WITH BUNGALOWS , SITE PLAN, LOCATION PLAN AND DETAIL OF BOUNDARY WALL

REV.	01	02	03	04	05	06	07
DATE							

DATE = 11.01.23	DEALT : ISHTI	DRG. NO. : CKB/ SD/SITE/01	
SCALE = 1:250	CHECK BY :	SHEET NO. : 01	

ARCHITECTS :
MANIRAMKA AND ASSOCIATES
74 B, A. J. C. BOSE ROAD, KOLKATA-700 016
PHONE : (033) 2217 8329
E mail:- maniramka.associates@gmail.com
www.maniramkaarchitect.com

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SITE PAN SHOWING GROUND PLAN
SCALE - 1:100

SITE PLAN
SCALE-1:600

LOCATION PLAN
SCALE-1:1000

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SPECIFICATIONS:

1. ALL DIMENSIONS ARE IN MM.
2. DRAWING SHOULD NOT BE SCALED ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. EXTERNAL WALLS ARE 200THK AND INTERNAL WALLS ARE 125THK, IN 1:6 CEMENT MORTAR.
4. EXTERNAL PLASTER IS 19 MM. THK. AND INTERNAL PLASTER 12 MM. THK. IN 1:5 CEMENT MORTAR.
5. ALL DOORS FRAMES ARE OF GOOD QUALITY HARD WOOD.
6. ALL RCC WORK CONFORMS TO CODE IS 456-1978.
7. ALL P.C.C. IS IN 1:3:6 (CEMENT : SAND : AGGREGATE)
8. ROOF TILES OVER WATER PROOF SCREED PLASTER.
9. ALL INTERNAL WALLS ARE TO BE FINISHED WITH PLASTER OF PARIS WHILE EXTERNAL SURFACE TO BE FINISHED WITH TWO COATS OF CEMENT BASED PAINT.

AREA STATEMENT

AREA OF LAND	2891.39 SQM.
WIDTH OF ROAD	12.1 M
PERMISSIBLE BUILDING HEIGHT	60.00 MT.
PROPOSED BUILDING HEIGHT	12.75 MT., (EXCLUDING PLINTH)
PERMISSIBLE F.A.R	2.25
PROPOSED F.A.R	0.68
PERMISSIBLE GROUND COVERAGE	40% = 1001.53 SQM.
PROPOSED GROUND COVERAGE	38.40 % = 854.83 SQM.
PERMISSIBLE GREEN AREA	267.07 SQM. (12% OF PLOT AREA)
PROPOSED GREEN AREA	469.12 SQM. (21.07% OF PLOT AREA)

AREA STATEMENT CLUB

1.	TOTAL BUILT-UP AREA	= 1582.36 SQM.
2.	GROUND FLOOR CLUB AREA	= 648.98 SQM.
3.	GROUND FLOOR COMMERCIAL AREA	= 53.67 SQM.
4.	GROUND FLOOR ELECTRICAL ROOM	= 139.47 SQM.
5.	FIRST FLOOR CLUB AREA	= 363.50 SQM.
6.	SECOND FLOOR CLUB AREA	= 324.29 SQM.
7.	TERRACE FLOOR CLUB ROOF	= 52.45 SQM.
8.	GREEN AREA	= 469.12 SQM.
9.	GROUND COVERAGE	= 854.83 SQM. (38.34%)
10.	BUILDING HEIGHT	= 12.75 M (EXCLUDING PLINTH)

DOOR WINDOW SCHEDULE

TYPE	WIDTH	HEIGHT	SILL LEVEL	REMARKS
D1	2000	2400	-	FLUSH DOOR
D1A	1800	2400	-	FLUSH DOOR
D2	1200	2400	-	FLUSH DOOR
D3	1200	2400	-	FLUSH DOOR
D4	1000	2400	-	FLUSH DOOR
D5	750	2400	-	FLUSH DOOR
RS1	3600	3000	-	PERFORATED ROLLING SHUTTER
RS2	2000	2400	-	ROLLING SHUTTER
GW1	AS PLAN	2100	300	ALUMINIUM SLIDING WINDOW
GW2	AS PLAN	2100	300	CORNER WINDOW
W1	1500	1500	900	ALUMINIUM SLIDING WINDOW
W1A	1500	1200	1200	KITCHEN WINDOW
W2	650	1000	1400	TOILET WINDOW
STW1	2600	1550	AS PER ELEVATION	STAIRCASE WINDOW
STW2	1300	1550	AS PER ELEVATION	STAIRCASE WINDOW
V	3050	600	AS PER ELEVATION	
V1	2405	600	AS PER ELEVATION	

SIGNATURE OF THE ARCHITECT :

SUNIL MANIRAMKA, (B. Arch.)
Consulting Architect
Council of Architecture Regn. No. CA/93/98598

SUNIL KUMAR MANIRAMKA
(REG. NO.-CA/ 93/16656)
MANIRAMKA AND ASSOCIATES, 74B, A.J.C. BOSE ROAD, KOL-16

CERTIFICATE OF THE STRUCTURAL ENGINEER

THE STRUCTURAL DESIGN AND DRAWINGS OF BOTH FOUNDATION AND SUPER STRUCTURE OF THE BUILDING HAS BEEN MADE BY ME CONFORMING ALL TEST REPORT AND ALSO CONSIDERING ALL THE DESIGN LOAD AS PER BIS & THE GOVERNMENT GAZETTE AND IT IS THE PROPOSED STRUCTURE AS PER BIS & THE NATIONAL BUILDING CODE OF INDIA & CERTIFIED THAT IT IS SAFE & STABLE IN ALL RESPECT & THESE PROVISIONS SHALL BE ADHERED TO DURING THE CONSTRUCTION.

CHANDI PROSAD KHANRA
BE (Civil), ME (Struct.), MIE (India)
ESE-412

CHANDI PRASAD KHANRA
63/22, BRINDABAN MULLICK LANE, HOWRAH- 711101

PADMANPUTRA TRADECOM PVT. LTD.
Director / Authorised Signatory

SIGNATURE OF AUTHORIZED SIGNATORY

- Verified and recommended for sanction the building plan/s No. ..... Subject to the condition.
- Before starting any construction, the site must conform with the plans Sanctioned and all the conditions as proposed in the plan should be fulfilled.
- All building materials necessary for construction should conform to standard specification laid by the B.E. Authority.
- Necessary steps should be taken for safety of lives of the adjoining public and private property during construction.
- Construction site should be maintained to prevent mosquito breeding.
- Design of all Structural members including that of the foundation should conform to standard specified in the N.B.C. of India
- The sanction is valid for 3 years from date of sanctioning
- Information required by the applicant to this end are :-
  Commencement of work.
  Completion of structural work up to plinth.
  Completion of work.
- No main water pipe should be fixed or discharged on street or footpath.
- The construction should be carried out as per specification of B.I.S. Code and sanctioned plan under the supervision of qualified empanelled engineers.
- Construction of garbage vat, soak pit & waste water should be done by the owners.
- Any deviation of the ..... from demolition

1. There should not be any court case or any complaint from any corner in respect of the said property as per plan.
2. " South 24 Parganas Zilla Parishad" will not be liable if any dispute arises at the site.

Executive Engineer
South 24 Pgs. Z.P.

Assistant Engineer
South 24 Pgs. Z.P.

CANAL

PROJECT

PLAN OF PROPOSED CLUB & COMMERCIAL DEVELOPMENT AT L.R. DAG NOS.- 404(P), 488(P), 491(P), 489(P) & 490(P) MOUZA - CHANDA KANTHALBERIA, J.L. NO.-8, BLOCK -BHANGAR II, P.S -KLC, DIST -24 PGS (S), P.O -KULBERIA, KOLKATA -743 502.

CLUB BUILDING [HEIGHT - 12.75 M (EXCLUDING PLINTH)]

GROUND FLOOR PLAN, SIDE PLAN, LOCATION PLAN

REV.	01	02	03	04	05	06	07	
DATE								

DATE = 09.01.23	DEALT : ASHIM/ISHTI	DRG. NO. : CKB/CLUB/ 01
SCALE = 1:100	CHECK BY : -	SHEET NO. : 01

ARCHITECTS :
MANIRAMKA AND ASSOCIATES
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ANNEXURE – D

NEWTOWN VILLAS
BRING YOUR FAMILY HOME

Ref.

Dated : 03.04.25

To
The Member Secretary,
State Environmental Impact Assessment Authority,
Department of Environment, Govt. of West Bengal,
Paribesh Bhawan, LB – 2,
5th Floor, Sector – III,
Salt Lake, Kolkata – 700 106.

Sub: Submission of documents for Environment Clearance for Proposed Plotted Development comprising of Bungalows & Club at Mouza- Chanda Kanthalberia, J.L. No.- 08, Block- Bhangar II, P.S.- KLC, Dist.- 24 Pgs (S), P.O.- Kulberia, Kolkata- 743 502, West Bengal.

Dear Sir,

With reference to the above subject, we are submitting herewith updated Form 1, Form 1A, Checklist A & B, Sanction Plan complying SEIAA Notification vide memo No. 2495/EN/T-II-1/011/2018, dated 17.12.2019 and other supporting documents for Environmental Clearance.

An early clearance for the above would be highly appreciated.

Thanking you,

Yours sincerely,

For M/s. Shrachi Keventer Abasan pvt. ltd.

Manoranjan Patra

Manoranjan Patra (Authorized Signatory)

Shrachi Keventer Abasan Private Limited

Cc : The Secretary, SEAC, Parivesh Bhawan, 10A, Block – LA, Sector – III, Bidhannagar, Kolkata 700 106

SHRACHI Dreamer. Doer. keventer

SHRACHI KEVENTER ABASAN PRIVATE LIMITED
"Shrachi Tower" 686 Anandapur E.M.Bypass R B Connector Junction,
Kolkata - 700107, West Bengal, INDIA
Phone: 91 33 4984 4984; Fax: 91 33 4984 4249
E-mail: sales@shrachi.com; Website: www.shrachirealty.com
CIN: U70109WB2019PTC231884

NOTARY ... Govt. of West Bengal

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ANNEXURE - E

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH,
KOLKATA

.....

ORIGINAL APPLICATION No. 82/2021/EZ
(I.A. No. 97/2021/EZ)

IN THE MATTER OF:

Ankur Sharma,
S/o Shri Ambooj Sharma,
R/o 13/3, Dr.P.K. Banerjee Road,
P.O., P.S. & District-Howrah,
Pin – 711101,

....Applicant(s)

Versus

1. **The State of West Bengal,**
Through Chief Secretary,
Nabanna (13th Floor), 325,
Sarat Chatterjee Road,
Shibpur, Howrah,
Pin – 711102,

2. **Ministry of Environment, Forest and Climate Change,**
Through Secretary,
Paryabaran Bhawan, Jorbagh Road,
New Delhi – 110003,

3. **The Central Pollution Control Board,**
Through Member Secretary,
Paribesh Bhawan, East Arjun Nagar,
Delhi – 110032,

4. **Department of Environment, Govt. of West Bengal,**
Through Principal Secretary,
Pranisampad Bhawn, Block (5th Floor),
LB-II, Salt Lake, Sector-III,
Bidhannagar, Kolkata,
Pin – 700106,

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5. The Principal Secretary,
Department of Environment,
Govt. of West Bengal,
Pranisampad Bhawn, Block (5th Floor),
LB-II, Salt Lake, Sector-III,
Bidhannagar, Kolkata,
Pin – 700106,

6. State Environment Impact Assessment Authority (SEIAA),
West Bengal,
Through Member Secretary,
5th Floor, Pranisampad Bhawan,
Block-LB, Salt Lake, Sector-III,
Bidhannagar, Kolkata,
Pin – 700106,

7. The Member Secretary,
State Environment Impact Assessment Authority (SEIAA),
West Bengal,
5th Floor, Pranisampad Bhawan,
Block-LB, Salt Lake, Sector-III,
Bidhannagar, Kolkata,
Pin – 700106,

8. West Bengal Pollution Control Board,
Through Member Secretary,
Paribesh Bhavan, 10A, Block-L.A.,
Sector-III, Salt Lake City,
Kolkata – 700106,

9. The Land and Land Reforms Officer and Refugee, Relief and Rehabilitation Department,
Govt. of West Bengal,
Through Principal Secretary,
Nabanna, 6th Floor, 325,
Sarat Chatterjee Road,
Howrah – 711102,

10. The Principal Secretary,
Department of Fisheries,
Govt. of West Bengal,
Benfish Tower (7th & 8th Floor),
31-GN Block, Sector-V, Salt Lake,
Kolkata – 700091,

11. The District Magistrate, South 24 Parganas,
New Administrative Buidling, Alipore,
Kolkata – 700027,

12. The District Land and Land Reforms Officer, South 24 Parganas,
New Treasury Building, (8th & 9th Floor), Alipore,
Kolkata – 700027,

13. The Block Development Officer, Sonarpur Block,
Sonarpur Block Road, Sonarpur,
South 24 Parganas,
Kolkata – 700150,

14. The Superintendent of Police, Baruipur Police District,
1st, 3rd & 4th Floor, Commercial Complex,
Zilla Parishad Bhaban Baruipur,
Kulpi Road, PO & PS-Baruipur,
Kolkata – 700144,

15. The Inspector-in-Charge, Sonarpur Police Station,
10, Sonarpur Station Road,
Sonarpur Bazar, Rajpur, Sonarpur,
Kolkata – 700150,

16. The District Engineer, South 24 Parganas Zilla Parishad,
New Administrative Building,
30, Belvedere Rd, Alipore Police Line,
Alipore, Kolkata – 700027,

17. Raghabpur Projects LLP,
A Limited Liability Partnership,
Incorporated under Limited Liability Partnership Act, 2008
Through Partners Mr. Ram Naresh Agarwal,
Registered Office at 36/1A, Elgin Road,
Kolkata – 700020,

18. Srijan Realty Private Limited,
A company incorporated under the Companies Act, 1956,
Through Director Mr. Ram Naresh Agarwal,
Registered Office at 36/1A, Elgin Road,
Kolkata – 700020,

19. Ultimate Estates Private Limited,
A company incorporated under the Companies Act, 1956,
Through Director Mr. Inderpal Singh Sandhu,
Registered Office at 3A, 3rd Floor, 75C,
Park Street, Kolkata – 700016,

20. Aamod Niwas Private Limited,
A company incorporated under the Companies Act,
Through Director Mr. Jaya Kedia,
Registered Office at 10/1, Burtolla Street,
P.O. Burrabazar, Police Station Posta,
Kolkata – 700007,

....Respondent(s)

COUNSEL FOR APPLICANT:

Mr. Ankur Sharm, in person

COUNSEL FOR RESPONDENTS :

Mr. Sibojyoti Chakraborty, Advocate for R-1, 3, 4, 5 & 9-16,
Mr. Gora Chand Roy Chodhury, Advocate for R-2,
Mr. Dipanjan Ghosh, Advocate for R-6 & 7,
Mr. Prithwish Basu, Advocate for R-8,
Mr. Bikas Kargupta, Advocate along with Ms. Debanjana Ray Chowdhury, Advocate & Ms. Shruti Swaika, Advocate for R-17 & 18,

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JUDGMENT

PRESENT:

HON'BLE MR. JUSTICE B. AMIT STHALEKAR (JUDICIAL MEMBER)
HON'BLE MR. SAIBAL DASGUPTA (EXPERT MEMBER)

Reserved On:- 27th January, 2022
Pronounce On:- 2nd February, 2022

1. Whether the Judgment is allowed to be published on the net? **Yes**

2. Whether the Judgment is allowed to be published in the NGT Reporter? **Yes**

JUSTICE B. AMIT STHALEKAR (JUDICIAL MEMBER)

This Original Application has been filed by the Applicant on the allegation that the Respondent Nos. 17 to 20 (Private Respondents), who are engaged in construction activity, are extending their construction activity to construct a housing complex by filling up of several water bodies and wetlands in and around R.S. Dag Nos. 197, 202, 203, 217, 218, 220, 230, 231, 235, 236, 239, 240, 245, 250, 252, 255, 256, 258, 260, 271, 244, 246, 243, 225, 232, 219, 233, 222, 226, 227, 229, 241, 238, 225 & 228, J.L. No. 74 in Mouza-Raghabpur, & R.S. Dag Nos. 187 & 186, J.L. No. 75, in Mouza-Dhamaitala, P.S. Sonarpur under Poleghat Gram Panchayat, South 24 Parganas. The further contention of the application is that the Respondent No. 20 has submitted the application for grant of Environmental Clearance but, to the best of the knowledge of the Applicant, the same has not yet been granted.

2. The case of the Applicant is that Respondent Nos. 17 to 20 have not obtained Environmental Clearance from State Environment Impact Assessment Authority (in short 'SEIAA'), West Bengal, prior to commencement of construction although more than 40,000 square meters of area is being built up. It is stated that as a result of the said construction activity of the Respondent Nos. 17 to 20, large water bodies have been encroached and earth moving machines (JCB) are being used in the construction process. It is also stated that Respondent No.17, M/s Raghabpur Projects LLP, has applied for Environmental Clearance from SEIAA, West Bengal, for 'Expansion Project' and not for 'New Project' under the name and style of 'Nirvana' but from the website of the Department of Environment, Govt. of West Bengal, last checked on 13.09.2021, it appears that no Environmental Clearance has yet been granted for the said Project. In support of this contention, the Applicant has filed the screenshot of the Environmental Clearance status of the Department of Environment, Govt. of West Bengal as Annexure P-1 to the Original Application. Photographs as Annexure P-2 have also been filed from pages 43 to 46 to the Original Application. Satellite images have also been filed as Annexure P-4 to the Original Application, and it is contended by the Applicant that the satellite imagery would clearly show large pockets of water over the land in question.

3. One I.A. No. 97/2021/EZ dated 11.11.2021 has also been filed by the Applicant with the following prayers:-

A) *Leave may be granted to file this Interlocutory Application to the Original Application;*

B) *Grant a 'Status quo' with regard to any further construction activities at project 'Nirvana' at Mouza-Raghabpur, J.L. No. 74 and Mouza-Dhamaitala, J.L. No. 75, P.S. Sonarpur under Poleghat Gram Panchayat, South 24 Parganas, Pin – 700151;*

C) *Constitute a high power committee for carrying an whole hog inspection at site and investigation in to the matter with members from the Central Pollution Control Board and Ministry of Environment, Forest and Climate Change, Govt. of India and any other independent authority;*

D) *An order restraining the Private Respondents from creating third party interest over any inch of space in the project 'Nirvana';*

E) *Such further order or orders as this Hon'ble Tribunal may deem fit and proper."*

4. An affidavit of compliance dated 24.11.2021 has been filed on behalf of the Additional District Magistrate & District Land and Land Reforms Officer, bringing on record an Inspection Report of an inspection carried out on 03.11.2021 by the Additional District Magistrate & DL & LRO, South 24 Parganas, Dy. DL&LRO, Block Development Officer Sonarpur, Environmental Engineer, WBPCB, District Engineer, Zilla Parishad, South 24 Parganas, Junior Engineer, Zilla Parishad, South 24 Parganas, Fisheries Extension Officer O/o Assistant Director of Fisheries, South 24 Parganas, Fisheries Extension Officer, Sonarpur, Block, BL & LRO Sonarpur, Revenue Inspector, Sonarpur, Sub-Inspector of Sonarpur Police Station, and the Applicant Mr. Ankur Sharma. The relevant observations recorded in the Inspection Report may be reproduced

herein below for proper appreciation of the case and which read as under:-

A) Report of the Block Land and Land Reforms Officer, Sonarpur Block:

The Block Land and Land Reforms Officer, Sonarpur Block, South 24 Parganas submitted the site-inspection report vide Memo No. 1511/BLR-SNP/2021 dated 12.11.2021, which states that:

i) Except for RS Plot. No. 221 (LR Plot No. 239) and part of RS Plot 219 (LR Plot No. 227 excluding LR Plot No. 237) of Mouza Raghabpur, JL No. 74, all other plots are Rayati in nature including the plots of Dhamaitala, JL 75.

ii) LR Plot 239 (RS 221) is vested to the state having classification 'Go-Bhagar' with a total of 0.19 acres. This plot has been taken within the boundary wall, but no construction has been made on that plot. The project owner claims that they have already prayed for LTS for the plot.

iii) LR Plot No. 227 (RS Plot No. 219) is also vested to state but outside the project area.

iv) Other plots under the project as mentioned at the enclosed sheet, are either Shali or Danga in nature and conversion was allowed for some plots by the competent authority at different times which has been verified from the conversion certificate produced by the project.

v) The waterlogged area at the south side of the project is of RS Plot No. 253 (LR Plot No. 270) and RS N o. 254 (LR Plot No. 271) is owned by the project owner but no records regarding conversion for those plots are available at this office. No construction was found on those plots and is separated planting tin sheets at the boundary of those plots.

Status of plots regarding O.A. No. 82/2021/EZ as per record and during inspection:

JL No.	Mouza Name	RS Plot No.	LR Plot No.	Recorded Classification	Classification after conversion	Status on the date of Inspection
74	Rabhabpur	197	282	Shali	Bastu	Construction going on
74	Raghabpur	202	218	Danga	Bastu	Construction going on
74	Raghabpur	203	230	Danga	Bastu	Construction going on
74	Raghabpur	217	234	Shali	Bastu	No ongoing construction
74	Raghabpur	218	236	Shali	Bastu	No ongoing construction
74	Raghabpur	220	238	Shali	Bastu	No ongoing construction
74	Raghabpur	230	243	Danga	No documents regarding conversion available at this office	No ongoing construction
74	Raghabpur	231	280	Danga	Bastu	Construction going on
74	Raghabpur	234	268	Shali	Bastu	Construction going on
74	Raghabpur	235	267	Shali	Bastu	Construction going on
74	Raghabpur	236	266	Danga	Bastu	Construction going on
74	Raghabpur	237	269	Danga	Bastu	Construction going on
74	Raghabpur	239	264	Danga	Bastu	Construction going on
74	Raghabpur	240	263	Danga	Bastu	Construction going on
74	Raghabpur	245	261	Danga	Bastu	Construction going on
74	Raghabpur	250	257	Danga	Bastu	Construction going on
74	Raghabpur	252	256	Danga	Bastu	Construction going on
74	Raghabpur	255	276	Danga	Bastu	Construction going on
74	Raghabpur	256	277	Danga	Bastu	Construction going on
74	Raghabpur	258	278	Danga	Bastu	Construction going on
74	Raghabpur	259	279	Shali	Bahutal Abasan	Construction going on
74	Raghabpur	260	281	Shali	Bastu	Construction going on
74	Raghabpur	271	325	Shali	No documents regarding	Construction going on

					conversion available at this office	
74	Raghabpur	244	253	Danga	Bastu	Construction going on
74	Raghabpur	246	260	Danga	Bastu	Construction going on
74	Raghabpur	243	252	Danga	Bastu	Construction going on
74	Raghabpur	232	244	Danga	No documents regarding conversion available at this office	No ongoing construction
74	Raghabpur	242	251	Danga	Bahutal Abasan	Construction going on
74	Raghabpur	219	227	Shali	No documents regarding conversion available at this office	No ongoing construction
74	Raghabpur	219	237	Shali	Bastu	Construction going on
74	Raghabpur	233	245	Danga	Bastu	Construction going on
74	Raghabpur	222	240	Shali	Bastu	Construction going on
74	Raghabpur	223	250	Shali	Bastu	Construction going on
74	Raghabpur	224	248	Shali	Bastu	Construction going on
74	Raghabpur	226	246	Danga	Bastu	Construction going on
74	Raghabpur	227	249	Danga	Bastu	Construction going on
74	Raghabpur	229	242	Danga	Bastu	Construction going on
74	Raghabpur	241	262	Danga	Bastu	Construction going on
74	Raghabpur	238	265	Danga	Bastu	Construction going on
74	Raghabpur	225	247	Danga	Bahutal Abasan	Construction going on
74	Raghabpur	228	241	Danga	Bastu	Construction going on
74	Raghabpur	253	270	Danga	No documents regarding conversion available at this office	Waterlogged area
74	Raghabpur	254	271	Shali	No documents regarding conversion available at this office	Waterlogged area
75	Dhamaitala	187	212	Danga	No documents regarding conversion available at	No ongoing construction

					this office	
75	Dhamaitala	186	210	Danga	No documents regarding conversion available at this office	No ongoing construction

B) Report submitted by the Fisheries Extension Officer, Sonarpur Block, South 24 Parganas:

The inspection report submitted by the Fisheries Extension Officer, Sonarpur Block, South 24 Parganas vide Memo No. 1907, dated 08.11.2021, mentions that 'no water body is found inside the project area which is being partly or completely filled. Besides this no record is found regarding water body inside the project area, the land classification is also mentioned as Sali and Basu. A water body is located in the back side i.e. the Southern side of the project. The said water body is perennial and it is in cultivable condition.'

C) Status Report of Environment Clearance (EC) submitted by the Environmental Engineer, WBPCB:

i) *The unit i.e., the M/s Raghabpur Projects LLP (Residential Complex 'Nirvana') of J.L. No. 74, Mouza-Raghabpur & JL No. 75, Mouza-Dhamaitala, has applied for Environment Clearance (EC) as required following its expansion project on 24.07.2019. total cumulative built up area of the project after expansion as applied in the application for EC is 49990 sq. m., out of which total built up area for Phase-I of the project is 19206.25 sq.m.*

ii) *Accordingly the unit has been issued the Stipulated Conditions for EC by State Environment Impact Assessment Authority (SEIAA) vide Memo No. 2281/EN/T-II-1/062/2019 dated 21.11.2019.*

iii) *Subsequently the unit submitted the Sanctioned Building Plans to State Level Expert Appraisal Committee (SEAC) on 05.04.2021.*

iv) *SEAC has issued a letter to the unit vide Memo No. 404-2N-54/2019 (E) dt. 26.04.2021 for submission of some relevant documents.*

v) *As per the record of WBPCB, the applied EC of the unit is yet to be granted."*

5. The Applicant thereafter has filed a rejoinder affidavit dated 30.12.2021 reiterating the averments made in his Original Application. In addition, he has alleged that he had received a memo on 28.10.2021 from the Additional District Magistrate and District Land and Land Reforms Officer, South 24 Parganas, informing him that an inspection was fixed on 03.11.2021 at 12:00 PM but it was not mentioned whether the District Magistrate, South 24 Parganas was authorized to carry out this inspection but it is admitted that the Applicant went to the site on the date and time of inspection and was present there during inspection. In para 7 of this affidavit, it is also stated by the Applicant that the water bodies though not recorded in the land records which were prepared decades back are actually present at the site, particularly on the South, North and East end/sides within the Project site. A water body was also present where the office of the Project was being constructed, wherein the inspecting officers were sitting along with the Applicant.

6. One affidavit dated 20.01.2022 has been filed on behalf of the Respondent No.6, SEIAA, West Bengal, wherein it is stated that the application for grant of Environmental Clearance for the Residential

Project 'NIRVANA' at Mouza-Raghabpur and Dhamaitala, P.S.-Sonarpur under Poleghat Gram Panchayat, District-South 24 Parganas, was made in the 'PARIVESH' portal of the Ministry of Environment, Forest and Climate Change bearing Proposal No. SIA/WB/MIS/107017/2019 by M/s Raghabpur Project LLP (Respondent No. 17 herein) on 26.07.2019. It is further stated that Phase-I of the Project has a Sanctioned Plan for 19,206.25 square meters and after expansion the total built up area will be 49,990 square meters. As per EIA Notification 2006, Schedule 8 (a) – Building Construction projects having a built up area 20,000 square meters or more would require Environmental Clearance. It is also stated that in the present case, since construction of Phase-I is stated to be below 20,000 square meters, therefore, this Project would not require Environmental Clearance. However, it is also stated that Environmental Clearance Application No. SIA/WB/MIS/107017/2019 dated 26.07.2019, is presently under appraisal before the State Expert Appraisal Committee (in short 'SEAC').

In the affidavit, it is also stated that an Inspection Report has been received from the West Bengal Pollution Control Board through their letter No. 593-2N-54/2019 (E) dated 01.09.2021 in which it is stated that the construction of Phase-I is going on and construction of Phase-II is yet to be started. A copy of the Inspection Report of the West Bengal Pollution Control Board has been filed as Annexure R-1 to this affidavit. The observations and remarks contained therein are reproduced herein and read as under:

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Observation:-

The project detail is as follows:

- *The project has a total built up area 49990 sq mtrs (phase 01 – 19206.25 sq mtrs & phase 02 – 30783.75 sq mtrs). The project thus turned into an EC attracting matter after it 2nd phase was included in addition to 1st phase, the built up area thus got finalized exceeding EC threshold area of 20,000 sq mtrs. The EC is still a pending matter. Its site is surrounded by vacant land to South & East, a Go-down to West and a local Mega City project to North. A single pond exists to the East of the Project area. The project has two phases. Phase 01 includes 125 Bunglows, each with G+1 structure. The phase 01 still has 08 Bunglows yet to be initiated, 17 Bunglows are under on-going construction and the rest of the project (Bunglows) are completed but by civil construction only. The phase 02 is yet to be started altogether which has plans for construction of 139 bunglows, each with G+2 structure and a club facility (new inclusion in proposal). The project is already provided with boundary walls on North & East and partly with such walls on South & West.*
- *During the inspection limited construction activities were found running.*
- *No provision of dust screens for the (terminal) construction activities was found. However, the granular construction materials at the site were found kept under cover. No sprinkler mechanism was found at the site.*
- *No batching plant or any other machinery was found at the site.*
- *The project is exclusively using fly ash bricks for construction.*

- *The project site has 01 no 650 KVA DG set.*
- *The project has plans for further (1) construction of internal drains with catch pits & a 200 KLD STP with MBBR mode of operation (2) Solar power catering to 1% of total land (3) Green cover for 8193.94 sq. mtrs. (4) Composting facilities for 945 kg/day solid waste generation (5) 05 nos. Rainwater harvesting tanks with 55 KL capacity for each.*
- *The roads for the project are yet to be constructed which during inspection was found extremely muddy & unpaved which made movements for inspection extremely difficult.*
- *No water body or wetland has been found at the project site or in the surrounded locality except the mentioned pond to the East. No existence of any pond filling operation was noted during inspection either. However, widespread over low of water from the pond into surrounding project zones following a heavy rainfall has been noted. The land documents corresponding to the project display only Bastu, Shali & Danga type of land character involved with the project.*

Remarks:-

The Project should not commence its Phase No. 2 without obtaining EC & corresponding other statutory approval including CFE of the Board.

The Project should follow all statutory norms related to Construction of Housing Projects including no filling up of any water body particularly the pond to the East."

Nayan Das, AAE Anindya Das Gupta, EE"

7. We have heard Mr. Ankur Sharma, the Applicant, who had appeared in person as well as the learned Counsel for the Respondents and perused the documents on record.

8. The submission of the Applicant, relying upon the satellite imagery and other documents to the Original Application, is that the land in question is a water body and is being illegally encroached upon by the Respondent Nos. 17 to 20 by making constructions of their project 'Nirvana'.

9. Referring to the documents filed by the Respondents and the Inspection Report, the Applicant further submitted that it is now admitted even by the Respondents that the Respondent Nos. 17 to 20 do not have an Environmental Clearance and that their matter for grant of Environmental Clearance is still pending before the SEAC, West Bengal. It is further submitted that the Phase-I of the construction covers an area of 19,206.25 square meters which is less than 20,000 square meters but so far as the Phase-II is concerned, the same measures 30,783.75 square meters which is more than 20,000 square meters and, therefore, requires an Environmental Clearance and without such Environmental Clearance, the Respondent Nos. 17 to 20 cannot proceed with their construction activity.

10. Mr. Dipanjan Ghosh, learned Counsel appearing for SEIAA, West Bengal, on the other hand, referring to the Inspection Report as well as the documents filed thereto, submitted that the Phase-I of the Project measures 19,206.25 square meters which is less than

20,000 square meters and, therefore, Environmental Clearance is not required. However, so far as Phase-II of the construction is concerned, it is stated that the area of Phase-II is 30,783.75 square meters which is more than 20,000 square meters and, therefore, would require an Environmental Clearance before construction can be started by the Respondent Nos. 17 to 20. It is also stated that the matter relating to grant of Environmental Clearance is still pending before the SEAC, West Bengal and, therefore, the apprehensions raised by the Applicant in the present Original Application are premature and wholly unfounded.

11. Mr. Dipanjan Ghosh further submitted that there is no water body or wetland at the site and none was found during inspection, rather there was widespread overflow of water from the pond into the surrounding project zones following heavy rainfall. Mr. Ghosh submitted that even the land documents of the land in question which were examined by the Committee only show the nature of land to be Bastu, Shali & Danga type of land character. The Committee also noted there was no filling of any water body, particularly pond to the East.

12. From a perusal of the documents on record, we find that Phase-I of the Project measures only 19,206.25 square meters and, therefore, as per the Environmental Clearance norms, Environmental Clearance is not required for any project below 20,000 square meters in the matter of construction of Housing Projects. So far as the Phase-II of the Project is concerned, the same

though measures 30,783.75 square meters and, therefore, would require Environmental Clearance since it exceeds the benchmark of 20,000 square meters but as of today, the matter relating to grant of Environmental Clearance for this Phase-II Project is still pending before SEAC, West Bengal. The Committee has also noted that there is no water body or wetland over the Project site in question and whatever water was found was due to water collecting after heavy rains. The land records also show the nature of land to be Bastu, Shali & Danga land character.

13. We may further observe that merely because the satellite imagery shows large patches of water over a particular area, which is the land in question, does not convert the said land into a water body or a wetland. A water body or wetland specifically is only that land which is recorded as such in the land revenue records. There is no documentary evidence on record in the nature of land record to show that the land in question is recorded as a water body or as a wetland.

14. From the Inspection Report, we may also note a very important factor, namely, that the inspection was carried out on 03.08.2021 which is the peak month of monsoon when rainfall is very heavy and in such wet conditions collection of water in large quantities over the land in question is possible and, in fact, that is what has happened in the present case also, as also been noted by the Inspection Committee in its Inspection Report. Merely because large areas of land including the land in question, is covered with

water does not convert the land into a water body or a wetland. We, therefore, reject the contention of the Applicant that the Respondent Nos. 17 to 20 have encroached upon a water body and are proceeding with their housing project by filling up an alleged water body.

15. Secondly, it is the own case of the Applicant that the website of the Department of Environment, Govt. of West Bengal, does not show that Environmental Clearance has been granted to the Project in question. This is the admitted case of the Respondents also that the application for grant of Environmental Clearance for the Residential Project 'NIRVANA' was made in the PARIVESH portal of the Ministry of Environment, Forest and Climate Change by M/s Raghabpur Project LLP on 26.07.2019 and the same is still pending for appraisal before the SEAC, West Bengal. This re-enforces the fact that till date no Environmental Clearance has been granted to the 'Nirvana' Housing Project of the Respondent Nos. 17 to 20.

16. The photographs which have been filed by the Inspection Team during inspection conducted on 03.08.2021 are with regard to bungalows under construction in Phase-I for which no Environmental Clearance is required since the area of Phase-I is below 20,000 square meters.

17. We may also note and it is also the admitted case of the Applicant himself that he was given adequate notice of the date and time of inspection that the same would be held on 03.08.2021 and

he was also present at the time when the Committee inspected the site in question and the same has been carried out in his presence.

18. On a conspectus of facts, therefore, we do not find any merit in the Original Application and the same is accordingly dismissed.

19. We also direct the West Bengal State Environment Impact Assessment Authority (SEIAA) in coordination with SEAC, West Bengal and West Bengal State Pollution Control Board, to ensure that the construction with regard to Phase-II shall not commence without a valid Environmental Clearance in that regard.

20. The I.A. No. 97/2021/EZ also stands disposed of accordingly.

21. There shall be no order as to costs.

.....
B. AMIT STHALEKAR, JM

.....
SAIBAL DASGUPTA, EM

Kolkata,
February 02, 2022,
Original Application No. 82/2021/EZ
(I.A. No. 97/2021/EZ)
AK

Annexure – F 93A

Project Report for Phase-1, 2 & 3

The project proponent is developing Plotted Development comprising of Bungalows & Club J. L. No - 08, Mouza - Chanda kanthalberia, Block- Bhangar II, P.S - KLC, Dist - 24 PGS(S), P.O - Kulberia, Kolkata-743 502, West Bengal.

Area of land	18701.73 sqm (Ph1-6794.82 sqm, Ph2-9015.52 sqm, Ph3- 2891.39)
Building Profile	**Bungalows:G+1 & Club:G+2 storied**
No. of Flats	71 nos. (3BHK– 14, 4 BHK-57)
Ground Coverage	**7245.08 sqm (38.74%)**
Tree Plantation Area	7140.76 sqm (38.18%)
Total Built Up Area	**14821.78 sqm (Ph1-5492.32 sqm, Ph2-7747.10 sqm, Ph3- 1582.36 sqm)**
Total Quantum of Water required	82 KLD
Fresh Water required	51 KLD
Wastewater Generation	48 KLD
Treated wastewater recycled	31 KLD
Quantity of wastewater Discharge	17 KLD
Quantity of Solid Waste Generation	235 kg/day
Constructional Phase Water Demand	18 KLD (Construction work – 15 KLD, Workers – 3 KLD)
Total Population During Construction	120 persons
Total Population During Operation	568 persons (Fixed: 485, Floating: 78, Service: 5)
Total No. of Car Parking provided	77 nos.
Electricity Load	534.4 KW (668 KVA)
Electricity Supplied By	WBSEDCL
Solar Energy	1% of total electrical load, about 7.5 KW
D.G. Sets	2 no. 320 KVA
Fuel (diesel) Required for D.G. Sets	102 litre/hr.
Stack Height for D.G. Sets above DG room	3.6 mt. for each 320 KVA
Cost of the project (In Lakhs)	8347

NOTARY SUMITRA CHATTACHARYYA City Civil Court Calcutta Regn. No. 05 of 2022 Govt. of West Bengal

Population

Sl. No.		Total no. of flats/ bua in sqm	Rate	Total Popu.	Ref:
1	**RESIDENTIAL**				
a	3 BHK Flats	14	6	84	NBC 2016- VOL 2, PART 9, Section 1, Page No. 11, Point 4 : Water Supply
b	4 BHK Flats	57	7	399	
c	**Residential (Fixed)**	**71**		**483**	

2	**Shop**				
a	Ground Floor	49.2	0.333	**17**	NBC 2016- VOL 2, PART 9, Section 1, Page No. 11, Point 4.1 (a) 1 Person per 3 sqm of ground floor
b	Total			**17**	
c	**Shop (Fixed) - 10% of total shop population**			**2**	NBC 2016- VOL 2, PART 9, Section 1, Page No. 11, Point 4.1 (b)
d	**Shop (Floating) - 90% of total shop population**			**15**	
3	**Cafeteria (floating)**	26.62	0.5556	**15**	
4	**Club (floating)**			**48**	Club will be used by the residents members only. Here we have assumed outside guests only as 10% of residential fixed population
5	**Total Fixed persons**			**485**	Sl. No.1(c) &2c
6	**Total Floating population**			**78**	adding Sl. No. 2(d), 3,4
7	**Service Persons**			**5**	1% of Sl. No. 5
			Total	**568**	by adding Sl. No.5,6&7

Water Supply, Wastewater Generation, Recycling and Discharge

Daily water demand of the proposed project during operation phase will be 82 KLD. Out of the total water demand 51 KLD will be the fresh water demand rest 31 KLD (Landscaping– 11 KLD; Car Washing – 2 KLD, Flushing – 11 KLD, Yard washing – 7 KLD) will be recycled from treated wastewater. The fresh water will be drawn from ground water source.

The total wastewater generated from this project during operational phase is around 48 KLD. The wastewater will be collected through a well-designed sewer network leading to STP, the design capacity of which is 100 KLD. The STP will be based on FAB/MBBR technology followed by tertiary treatment.

RECYCLED: 31 KLD (Landscaping– 11 KLD; Car Washing – 2 KLD, Flushing – 11 KLD, Yard washing – 7 KLD) Treated wastewater discharge to panchayat drain – 17 KLD.

	Total popu.	**Water Supply Rate (lpcd)**			**Total Water Requirement (litre/day)**			**Total**
		Domestic (lpcd)	**Flushing (lpcd)**	**Total lpcd**	**Total Domestic (litre/day)**	**Total Flushing (litre/day)**	**Total litre/day**	**KLD**
Residential (Fixed)	483	90	21	111	43470	10143	53613	53
Club (Floating)	48	25	20	45	1200	960	2160	2
Shop (Fixed) & Service Persons	7	25	20	45	175	140	315	1
Cafeteria (Floating)	15	55	15	70	825	225	1050	1
Shop (Floating)	15	5	10	15	75	150	225	1
Sub Total 1					**45745**	**11618**	**57363**	**58**

ANNEXURE - G

357/615

941

MANUAL ON SEWERAGE AND SEWAGE TREATMENT

(SECOND EDITION)

Prepared by:
THE EXPERT COMMITTEE

Constituted by:
THE GOVERNMENT OF INDIA

CENTRAL PUBLIC HEALTH
AND ENVIRONMENTAL ENGINEERING ORGANISATION

MINISTRY OF URBAN DEVELOPMENT
NEW DELHI
DECEMBER, 1993

3.2.3 Tributary Area

The natural topography, layout of buildings, political boundaries, economic factors etc., determine the tributary area. For larger drainage areas, though it is desirable that the sewer capacities to be designed for the total tributary area, some time, political boundaries and legal restrictions prevent the sewers to be constructed beyond the limits of the local authority. However in designing sewers for larger areas, there is usually an economic advantage in providing adequate capacity initially for a certain period of time and adding additional sewers, when the pattern of growth becomes established. The need to finance projects within the available resources may necessitate the design to be restricted to political boundaries. The tributary area for any section under consideration has to be marked on a key plan and the area can be measured from the map.

3.2.4 Percapita Sewage Flow

The entire spent water of a community should normally contribute to the total flow in a sanitary sewer. However, the observed Dry Weather Flow quantities usually are slightly less than the percapita water consumption, since some water is lost in evaporation, seepage into ground, leakage etc. In and regions, mean sewage flows may be as little as 40 percent of water consumption. In well developed areas, flows may be as high as 90% due to industrial wastes, changed water use habits etc. Generally 80% of the water supply may be expected to reach the sewers unless there is data available to the contrary. However, the sewers should be designed for a minimum waste water flow of 100 litres percapita per day. Industries and commercial buildings often use water other than the municipal supply and may discharge their liquid wastes into the sanitary sewers. Estimates of such flows have to be made separately. The details of requirements of water for institutions and industries is discussed in Chapter 2 of Manual on Water Supply and Treatment. Industrial wastes have to be treated to the standards prescribed by the regulatory authorities before being discharged into sewers. For some areas, it is safe to assume that the future density of population for design purpose to be equal to the saturation density. It is desirable that all sewers serving a small area be designed on the basis of saturation density.

Infiltration into sewer may occur through pipes, pipe joints and structures. The probable amount has to be evaluated carefully.

3.2.5 Flow Assumptions

The flow in sewers varies considerably from hour to hour and also seasonally, but for the purposes of hydraulic design it is the estimated peak flow that is adopted.

The peak factor or the ratio of maximum to average flows, depends upon contributary population and the following values are recommended.

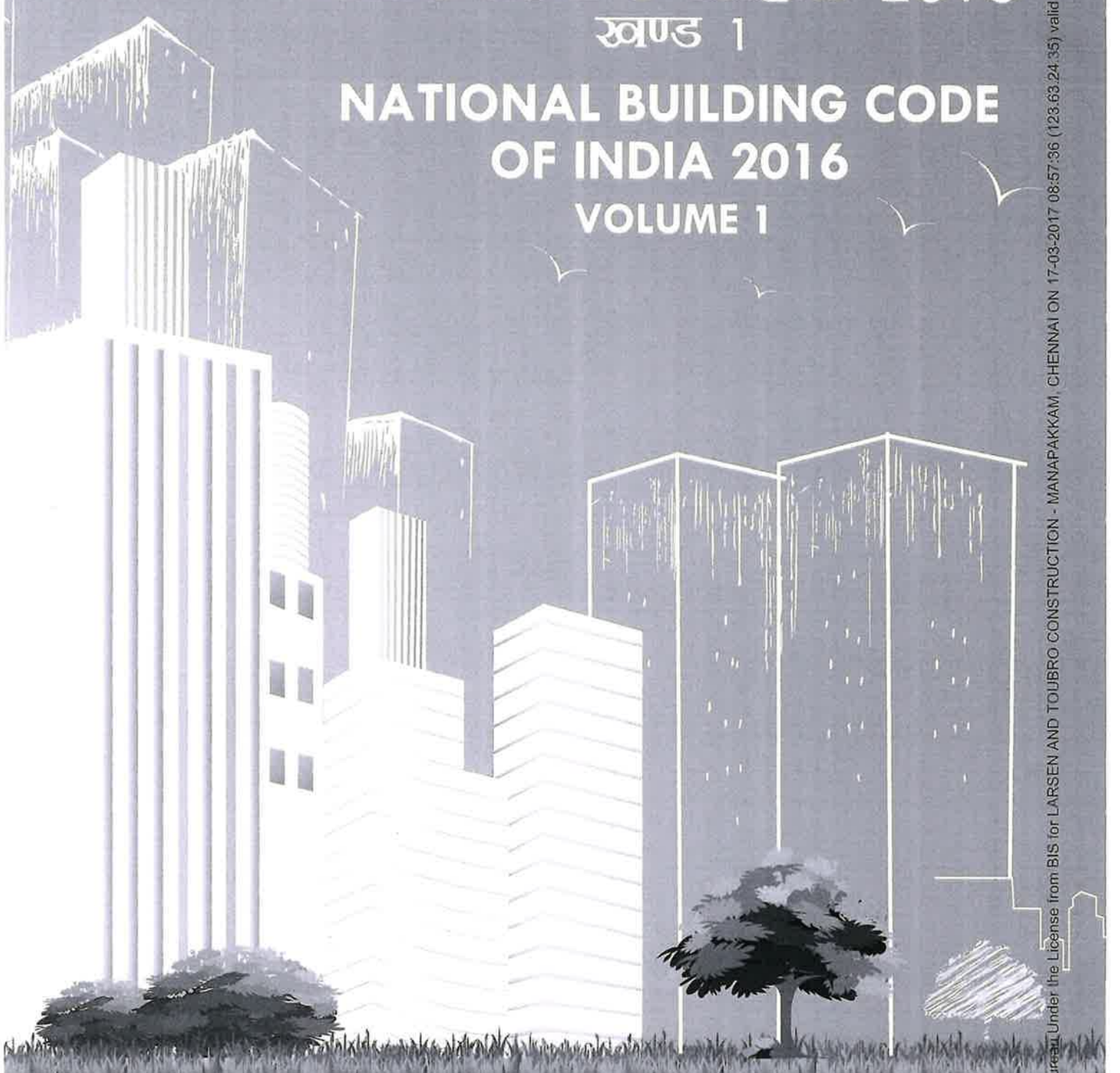
Contributory population	Peak Factor
Upto 20,000	3.0
20,000 to 50,000	2.5
50,000 to 7,50,000	2.25
Above 7,50,000	2.00

भारत की राष्ट्रीय भवन निर्माण संहिता 2016

खण्ड 1

NATIONAL BUILDING CODE OF INDIA 2016

VOLUME 1



भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

3.3.1.1 No individual, firm, partnership or corporation shall engage in the business of installing, repairing or altering plumbing unless the plumbing work performed in the course of such business is under the direct supervision of a licensed/registered plumber.

3.3.2 *Examination and Certification*

The Authority shall establish standards and procedure for the qualification, examination and licensing/ registration of plumbers and shall issue licences to such persons who meet the qualifications thereof and successfully pass the examination.

3.3.3 For guidelines for registration of plumbers including the minimum standards for qualifications for the grant of licences/registration, reference may be made to good practice [9-1(2)]. The Authority may also utilize the services of the certified plumbers who are certified for the required skill level under the appropriate scheme of the Government.

4 WATER SUPPLY

4.1 Water Supply Requirements for Buildings

The total quantity of water per day is estimated based on the proposed occupancy and activities catered. Designer has to identify all the possible sources for augmenting the shortfall in water supply. The analysis of available water is done to decide the treatment for consumption and treatment process depends on the quality of water and the purpose for which it is used.

Projection of population for each building shall be made on the basis of its usage. Population for each type of building shall be estimated on the basis of information obtained from the users. Alternatively, population may be worked on the following basis, for different type of buildings:

a) *Residential buildings:*

Accommodation	*Population Requirements*
1 bedroom dwelling unit	4
2 bedroom dwelling unit	5
3 bedroom dwelling unit	6
4 bedroom dwelling unit and above	7

NOTES

1 The above figures consider a domestic household including support personnel, wherever applicable.

2 For plotted development, the population may be arrived at after due consideration of the expected number and type of domestic household units.

3 Dwelling unit under EWS category shall have population requirement of 4 and studio apartment shall have population requirement of 2.

b) *Other than residential buildings:*

Occupancy	*Population Requirement*
Offices	1 person per 10 m^2 of floor area (*see* Note 1)
Schools	Strength of school + Teaching and non-teaching staff
Hostels	Number of beds + 4.5 x (warden's residence) - staff
Hotels	Number of beds + Staff + Requirement of restaurant seats
Hospitals	Number of beds + Staff + Patient attendants (generally population density per bed in secondary care hospital is 5, tertiary care is 7 and quaternary care is 9)
Mercantile	1 person per 3 m^2 of street floor and sales basement areas + 1 person per 6 m^2 of upper sale floors (Total population may be segregated into 10 percent for fixed and 90 percent for floating/visitors)
Traffic terminal stations	Average number of users per day (Total annual passenger traffic/365) + Staff + Vendors

NOTES

1 Where in there are multiple work shifts, the number of users within a 24 h period may be considered as per actuals.

2 Population of 5 to 15 percent, depending on the usage of building, shall be considered for visitors and floating population likely to use the buildings facilities.

4.1.1 *Water Supply for Residences*

A minimum of 70 to 100 litre per head per day may be considered adequate for domestic needs of urban communities, apart from non-domestic needs as flushing requirements (which varies based on type of building occupancy). As a general rule the following rates per capita per day may be considered for domestic and non-domestic needs:

a) For communities with population up to 20 000:
   1) Water supply through stand post: 40 lphd (*Min*)
   2) Water supply through house service connection: 70 to 100 lphd

b) For communities with population 20 000 to 100 000 together with full flushing system: 100 to 135 lphd

c) For communities with population: 150 to 200 lphd
above 100 000 together with
full flushing system

NOTE — The value of water supply given as 150 to 200 litre per head per day may be reduced to 135 litre per head per day for houses for Medium Income Group (MIG) and Lower Income Groups (LIG) and Economically Weaker Section of Society (EWS), depending upon prevailing conditions and availability of water.

4.1.1.1 Out of the 150 to 200 litre per head per day, 45 litre per head per day may be taken for flushing requirements and the remaining quantity for other domestic purposes.

4.1.2 *Water Supply for Buildings Other than Residences*

Minimum requirements for water supply for buildings other than residences shall be in accordance with Table 1.

Table 1 Water Requirements for Buildings Other than Residences
(*Clause* 4.1.2)

Sl No.	Type of Building	Domestic Per Day litre	Flushing Per Day litre	Total Consumption Per Day litre
(1)	(2)	(3)	(4)	(5)
i)	Factories including canteen where bath rooms are required to be provided	30 per head	15 per head	45 per head
ii)	Factories including canteen where no bath rooms are required to be provided	20 per head	10 per head	30 per head
iii)	Hospital (excluding laundry and kitchen) (*see* Note 2):			
	a) Number of beds not exceeding 100	230 per head	110 per head	340 per head
	b) Number of beds exceeding 100	300 per head	150 per head	450 per head
	c) Out patient department (OPD)	10 per head	5 per head	15 per head
iv)	Nurses' homes and medical quarters	90 per head	45 per head	135 per head
v)	Hostels	90 per head	45 per head	135 per head
vi)	Hotel (up to 3 star) excluding laundry, kitchen, staff and water bodies	120 per head	60 per head	180 per head
vii)	Hotel (4 star and above) excluding laundry, kitchen, staff and water bodies	260 per head	60 per head	320 per head
viii)	Offices (including canteen)	25 per head	20 per head	45 per head
ix)	Restaurants and food court including water requirement for kitchen:			
	a) Restaurants	55 per seat	15 per seat	70 per seat
	b) Food court	25 per seat	10 per seat	35 per seat
x)	Clubhouse	25 per head	20 per head	45 per head
xi)	Stadiums	4 per head	6 per head	10 per head
xii)	Cinemas, concert halls and theatres and multiplex	5 per seat	10 per seat	15 per seat
xiii)	Schools/Educational institutions:			
	a) Without boarding facilities	25 per head	20 per head	45 per head
	b) With boarding facilities	90 per head	45 per head	135 per head
xiv)	Shopping and retail (mall)			
	a) Staff	25 per head	20 per head	45 per head
	b) Visitors	5 per head	10 per head	15 per head
xv)	Traffic terminal stations (*see* Notes 3 and 4)			
	a) Airports	40 per head	30 per head	70 per head
	b) Railway stations (Junctions) with bathing facility	40 per head	30 per head	70 per head
	c) Railway stations (Junctions) without bathing facility	30 per head	15 per head	45 per head
	d) Railway Stations (Intermediate) with bathing facility	25 per head	20 per head	45 per head
	e) Railway Stations (Intermediate) without bathing facility	15 per head	10 per head	25 per head
	f) Interstate bus terminals	25 per head	20 per head	45 per head
	g) Intrastate Bus Terminals/Metro Stations	10 per head	5 per head	15 per head

NOTES

1 For calculating water demand for visitors, consumption of 15 litre per head per day may be taken.

2 The water demand includes requirement of patients, attendants, visitors and staff. Additional water demand for kitchen, laundry and clinical water shall be computed as per actual requirements.

3 The number of persons shall be determined by average number of passengers handled by stations, with due considerations given to the staff and vendors who are using these facilities.

4 Consideration should be given for seasonal average peak requirements.

5 The hospitals may be categorized as Category A (25 to 50 beds), Category B (51 to 100 beds), Category C (101 to 300 beds), Category D (301 to 500) and Category E (501 to 750 beds).

The water demand for the laboratory facilities will depend on actual requirements based on functional point of view.

4.1.3 *Water Supply Requirements of Traffic Terminal Stations*

The water supply requirements of traffic terminal stations (railway stations, bus stations, harbours, airports, etc) include provisions for waiting rooms and waiting halls. They do not, however, include requirements for retiring rooms. Requirements of water supply for traffic terminal stations shall be as per Table 1.

4.1.4 *Water Supply for Fire Fighting Purposes*

4.1.4.1 The Authority shall make provision to meet the water supply requirements for fire fighting in the city/ area, depending on the population density and types of occupancy. *See also* Part 4 'Fire and Life Safety' of the Code.

4.1.4.2 Provision shall be made by the owner of the building for water supply requirements for fire fighting purposes within the building, depending upon the height and occupancy of the building, in conformity with the requirements laid down in Part 4 'Fire and Life Safety' of the Code.

4.1.4.3 The requirements regarding water supply in storage tanks, capacity of fire pumps, arrangements of wet riser-cum-down comer and wet riser installations for buildings, depending upon the occupancy use and other factors, shall be in accordance with Part 4 'Fire and Life Safety' of the Code.

4.1.5 *Water Supply for Other Purposes*

4.1.5.1 Water supply in many buildings is also required for many other applications other than domestic use, which shall be identified in the initial stages of planning so as to provide the requisite water quantity, storage capacity and pressure as required for each application. In such instances information about the water use and the quality required may be obtained from the users. Some typical uses other than domestic use and fire fighting purposes are air conditioning, swimming pools and water bodies, and gardening. Treated water from sewage treatment plant, with suitable tertiary treatment, should be used for flushing purpose (with dual piping system), gardening purpose, cooling tower make up, and/or for other non potable usage.

4.1.5.2 The water demand for landscaping purposes is generally taken as 6 to 8 litre/m²/day for lawns. For shrubs and trees the above value can be reduced considerably.

4.2 Water Sources and Quality

4.2.1 *Sources of Water*

The origin of all sources of water is rainfall. Water can be collected as it falls as rain before it reaches the ground; or as surface water when it flows over the ground or is pooled in lakes or ponds; or as ground water when it percolates into the ground and flows or collects as ground water, or from the sea.

Contamination of water supplies can occur in the source water as well as in the distribution system after water treatment has already occurred. There are many sources of water contamination, including naturally occurring chemicals and minerals (for example, arsenic, radon, uranium), local land use practices (fertilizers, pesticides, concentrated animal feeding operations), manufacturing processes, and sewer overflows or wastewater releases. The presence of contaminants in water can lead to adverse health effects, including gastrointestinal illness, reproductive problems, and neurological disorders.

4.2.2 The water supplied shall be free from pathogenic organisms, clear, free from undesirable taste and odour, neither corrosive nor scale forming and free from minerals which could produce undesirable physiological effects. The quality of water to be used for drinking shall be as per accepted standard [9-1(3)].

4.2.3 For purposes other than drinking water if supplied separately, shall be absolutely safe from bacteriological contamination so as to ensure that there is no danger to the health of the users due to such contaminants.

For purposes other than drinking, where there is an overall risk of legionella growth, it is advisable that for cold water supplies, the temperature does not exceed 20°C and a minimum temperature of 55°C for hot water supplies be maintained at all points of network so as to ensure that it is absolutely safe from bacteriological contamination and there is no danger to the health of the users due to such contaminants.

4.2.4 *Waste Water Reclamation*

Treated sewage or other waste water of the community may be utilized for non-domestic purposes such as water for flushing, landscape irrigation, cooling towers of HVAC system, in fountains and recreational lakes where swimming is not allowed, and for certain industrial purposes after its necessary treatment to suit the nature of the use. This supply system shall be allowed in residences only if proper provision is made to avoid any cross-connection of this treated waste water with domestic water supply system. During use of treated waste water, it is recommended to have dual piping system to avoid cross-contamination.

4.2.4.1 *Treatment of waste water and usage of recycled water*

Waste water is generated by residential and other establishments like institutional, business, mercantile

In case of intermittent water supply, the following guidelines should be adopted for calculation of capacity:

1) When the supply is from main OHT, the capacity of individual OHT may be taken as half a day demand.

2) In case of all the other buildings (apartments, hotels, hospitals, and commercial), the capacity of UGT and OHT may be taken as one and a half days and half a day demand. Wherever raw water and treated water are stored in separate UGTs, the combined storage capacity shall be of one and a half days demand.

3) In case of sewage treatment plant, for treated water storage in respect of flushing, one day flushing demand shall be stored in UGT or treated effluent storage tank which is part of the plant, and half a day demand shall be stored in OHT.

For additional requirement of water storage for fire fighting purposes, reference may be made to Part 4 'Fire and Life Safety' of the Code.

NOTE — Minimum requirements for calculation of capacity of these storage tanks are as follows.

a) In case only OHT is provided, it may be taken as 33.33 to 50 percent of one day's requirement;

b) In case only UGT is provided, it may be taken as 50 to 150 percent of one day's requirement; and

c) In case combined storage is provided, it may be taken as 66.6 percent UGT and 33.33 percent OHT of one day's requirement.

4.4.11 Where the water supply distribution system is catering for separate potable water and flushing water supply, and where reclaimed or recycled treated water is being used within the building, it shall be considered as dual water supply system. In such cases, storages for flushing/reclaimed/recycled water shall be separated proportionately. Adequate measures and precautions shall be taken for physical segregation for sanitary purposes and to avoid cross-contamination in the distribution system and to prevent back contamination of water supply sources (*see* **4.5**).

4.4.12 When only one communication pipe is provided for water supply to a building, it is not necessary to have separate storage for flushing and sanitary purposes for health reasons. In such cases when only one storage tank has been provided, tapping of water may be done at two different levels (the lower tapping for flushing) so that a part of the water will be exclusively available for flushing purposes.

4.5 Protection of Water Supply

4.5.1 *General*

The water supply system shall be designed, installed and maintained in such a manner so as to prevent contamination from non-potable liquids, solids or gases being introduced into the potable water supply system through cross-connections or any other connection to the system.

4.5.2 *Plumbing Fixtures*

The water supply lines and fittings for plumbing fixtures shall be installed so as to prevent back flow and shall provide required back flow protections in accordance with **4.11**.

The devices, appurtenance intended for special function such as sterilization, processing, distillation, etc, shall be provided with back flow protection devices.

The water supply for hospital fixtures shall be protected against backflow with a reduced pressure principle back flow assembly, an atmospheric or spill resistant vacuum breaker assembly, or an air gap. Vacuum breakers for bed pan washer hoses shall not be located less than 1 525 mm above floor. Vacuum breakers for hose connections in health care or laboratory areas shall not be less than 1 800 mm above floor.

4.5.3 *Cross-Connection Control*

Cross-connections shall be prohibited, except where approved back flow prevention assemblies/devices are installed to protect the potable water supply (*see* **4.11**).

Potable water outlets and combination stop and waste valves shall not be installed underground or below grade. Freeze proof yard hydrants that drain the riser into the ground are considered to be stop and waste valves.

Back flow prevention can be achieved by means of providing proper air gap, reduced pressure principle back flow prevention assemblies, back flow preventer with intermediate atmospheric vent, barometric loop, pressure vacuum breaker assemblies, atmospheric type vacuum breakers, double check back flow prevention assemblies, spill resistant pressure vacuum breaker, dual check back flow preventer, etc.

4.5.4 *Identification of Non-Potable Water Systems*

Where non-potable water systems are installed, the piping conveying the non-potable water shall be identified either by colour marking, metal tags or tapes in accordance with the relevant standards and good engineering practices.

4.6 Materials, Fittings and Appliances

4.6.1 *Standards for Materials, Fittings and Appliances*

All materials, water fittings and appliances shall conform to Part 5 'Building Materials' of the Code.

4.6.2 *Materials for Pipes*

Pipes may be of any of the following materials:

a) Cast iron, vertically cast or centrifugally (spun) cast;

b) Steel (internally lined or coated with bitumen or a bituminous composition, and out-coated with cement concrete or mortar, where necessary);

c) Ductile iron, internally lined;
d) Reinforced concrete;
e) Prestressed concrete;
f) Galvanized mild steel tubes;
g) Copper;
h) Brass;
j) Wrought iron;
k) Stainless steel;
m) Polyethylene;
n) Unplasticized PVC;
p) Chlorinated PVC;
q) Polypropylene-random copolymer (PPR);
r) Composite pipes (PE-AL-PE) or any other combination;
s) Cross-linked polyethylene (PEX); or
t) Polybutylene pipe.

4.6.2.1 The material chosen shall be resistant to corrosion, both inside and outside or shall be suitably protected against corrosion.

4.6.2.2 Polyethylene and unplasticized PVC pipes shall not be installed near hot water pipes or near any other heat sources. For temperature limitations in the use of polyethylene and unplasticized PVC pipes to convey water, reference may be made to accepted standards [9-1(5)].

4.7 Design of Distribution Systems

4.7.1 *General*

For designing the distribution system, the following guidelines, in addition to those given in **4.7.2** to **4.7.6** shall be followed:

a) All plumbing systems in buildings shall conform to the general requirements given in **3.1**.
b) Peak factor for calculation in case of intermittent flows may generally be adopted in design as 2 to 3.
c) The residual head at consumer's tap shall be as per **3.1.2**.

4.7.2 *Rate of Flow*

One of the important items that needs to be determined before the sizes of pipes and fittings for any part of the water piping system may be decided upon, is the rate of flow in the service pipe which in turn depends upon the number of hours for which the supply is available at sufficiently high pressure. If the number of hours for which the supply is available is less, there will be large number of fittings in use simultaneously and the rate of flow will be correspondingly large.

The data required for determining the size of the communication and service pipes are,

a) the maximum rate of discharge required;
b) the length of the pipe; and
c) the head loss by friction in pipes, fittings and meters.

4.7.3 *Discharge Computation*

4.7.3.1 *Design of consumer's pipes based on fixture units*

The design of the consumers' pipes or the supply pipe to the fixtures is based on,

a) the number and kind of fixtures installed;
b) the fixture unit flow rate; and
c) the probable simultaneous use of these fixtures.

The rates at which water is desirably drawn into different types of fixtures are known. These rates become whole numbers of small size when they are expressed in fixture unit.

The water supply fixture units (WSFU) for different sanitary appliances or groups of appliances are given in Table 2.

4.7.3.2 *Probable simultaneous demand*

The possibility that all water supply taps in any system in domestic and commercial use will draw water at the same time is extremely remote. Designing the water mains for the gross flow will result in bigger and uneconomical pipe mains and may not be necessary. A probability study made by Hunter suggests the relationship shown in Fig. 2 and Table 3. In the absence of similar studies in India, the curves based on Hunter's study may be followed. In making use of these curves, special allowances are made as follows:

a) Demands for service sinks are ignored in calculating the total fixture demand.
b) Demands of supply outlets such as hose connections and air conditioners through which water flows more or less continuously over a considerable length of time shall be added to the probable flow rather than the fixture demand.
c) Fixtures supplied with both hot and cold water exert reduced demands upon main hot water and cold water branches (not fixture branches).

4.7.3.3 The maximum flow rate and flush volumes shall be as given below:

Plumbing Fixtures/Fittings	*Maximum Flow Rate*
Water closets	6 litre/flush
Urinals	3.8 litre/flush
Lavatory, metered faucet (Public)	1 litre/use
Lavatory, faucet (Private)	8 litre/min
Sink, faucet	8 litre/min
Bidet, hand held spray	8 litre/min
Shower head	10 litre/min

NOTE — The maximum flow rates of plumbing fixtures and fittings provided are at the pressure of 0.42 N/mm^2. Water closet with dual flush cistern and urinals with reduced flush volumes are recommended. Further, users/ designers are encouraged to use low flow fixtures.

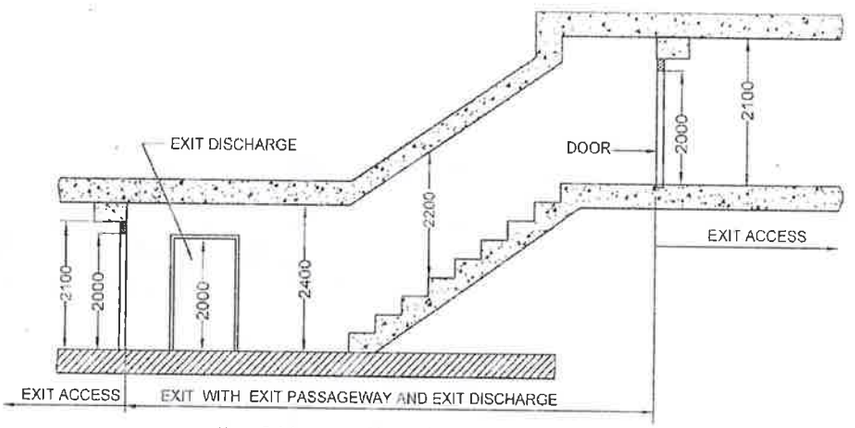


FIG. 5 MINIMUM HEAD ROOM MEASUREMENT

occupancy above to the basement, door openings leading to the basement shall need to be protected with fire doors with 120 min fire rating, except for exit discharge doors from the basements.

4.3 Occupant Load

For determining the exits required, the number of persons within any floor area or the occupant load shall be based on the actual number of occupants declared, but in no case less than that specified in Table 3. The occupant load of a mezzanine floor discharging to a floor below shall be added to that floor occupancy and the capacity of the exits shall be designed for the total occupancy load thus established.

The occupant load of each story considered individually

Table 3 Occupant Load
(*Clauses* 4.3 *and* 4.4.2.1)

Sl No.	Group of Occupancy	Occupant Load Factor (m^2/person) (*see* Note 1)
(1)	(2)	(3)
i)	Group A: Residential	12.50
ii)	Group B: Educational	4.00
iii)	Group C: Institutional (*see* Note 2):	
	a) Indoor patients area	15.00
	b) Outdoor patients area	10.0
iv)	Group D: Assembly:	
	a) Concentrated use without fixed seating	0.65
	b) Less concentrated use without fixed seating (*see* Note 3)	1.40
	c) Fixed seating	see Note 4
	d) Dining areas and restaurants with seating and table	1.80
v)	Group F: Mercantile:	
	a) Street floor and sales basement	3.00
	b) Upper sales floor	6.00
	c) Storage/warehouse, receiving and the like	20.00
vi)	Group E: Business	10.00
vii)	Group G: Industrial	10.00
viii)	Group H: Storage (*see* Note 5)	30.00
ix)	Group J: Hazardous	10.00

NOTES

1 Gross area shall be the floor area as defined in **2.35**. All factors expressed are in gross area unless marked net.

2 Occupant load in dormitory portions of homes for the aged, orphanages, insane asylums, etc, where sleeping accommodation is provided, shall be calculated at not less than 7.5 m^2 gross floor area/person.

3 These shall include gymnasium, table tennis room, billiard room and other gaming rooms, library, swimming pool and like.

4 In case of assembly occupancy having fixed seats, the occupant load shall be determined by multiplying the number of seats by 1.2.

5 Car parking areas under occupancy other than storage shall also be 30 m^2 per person.

a) Sanitation system for internal cleaning of chutes, with sprinklers at every floor intake level, with disinfectant cleaning, which may preferably be automatic in operation;

b) Exhaust system with 25 to 35 air changes per hour;

c) Discharge end fire resistant door;

d) Chute may be of masonry, R.C.C. pipe, asbestos cement pipe or suitable non-corrosive material, preferably stainless steel. It should be rigid with smooth internal finish, high ductility and alkali/acid resistant properties [*see also* good practice [9-3(2)]];

e) Fire rating shall comply with **3.4.8.3** of Part 4 'Fire and Life Safety' of the Code;

f) Fire sprinklers shall be provided inside chute;

g) Vent shall be installed at roof level to remove foul smell and gases generated;

h) Chute should discharge to trolley directly;

j) Necessary automation of the system may be planned to avoid malfunction by manual operation; and

k) All care shall be taken for ensuring accessibility to the chute for persons with disabilities. The opening of the chute shall not be higher than 700 mm and there shall be a clear space of minimum 1 500 mm × 1 500 mm in front of the chute opening to gain easy access even for persons using wheelchairs. There may be high colour contrast provided around the chute opening to make it easy to identify it. The flooring in front of the chute opening may be texturally highly different from the rest of the floor.

4.3.3 *Refuse Collection Chamber*

The collection chamber may be located in ground floor or basement level, provided appropriate arrangement is made for drainage of the collection pit by gravity flow to ensure its dryness, an appropriate ramp access is provided for convenient removal of garbage from the collection pit, and satisfactory ventilation is provided for escape of gas and odour.

The floor of the chamber shall be provided with drainage through a 100 mm diameter trap and screen to prevent any solid matters flowing into the drain and the drain shall be connected to the sewer line. The floor shall be finished with smooth hard surface for convenient cleaning.

The height of the collection chamber and vertical clearance under the bottom level of garbage chute shall be such that the garbage trolley can be conveniently placed.

The collection chamber shall be provided with appropriate shutter to prevent access of scavenging animals like cattle, dogs, cats and rats.

4.3.4 *Refuse Collection Room*

The refuse collection room should be planned in ground or basement level with appropriate ventilation and proper drainage. The room should have access for vehicle or trolley transfer of garbage.

4.3.5 *See also* accepted standards [9-3(3)].

4.4 Dumb-Waiter or Service Lift

In high rise buildings with more than 5 storeys, electrically operated dumb-waiters may be used for carrying domestic garbage in packets or closed containers. For handling of garbage by dumb-waiters in a building, a garbage chamber shall have to be provided either at ground floor or basement level and the provisions of garbage collection chamber for chute as given in **4.3** shall apply.

5 ASSESSMENT OF PER CAPITA WASTE QUANTITY

5.1 For purposes of this Section, the following municipal refuse generation rates are recommended:

a) Residential refuse : 0.3 to 0.6 kg/capita/day
b) Commercial refuse : 0.1 to 0.2 kg/capita/day
c) Street sweepings : 0.05 to 0.2 kg/capita/day
d) Institutional refuse : 0.05 to 0.2 kg/capita/day

Out of the total solid waste generated, 40 percent may be taken as organic waste and 60 percent as inorganic waste. The knowledge of chemical characteristics of waste is important for selecting and designing the waste processing and disposal facilities.

5.2 These generation rates are subject to considerable site-specific factors and are required to be supported by field data. The waste contains a high percentage of ash and fine earth. The calorific value of Indian solid waste varies between 800 and 1 000 kcal/kg and the density varies between 300 and 500 kg/m^3.

5.3 Other than municipal solid waste, the following types of waste may also be generated in urban centers:

a) *Industrial waste* — Hazardous and non-hazardous waste from industrial areas within municipal limits.

b) *Bio-medical waste* — Waste from hospitals, slaughter houses, etc.

c) *Thermal power plant waste* — Fly ash from coal-based electricity generating plant within municipal limits.

Water Efficient Plumbing Fixtures — Mandatory Requirement 1

Intent:

Minimise dependence on municipal and bore water, by reducing water consumption.

Compliance Options:

Option 1:

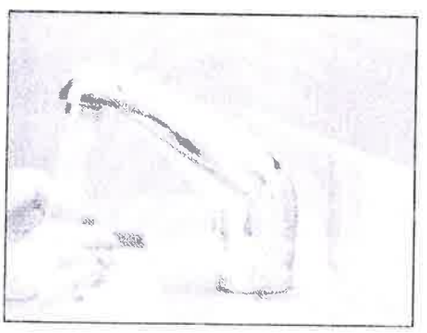
1. Install GreenPro Ecolabelled water efficient plumbing fixtures (or) plumbing fixtures having flow rates **5 % lower than the baseline flow rates** specified by Uniform Plumbing Code.
2. Incase plumbing fixtures which are not Ecolabelled are proposed for use, provide details of flow rates along with test certificates for the manufacturer.

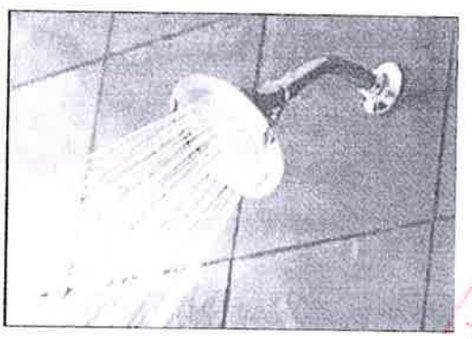
   Note: Treated water from STP should not be considered to show this compliance

Baseline Flow Rates / Capacity as per Uniform Plumbing Code of India (UPCI)

Fixture Type	Maximum Flow Rate / Capacity	Duration	Daily Uses per Person/ Day
Water Closets	**6 LPF (High flush)**	**1 Flush**	**1**
	3 LPF (Low flush)	1 Flush	1
Health Faucet/ Bidet, Hand-held spray*	6 LPM	15 Seconds	1
Faucet/ taps*	6 LPM	15 Seconds	8
Kitchen Sink*	6 LPM	15 Seconds	6
Urinal*	4 LPF	1 flush	2
Showerhead* / Hand-held Spray*	10 LPM	8 Minutes	1

Source: Uniform Plumbing Code – India, 2016 ** At a design pressure of 4 bar*





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ASSOCHAM
Celebrating 100 Years

Principle 10: Install Low Flow Water Fixtures

7 points

Aim: Project should install low flow water fixtures to reduce the demand of potable as well as non-potable water.

Requirements:

1. Install efficient water fixtures with flow rates not more than the values listed below: **(1 point for each product)**

I. Water Closets should be dual flush type with flush rates 4.6 LPF and 2.6 LPF

II. Health Faucets = 6.5 LPM at a design pressure of 3 bar

III. Kitchen Sink Faucets = 4.5 LPM at a design pressure of 3 bar

IV. Wash Basin Faucets = 4.5 LPM at a design pressure of 3 bar

V. Showers (all types) = 6.5 LPM at a design pressure of 3 bar

VI. Urinals = 1.5 LPF

2. Install sensor based water fixtures (sink/ basin faucets/ urinals) with above flow rates in the common area applications. **(1 point)**

All other water fixtures that are intended to fill the bucket and/ or bath tub can be excluded from above requirements.

Calculations and Methodology:

Install low flow and flush water fixtures in the project to reduce the potable and non-potable water demand. Water flow restrictors/ aerators can also be installed in the high flow fixtures to make them appropriate as per the Principle requirements mentioned above.

Documents to be submitted:

1. Trade catalogue or brochure of water fixtures
2. Trade catalogue or brochure of aerators installed in the water fixtures if applicable
3. Purchase bills/ Invoice of water fixtures with exact make and codes of the products at the time of final certification
4. Site photographs of water fixtures confirming the installation at the time of final certification

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Characteristic	Designated use class of inland waters				
	A	B	C	D	E
Free ammonia (as NH_3), mg/l				1.2	-
Conductivity at 25°C microhm/cm max.				1000	2250
Arsenic (as AS), mg/l max.	0.05	0.2	0.2		-
Iron (as Fe), mg/l	0.3		50		-
Fluorides (as F), mg/l	1.5	1.5	1.5		-
Lead (as Pb), mg/l Max	0.1		0.1		
Copper (as Cu), mg/l	1.5		1.5		
Zinc (mg/l), max	1.5		1.5		
Manganese (as Mn), mg/l	0.5				
Total dissolved solids (mg/l)	500		1500		2100
Total Hardness (as $CaCO_3$), mg/l	300				
Magnesium (as Mg), mg/l	100				
Chlorides (as Cl), mg/l	250	600			600
Cyanides (as CN), mg/l	0.05	0.05	0.05		

A- Drinking water sources without conventional treatment but after disinfecting

B- Outdoor Bathing (Organised)

C- Drinking water source with conventional treatment followed by disinfecting

D- Propagation of wildlife, fisheries

E- Irrigation, industrial cooling

2.3.3 Water use reduction

To estimate the reduction in water use achieved by the building by following the mitigation measures, use following steps:

Step 1: Estimate total water demand based on the occupancy and type of building

Step 2: List various efficient fixtures and other measures

Step 3: Calculate demand reduction as compared to the BIS per capita water consumption

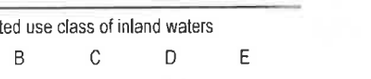
Under normal conditions, water consumption per person for flushing is 45 litres (9 litre/flush with 5 number of uses).

With efficient fixture (3 and 6 litre/flush), water use is 21 litre (3 litre/flush with 3 uses and 6 litre /flush with 2 uses).

Water use per person for washing with normal fixture with a flow rate of 20 litres per minute is 40 litre (assuming use for 2 minutes), while with efficient fixture (flow rate of 7.5 lpm) is 15 litres.

Table 2.4 : Estimation of water use reduction

Category	Consumption (lpcd)	Reduced Consumption (lpcd)	Reduction (%)
Human consumption	7	7	
Bathing	20	20	
Flushing	45	21	53%
Washing	40	15	62%
Miscellaneous	23	23	
Total	135	86	36%



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Manual on norms and standards for environment clearance of large construction projects

Ministry of Environment and Forests,
Government of India

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CHAPTER 2 Water management

2.0 Introduction

In India, there is a growing demand on the existing water resources, which includes the river water sources, precipitation and ground water sources. Estimates reveal that by 2020, India's demand for water will exceed all sources of supply. It is projected that India would fall into the water-stressed category by 2025. Per capita water consumption in 1990 was 2,464 m^3 per capita per annum, but by 2025 with an expected population of 1.4 billion, it will almost certainly be in the stress category with less than 1,700 m^3 per capita per annum. The demand supply gap by 2050 shall be about 50 billion m^3 which translates into nearly 0.3 billion individuals foregoing water (assuming a per capita requirement of 150 L/ day). In addition to the huge gap in demand-supply, the distribution across various regions and zones of cities is highly varied.

2.1 Issues of concern

Water is the most important component for any society and is an important sustainable development indicator. The objective of any planned development should be to provide and ensure adequate, reliable and good quality potable water to its inhabitants. Water use in a residential building includes the demand for human consumption, cleaning, washing, flushing and gardening. The proportion of water use for various applications is shown in Figure 2. 1. For the commercial and institutional buildings, the additional demand include those for the utilities such as air conditioning, fire protection etc. It is important that any sustainable urban development project should integrate the sustainable and environment friendly water management plan at the design stage

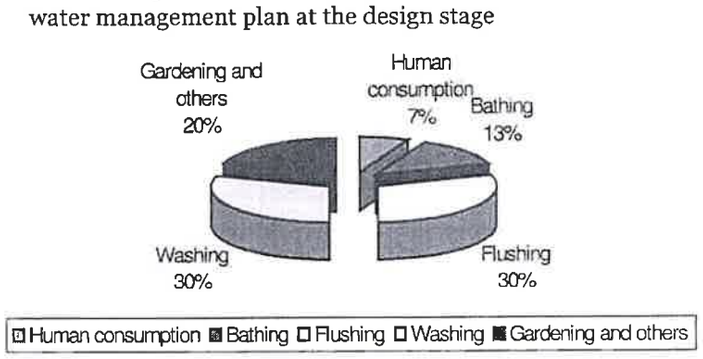

Figure 2.1: Water use in buildings

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2.2 Scope of the section

Water management includes various aspects such as water conservation, wastewater treatment, rainwater harvesting, reuse and recycling of water etc. The objective of this section of the manual is to give guidelines to the developers and builders, on various aspects of water management. This section covers following issues:

1. Minimizing the demand of water required within building, landscape, process (air-conditioning etc) and construction.
2. Techniques, best practices and standards for recycling of wastewater
3. Minimize the load on the municipal supply and groundwater sources through recycling of water
4. Techniques for rainwater harvesting including estimation of the potential of rainwater harvesting for different region.
5. Measures for quality control of various water source such as fresh water, underground water, municipal, tankers, rainwater and recycled water.

2.3 Mitigation technology options

2.3.1 Water conservation within buildings

Minimizing the water demand within buildings is the first and foremost step in water management. Water conservation helps to ensure that this important resource will be available for many generations to come. Conserving water also indirectly saves energy, which is needed to process, treat, transport and in cases of areas having cold climate to heat water. Hence to have the maximum savings, optimal and economical use of water through water conservation should be the priority of the new constructions. In addition to technical measures such as use of water efficient domestic appliances, there is a need to create awareness and to educate people to address water leakage problems through proper maintenance of fixtures.

2.3.1.1 Water usage within buildings.

In India, the average domestic water consumption is 4.1% of the total water use. As per the Bureau of Indian Standards, the per capita water requirement varies with building type.
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 may be taken for flushing requirements and the remaining quantity for other domestic purposes.

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For the other types of buildings, the water requirement varies between 30 to 340 LPCD. The details of the water demand of other buildings is given in Table 2.1.

Table 2.1: Water requirements for different types of buildings

Sl. No	Type of Buildng	Consumption (litres/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

2.3.1.2 Quantification of water demand in buildings

For every new development/construction, the initial step should be to assess the impact of the development on the available water resource. The amount of water demand can be calculated based on the occupancy of the building and the per capita consumption as given by BIS for different categories.

Total quantity of water used= Occupancy x Quantity (LPCD)

2.3.1.3 Water saving practices and their potential

Water usage for applications such as flushing, bathing and washing is as high as 93% of water demand in any building. However, measures can be adopted to reduce this demand through use of water efficient practices and devices (efficient plumbing fixtures). These would result in significant saving of water and contribute towards protection of the environment. Some of the common practices and devices that can save water are covered below:

1. 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. This would also enable the user to identify if there are any points of leakages.
2. 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

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conventional fixtures used in toilets use water at the rate of 12-15 litres per flush. In normal scenario, the taps and showerheads in buildings consume water at the rate of 20 litres of water per minute. The flow rates of these fixtures depend on the pressure at which these are operated. However there exists the opportunity to lower the consumption through the use of following efficient fixtures:

- Low flow flushing systems: Water consumption is more for flushing applications in any building. Use of more efficient water saving toilets having dual flush system can result in a saving of atleast 50% of water. Dual flush systems can be installed in order to allow different volume of water for flushing liquids and solids. To facilitate efficient cleaning at low volume, it is possible to install suitable water closets.
- Sensor based fixtures: Sensors based fixtures functions only in the presence of user. Various types of sensor based technologies are magic eye sensor for urinals, solenoid self-operating valves etc. Infrared and ultrasonic sensors discharge a set amount of water only when the taps are being used thus resulting in water saving as compared to manually operated valves. In addition to its advantage in reducing water consumption, sensor-operated taps also result in better hygiene particularly in a public place.
- Urinals: By using automated flushing urinals usage of water is very high. By replacing these with sensor-based urinals such as magic eye sensor, the water use is reduced to 0.4 litres per flush. In place of conventional urinals, if the low flow urinals are used, water saving amounts to 3 litres per flush.
- Waterless urinals: Waterless urinals are an efficient technique to save water. The system works without any water but with the use of biodegradable liquid in the cartridge fitted at the bottom of the urinal. Each cartridge is adequate for 7000 uses.
- Water taps: A normal tap works at a flow rate as high as 20 lpm. Use of low flow faucets along with other water saving devices such as auto control valves, pressure reducing devices, aerators and pressure inhibitors for constant flow, magic eye solenoid valve, self operating valves can result in 25 – 50% of water savings.
- Showerheads: In a conventional shower, water is delivered at the rate of 20 litres of water per minute at a pressure of 60 psi. A significant reduction in water consumption is possible through use of low flow shower which results in a flow of 7.5 lpm at design pressure of 80 psi. Flow restrictors and temporary cut-off valves can further save water. In addition to the use of low water

consuming fixtures, it is also possible to introduce other features such as aerators, use of spray nozzles, automatic shut-off nozzles and pressure reducing valves along with these fixtures.

- Tap aerators: Tap aerators can be effective by facilitating cleaning through increasing the pressure at which the water is delivered even at low flow rates. Installation of flow regulators can be done where the aerators cannot be installed.
- Auto control valves: Automatic shut-off valves can be used to control the flow of water for a preset time limit and with use, which is linked to the release of the lever or handle.
- Pressure reducing device: The reducers can be used to control the pressure in the water line, which will affect the discharge rate and also to maintain uniform flow at different levels. A pressure reduction device can be installed when the pressure in the line exceeds 50-60 psi. It is observed that a reduction of pressure from 80 to 65 and 50 psi can result in a reduction of water flow of 10% and 25%, respectively.

2.3.1.4 Other appliances

Water efficient washing machines

One of the most effective water saving mechanisms in clothes washers is a horizontal- axis tub or drum. These kind of machines can clean as many clothes as comparable vertical axis or 'agitator washers', but with less water. Manufacturers estimates of water saving obtainable with horizontal axis washing machines range from one-third to one-half the water and energy used by conventional, vertical axis machines. These types of machines can be used in big hotels etc.

2.3.1.5 Dual pipe plumbing

Introduction of dual pipe in the buildings for use of water with different water quality namely ground water with high hardness, municipal supply water, treated soft water and recycled water can result in optimal use of water for different applications thus saving on the high quality water. Installation of dual pipe plumbing for using recycled water / rain water can save the potable water from municipal supply or ground water. 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. This results in saving of more than one-third of fresh water demand and life of existing sewerage can be improved and also promotes decentralized treatment system. This system needs space for establishment and initial investment and retrofitting.

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2.3.2 Water quality

In addition to providing adequate water supply for building occupants, quality of water is also a key concern. Bureau of Indian Standards has recommended a set of parameters, which should be complied with. These are given in Table 2.2.

Table 2.2 Standards for drinking water

Parameter	Drinking water
Total hardness (as $CaCO_3$) (mg/litre)	300
Total dissolved solids (mg/litre)	500
Chlorides as chlorine (mg/litre)	250
Colour (hazen)	5
Turbidity (NTU)	5
Alkalinity (mg/l)	200
Calcium (as Ca), mg/l	75
Boron (mg/litre)	1
Sulphates (as SO_4)(mg/litre)	200
Nitrates (as NO_3) (mg/litre)	45
Conductivity at 25° C (us/cm)	-
PH	6.5 – 8.5
Anionic detergents as MBAS (mg/l)	0.2
Arsenic (mg/litre)	0.05
Iron (mg/litre)	0.3
Fluorides (mg/litre)	1
Lead (mg/litre)	0.05
Copper (mg/litre)	0.05
Zinc (mg/litre)	5
Phenolic compounds (as C_6H_5OH) (mg/l)	0.001
Cyanide (mg/l)	0.05
Chromium (mg/l)	0.05

Source: IS: 10500:1991

Further as per the CPCB, water quality standards for different classes of inland waters have been given for different applications which should be followed. (Table 2.3)

Table 2.3 Water quality standards for freshwater classification

Characteristic	Designated use class of inland waters				
	A	B	C	D	E
Dissolved oxygen (mg/l), minimum	6	5	4	4	-
pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
Biochemical oxygen demand (5 days at 20°C), mg/l	2	3	3	-	-
Total coliform organisms, MPN/100 max.	50	500	5000	-	-
Colour Hazen units	10	300	300	-	-
Chlorides (as Cl), mg/l, maximum	250	-	600	-	600
Sodium absorption ratio, max	-	-	-	-	600
Boron(as B), mg/l Max					2
Sulphates (as SO_4), mg/l	400		400		1000
Nitrates (as NO), mg/l max	20		50		-

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Characteristic	Designated use class of inland waters				
	A	B	C	D	E
Free ammonia (as NH_3), mg/l				1.2	-
Conductivity at 25°C microhm/cm max.				1000	2250
Arsenic (as AS), mg/l max.	0.05	0.2	0.2		-
Iron (as Fe), mg/l	0.3		50		-
Fluorides (as F), mg/l	1.5	1.5	1.5		-
Lead (as Pb), mg/l Max	0.1		0.1		
Copper (as Cu), mg/l	1.5		1.5		
Zinc (mg/l), max	1.5		1.5		
Manganese (as Mn), mg/l	0.5				
Total dissolved solids (mg/l)	500		1500		2100
Total Hardness (as $CaCO_3$), mg/l	300				
Magnesium (as Mg), mg/l	100				
Chlorides (as Cl), mg/l	250	600			600
Cyanides (as CN), mg/l	0.05	0.05	0.05		

A- Drinking water sources without conventional treatment but after disinfecting

B- Outdoor Bathing (Organised)

C- Drinking water source with conventional treatment followed by disinfecting

D- Propagation of wildlife, fisheries

E- Irrigation, industrial cooling

2.3.3 Water use reduction

To estimate the reduction in water use achieved by the building by following the mitigation measures, use following steps:

Step 1: Estimate total water demand based on the occupancy and type of building

Step 2: List various efficient fixtures and other measures

Step 3: Calculate demand reduction as compared to the BIS per capita water consumption

Under normal conditions, water consumption per person for flushing is 45 litres (9 litre/flush with 5 number of uses).

With efficient fixture (3 and 6 litre/flush), water use is 21 litre (3 litre/flush with 3 uses and 6 litre /flush with 2 uses).

Water use per person for washing with normal fixture with a flow rate of 20 litres per minute is 40 litre (assuming use for 2 minutes), while with efficient fixture (flow rate of 7.5 lpm) is 15 litres.

Table 2.4 : Estimation of water use reduction

Category	Consumption (lpcd)	Reduced Consumption (lpcd)	Reduction (%)
Human consumption	7	7	
Bathing	20	20	
Flushing	45	21	53%
Washing	40	15	62%
Miscellaneous	23	23	
Total	135	86	36%