REPORT OF JOINT COMMITTEE IN COMPLIANCE OF THE ORDER IN THE MATTER - ORIGINAL APPLICATION NO. 84/2020(WZ) (DHANANJAY BALWANT KOKATE AND ORS. VERSUS UNION OF INDIA & ORS) RELATED TO GARBAGE PROCESSING PLANT AT SURVEY NO. 51/10, AMBEGAON BK., PUNE

IN COMPLIANCE OF ORDER OF HON'BLE NGT, PRINCIPAL BENCH, NEW DELHI, DATED 17.11.2020

FOR SUBMISSION BEFORE

HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI

December, 2021

REPORT OF JOINT COMMITTEE IN COMPLIANCE OF THE ORDER IN THE MATTER - ORIGINAL APPLICATION NO. 84/2020(WZ) (DHANANJAY BALWANT KOKATE AND ORS. VERSUS UNION OF INDIA & ORS) RELATED TO GARBAGE PROCESSING PLANT AT SURVEY NO. 51/10, AMBEGAON BK., PUNE

IN COMPLIANCE OF ORDER OF HON'BLE NGT, PRINCIPAL BENCH, NEW DELHI, DATED 17.11.2020

COMMITTEE MEMBERS

Name	Name of Institute/Organization	Signature
Shri Pratik Bharne Scientist 'E'	Central Pollution Control Board (CPCB), Regional Directorate, Pune	
Shri. S.P. Patil, Circle Officer	Collector Office, Pune	
Shri. NitinShinde, I/c. Regional Officer, Pune	Maharashtra Pollution Control Board (MPCB)	07/XII/21
Shri. PratapJagtap Sub Regional Officer, Pune I	Maharashtra Pollution Control Board (MPCB)	07/12/21

REPORT OF JOINT COMMITTEE IN COMPLIANCE OF THE ORDER IN THE MATTER - ORIGINAL APPLICATION NO. 84/2020(WZ) (DHANANJAY BALWANT KOKATE AND ORS. VERSUS UNION OF INDIA & ORS) RELATED TO GARBAGE PROCESSING PLANT AT SURVEY NO. 51/10, AMBEGAON BK., PUNE

1.0 BACKGROUND:

Hon'ble NGT in the matter - Original Application No. 84/2020 (WZ) (Dhananjay Balwant Kokate & Ors. Versus Union of India & Ors) related to garbage processing plant at survey no. 51/10, Ambegaon (BK), Pune, passed an order dated 17.11.2020 (**Annexure-I**) which is reproduced as follows:

> *"…1. Grievance in this application is against setting up of a Garbage Processing Plant at Survey No. 51/10, Ambegaon Bk., Pune-411046, in violation of environmental norms. The applicants have inter-alia alleged that the site is close to residential area and a drain and thus the operation of the plant will be hazardous to the public health. It is also mentioned that the site caught fire on 01.11.2020 making the residential area like a gas chamber. Such incidents can again take place. The site therefore, needs to be shifted to any other appropriate place.*
>
> *2. Before considering the matter, we direct constitution of a joint Committee of CPCB, State PCB and Collector, Pune. The State PCB will be the nodal agency for compliance and coordination. The said Committee may look into the grievance and take such further action as may be found necessary, following due process of law.*
>
> *3. An action taken report may be filed before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF."*

2.0 JOINT COMMITTEE:

In compliance with the aforesaid order of the Hon'ble NGT, a committee consisting of the following members constituted for inspection of aforesaid plant and submission of a factual report.

a. **Representative of Central Pollution Control Board:**
   Shri. Pratik D. Bharne, Scientist E. Regional Directorate, CPCB, Pune.
b. **Representative of Maharashtra State Pollution Control Board:**
   Shri. Nitin Shinde, I/c. Regional Officer, MPC Board, Pune, and Shri. Pratap Jagtap, Sub Regional Officer, MPC Board, Pune-I.
c. **Representative of The Collector, Pune:**
   Shri S.P. Patil, Circle Officer, Revenue Department, Pune.

3.0 VISIT OF COMMITTEE TO GARBAGE PROCESSING PLANT:

The committee members visited the Garbage Processing Plant located at site Survey No. 51/10, Ambegaon Bk., Pune on 09.09.2021 after second wave of COVID 19 pandemic. Pune Municipal Corporation (PMC) Officers- Shri Ajeet Deshmukh, Dy. Municipal Commissioner, SWM Department, PMC, Shri Mukund Barve, Executive Engineer, PMC and other PMC officials were present during the visit.

The location of the plant and layout of plant is provided at following images.

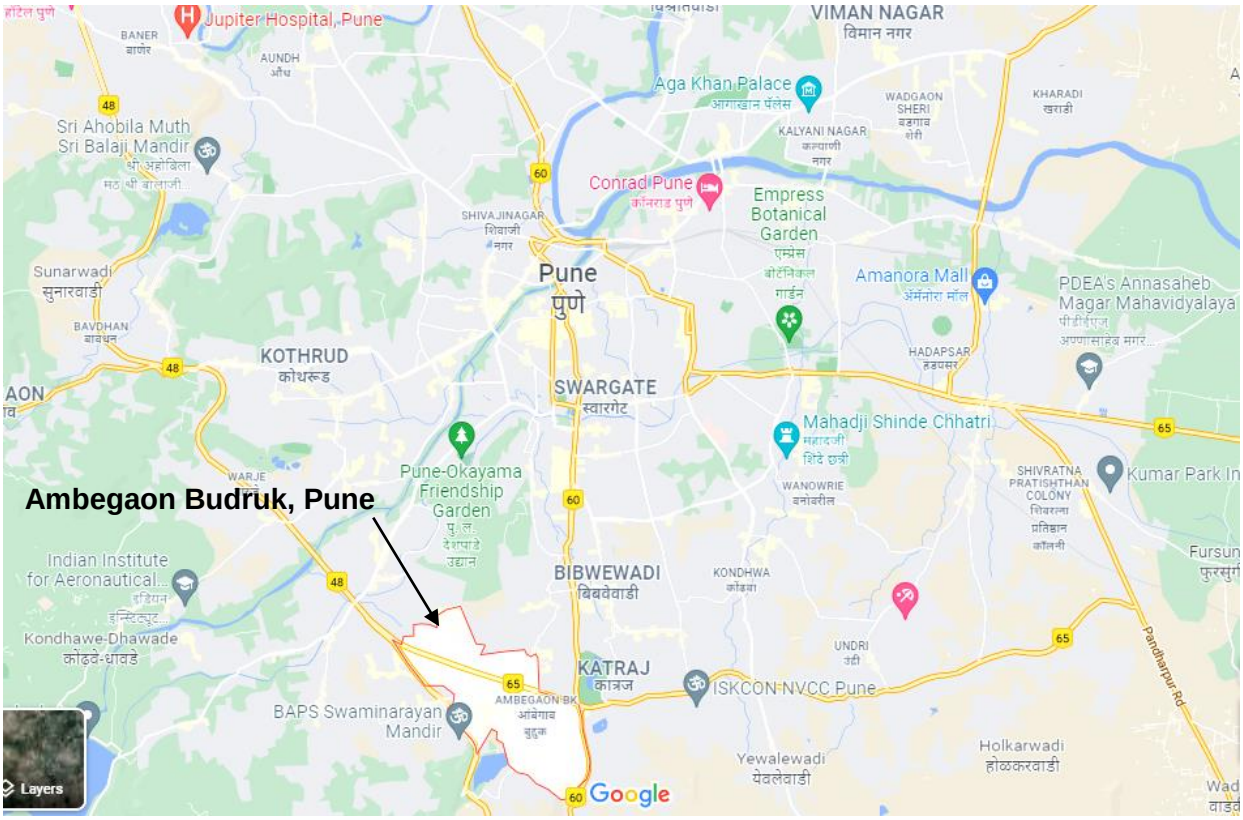


Image-01- Location of Ambegaon Budruk, Pune

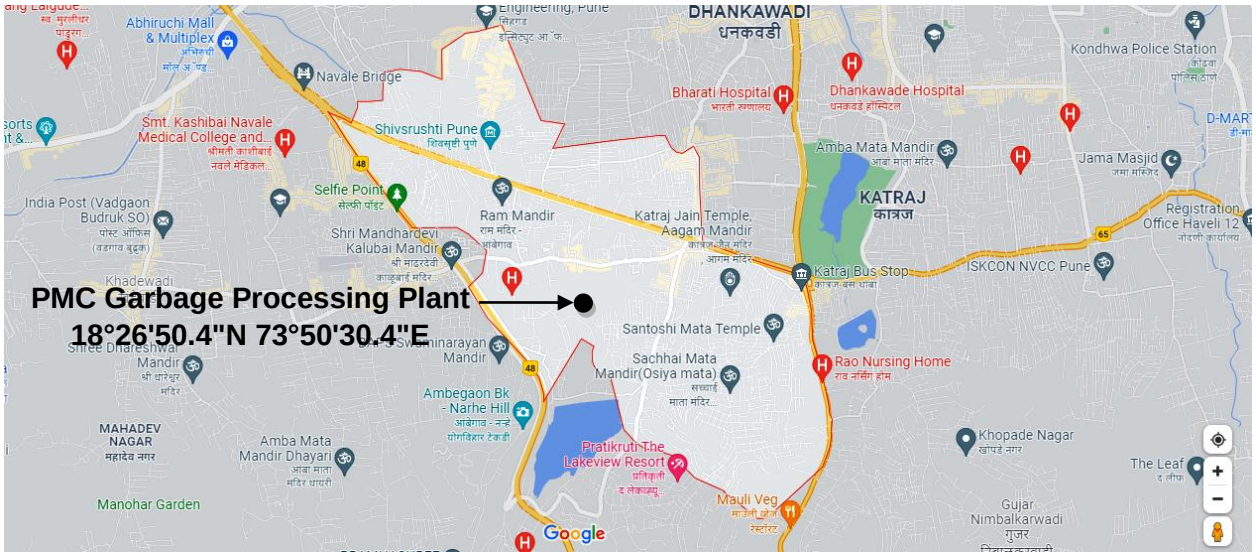


Image-02-Location of PMC Garbage Processing Plant, Ambegaon Budruk, Pune

Image-03-Aerial View of PMC Garbage Processing Plant, Ambegaon Budruk, Pune

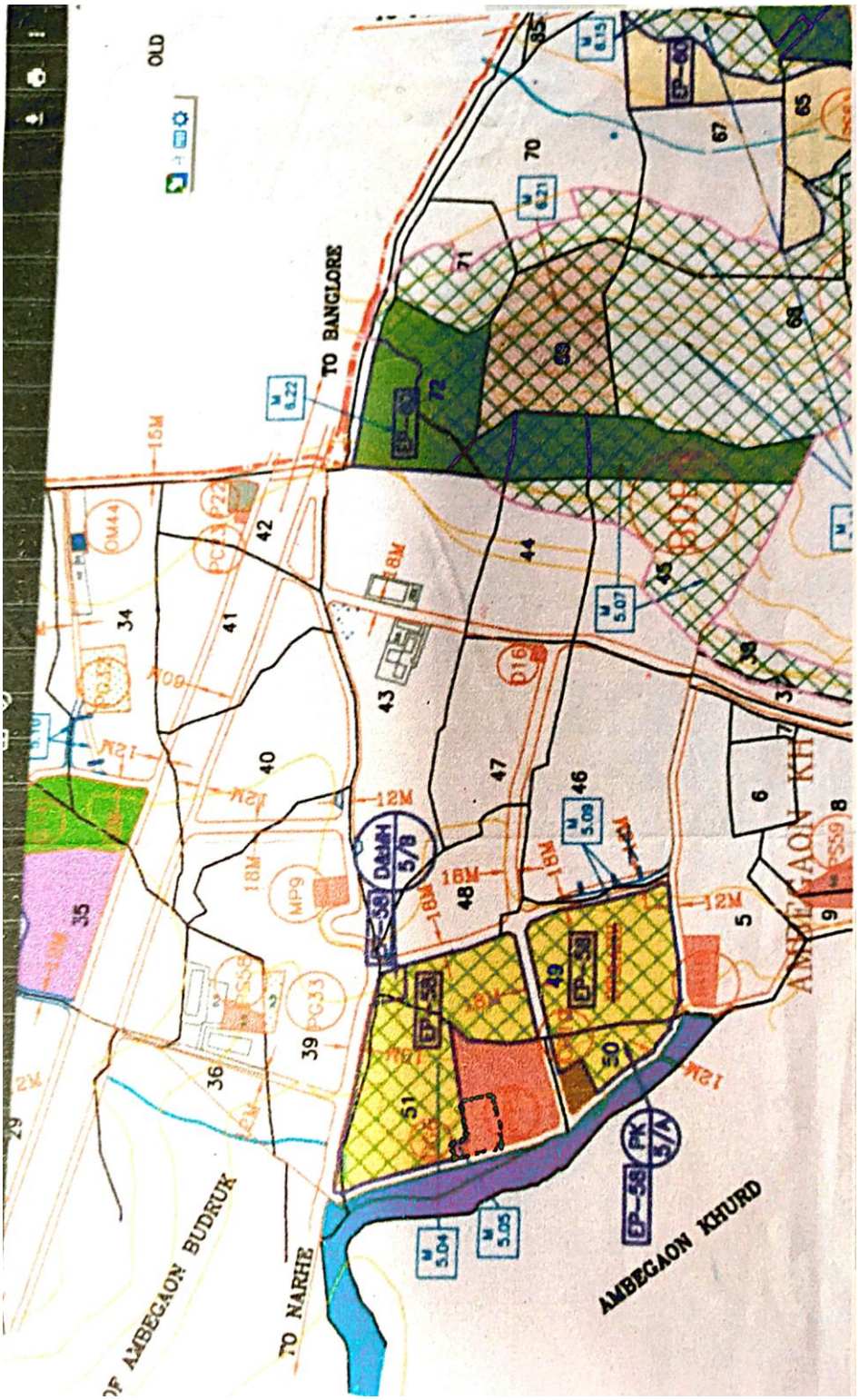


Image-04 Layout plan/map including Garbage Processing Plant in Ambegaon BK, Pune (Source-PMC)

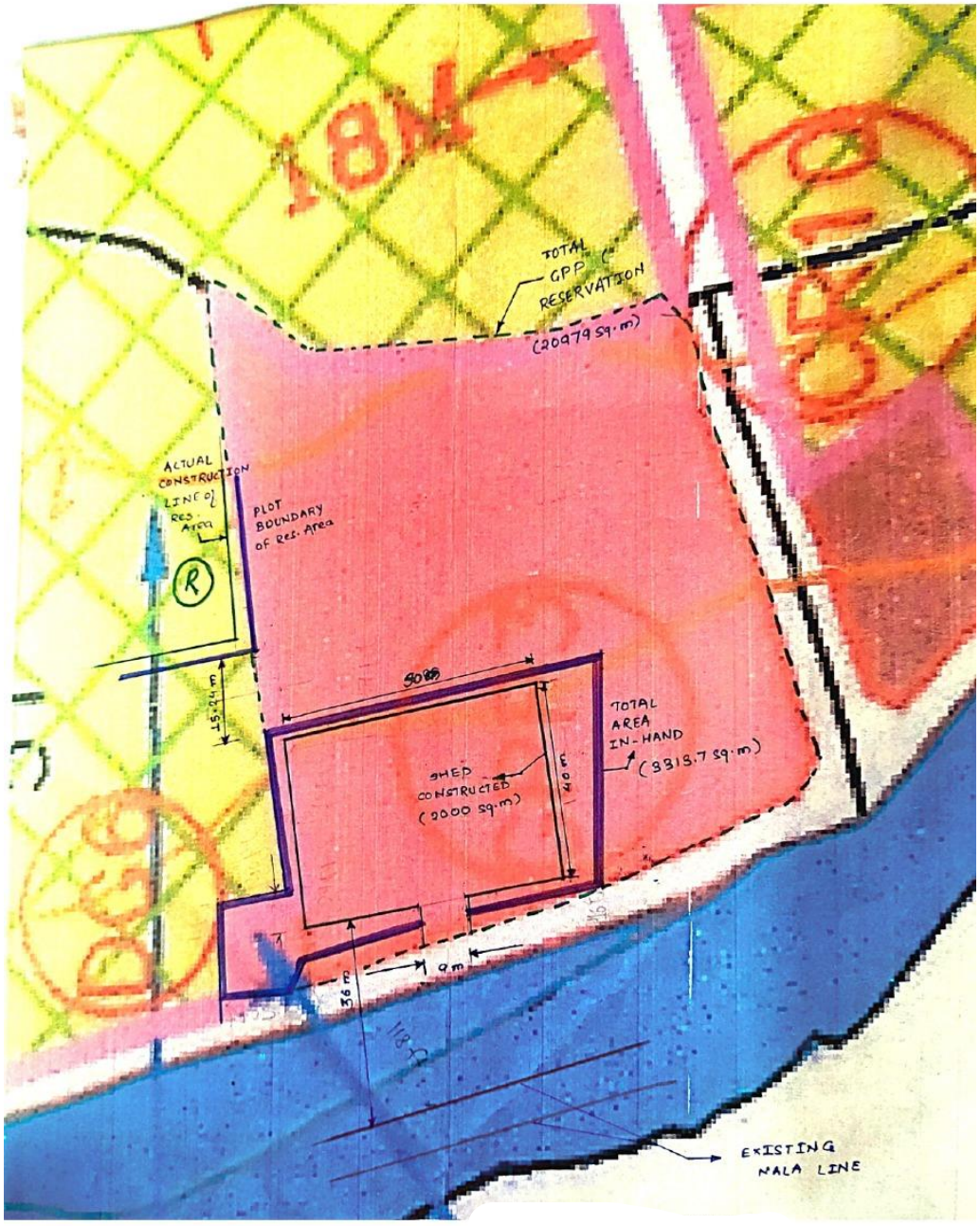


Image-04 Layout plan/map-Garbage Processing Plant, Ambegaon BK, Pune

(Source-PMC)

4.0 OBSERVATIONS & FINDINGS:

Based on the site visit and information/communications (letter dated 17.09.2021- **Annexure-II** & letter dated 17.11.2021- **Annexure-III**) received from PMC to MPCB, following observations are drawn:

4.1 GARBAGE PROCESSING PLANT:

Pune Municipal Corporation (PMC) had earlier plan to install **Solid Waste Processing Plant** consisting of as **MRF, RDF and Compost Facility** of capacity 200 MTD, at this location.

Total plot area is 20979 sq.mt. which is reserved in development plan as Garbage Processing Plant, out of which 3313.7 sq.mt area is in hand/possession of PMC. The proposed area for existing garbage processing plant, 4686.3 sq.mt.

A permanent shed with dimension of 50m x 40m (2,000 sq.mt) is constructed within the 3313.7 sq.mt area which is possession of PMC for existing Garbage Processing Plant where Material Recovery Facility (MRF) is provided. The machinery/equipment present in the MRF (with capacity 150 MTD) are Material Handling (feeder & conveyors), Screening (Trommels), Size Reduction (Shredder), Density Separation (Air Density Separator), Metal Detection and other equipment. The details of which are provided at **Annexure-IV.** The photographs taken during the site visits of the plant/facility are provided in **Annexure-V.**

Further, it is informed by **PMC vide above letter dated 17.09.2021 that only Material Recovery Facility (MRF) for 150 MTD capacity is proposed at Garbage Processing Plant.**

4.2 The Observations/Remarks of the Committee with reference to allegations by the Applicants are given, as below: -

Sr. No.	Allegations by the Applicant	Observations/Remarks
a	Respondent no. 5 i.e. Pune Municipal Corporation has not obtained prior Environmental Clearance.	In EIA Notification, 2006, Common Municipal Solid Waste Management Facility (CMSWMF) is mentioned as Category B project, will require Environmental Clearance (EC) from State Environment Impact Assessment Authority (SEIAA). Ministry of Environment, Forest and Climate Change (MoEF & CC) vide letter dated 03.07.2017 (**Annexure-VI**), has communicated that, the municipal solid waste processing activity except landfill site, if proposed as standalone activities are not covered under item 7(i) of EIA Notification, 2006, hence do not required prior Environmental Clearance. In view of the above, as there is no landfill site is proposed in the said Facility, EC may not be required.
b	The said piece of land was initially residential area as per the development plan notified by	Chronology of the events regarding sanctioned development plans of Ambegaon Bk given in PMC letter dated 17.11.2021 (**Annexure-III**), are given as follows: 1. The village Ambegoan Budruk was included in Pune Municipal Corporation limit by Urban Development Department, Government of Maharashtra with

	the Respondent no. 5 i.e. Pune Municipal Corporation and changed the reservation of the said plot without holding any public hearing and without consent of the residence.	reference to vide Notification no. PMC-3096/1798/ CR- 259/UD-22 on 11.09.1997. 2. Pune Municipal Corporation had prepared draft development plan for extended limit and was published vide resolution no. 388 on 27.12.2002 for suggestions and objections of the public as per section 26 of the Maharashtra Regional Town Planning (MRTP) Act, 1966. In the said draft development plan PMC proposed reservation for Garbage processing plant (GPP) at SR.No. 51 (part), Ambegoan Bk, Pune. 3. After receipt of suggestions and objections from citizens planning committee, working under Divisional Commissioner Office, Pune, has submitted its report to Local General Body of Pune Municipal Corporation. 4. Pune Municipal Corporation published modified draft development plan on 21.03.2005 under section 28 of MRTP Act, 1966. In modified draft reservation for Garbage processing plant (GPP) at SR.No. 51 (part), Ambegoan Bk, Pune, was continued and submitted to Urban Development Department, Government of Maharashtra. 5. Urban Development Department, Government of Maharashtra has sanctioned final development plan vide Government Notification no. TPS-1808/247/CR-1408/DP sanctioned /UD-13 on 02.03.2012. 6. Also part of pending development plan for the same is

		sanctioned by Urban Development Department, Government of Maharashtra under section 31 of MRTP Act, 1966 vide Notification no. TPS-1813/CR-593/13/DP/Sanction/UD-13 dated 13.02.2014. Reservation for Garbage processing plant (GPP) at SR.No. 51 (part), Ambegoan Bk, Pune was continued in the same.
c	Respondent no. 5 i.e. Pune Municipal Corporation has cut numerous trees before commissioning of said plant.	PMC vide letter dated 17.11.2021 informed that no trees cutting was carried out. During visit, it was observed that PMC has completed work of shed in past, and therefore, Committee unable to comment regarding cutting of trees.
d	PMC has not provided Display Board at the entrance of the Plant.	Display board was not observed at the entrance of the Plant during this committee visit on 09/9/2021.
e	PMC has carried out illegal and unscientific dumping at the said plant since Feb-2020.	PMC vide letter dated 17.11.2021 (**Annexure-III**) submitted that, ▪ PMC has started trial run for dry waste processing from 20.09.2020. ▪ From period 20.09.2020 to 31.10.2020, total 2092 Metric Ton (MT) dry waste was processed.

		▪ On 01.11.2020 the said plant was set on fire by unknown people from the same date plant is not in operation till date. PMC has applied for authorization under The Solid Waste Management Rule, 2016 to MPCB for processing solid waste as MRF, RDF and compost facility of capacity 200 MTD at Survey No. 51/10, Ambegaon Bk., Pune-411046 on 01.09.2020. The said application is in process at MPCB. PMC vide letter dated 17.09.2021 (**Annexure-II**) informed that they are proposing only Material Recovery Facility (MRF) for 150 MTD capacity. During committee visit, plant was not in operation. Some dry waste mostly plastic observed lying in the west side of shed, in premises (**Photo, Annexure-V**). PMC has installed the said facility without obtaining Consent to Establish/Authorisation and total 2092 MT dry waste processed from 20.09.2020 to 31.10.2020 till the fire incident (i.e. on 01.11.2020) as above.
f	After 2014, 4 to 5 permissions for residential projects are given in nearby	The information regarding permissions given by the PMC is not available with Committee. During visit, it was observed that, towards north side from the shed of waste processing plant, there is only about 4 feet open space up to boundary of the plant. There is a

	area which are inside 200 mts and 500 mts radius and said plant is surrounded by residential area.	residential project/buildings towards the North-East direction of the Plant. This residential project/ buildings is 15.24 m away from the existing Plant boundary (refer **Image- 4 & 5**). The vacant land in East and West side of existing plant are reserved land for Garbage Processing Plant. The natural drain/Nala is flowing in west direction at distance of about 36 m from the centre of the Drain/Nala to the shed boundary.

4.3 Rule 3(31) of SWM Rules 2016 defines "Material Recovery Facility" as *"materials recovery facility" (MRF) means a facility where non-compostable solid waste can be temporarily stored by the local body or any other entity mentioned in rule 2 or any person or agency authorised by any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity mentioned in rule 2 for the purpose before the waste is delivered or taken up for its processing or disposal;*

Rule 3(35) of SWM Rules 2016 defines "Processing" as *"processing" means any scientific process by which segregated solid waste is handled for the purpose of reuse, recycling or transformation into new products;*

Processes intended/plant & machineries installed at the site, as observed by the committee, reveal that wastes would not just be subjected to segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other

work force engaged by the local body for the purpose before the waste is delivered or taken up for its processing or disposal but are intended for various processes (viz. segregation, screening by using trammel, size reduction using shredder, belling using Double Bucket, etc.) leading to product/by-product/rejects. As per the initial application made dated 01.09.20219 for grant of authorisation under SWM Rules, 2016 by PMC to MPCB reveals MRF, RDF and Compost – 200 MT/Day as product, NIL as by-product and 20 MT/Day as rejects. It may, therefore, be categorised as Processing Facility and not Material Recovery Facility in accordance with aforesaid Rule 3(31) and Rule 3(35) of SWM Rules 2016. PMC, however, later vide letter dated 17.09.2021 (Annexure-II) informed that they are proposing only Material Recovery Facility (MRF) for 150 MTD capacity.

4.4. Regarding, Buffer Zone around the Garbage Processing Plant, it is mentioned in the Section-3 (7) in the SWM Rules 2016 that *"buffer zone" means zone of no development to be maintained around solid waste processing and disposal facility, exceeding 5 TPD of installed capacity. This will be maintained within total land area allotted for the solid waste processing and disposal facility."*

CPCB issued Guidelines on Buffer Zone around waste processing and disposal facilities in April, 2017 in compliance of the Section-14 (h) of the SWM Rules 2016. The same was revised by CPCB vide letter dated 15/4/20219 and copy of the revised guidelines is given at **Annexure-VII**.

Provisions, as mentioned at Page no.13 of the aforesaid revised Guidelines, are reproduced below-

"1. Land of 200-500 m from the boundary of the processing unit is excluded for setting up of the facilities but it is mandatory outside the project site as "No Development Area" for 30 years.

2. "No development Area" can be utilised for agriculture purpose."

There are certain criteria for site selection for setting up of Sanitary Lanfill (please refer Schedule-I (A) of SWM Rules 2016), however, there is no such siting criteria applicable for setting up waste processing facilities (please refer page 9 of the said revised guidelines given at **Annexure – VII**).

In view of the above, in case PMC proposes the said facility as Material Recovery Facility, which has been proposed by PMC vide letter dated 17.09.2021 (**Annexure-II**), the requirement of Buffer Zone and Siting Criteria may not be applicable. However, in case their proposal is for Waste Processing Facility, the aforesaid requirement of Buffer Zone may be applicable. PMC has further mentioned the need of such facility, in the letter dated 17.09.2021, in view of addition of 23 new villages to PMC administrative limits leading to increase in generation of around 250 to 300 MT of waste daily thereby increasing the load on the existing waste disposal system. However, MPCB may examine the same about facility falling under Waste Processing Facility or Material Recovery Facility and applicability of buffer zone thereto while processing grant of authorisation to PMC in accordance with provisions under SWM Rules 2016.

The PMC has installed the said facility without obtaining Consent to Establish/Authorisation and it is informed that total 2092 MT dry waste processed from 20.09.2020 to 31.10.2020 till the fire incident (i.e. on

01.11.2020). MPCB needs to take action against such violations as per aforesaid order of the Hon'ble NGT.

PMC should remove all the plastic waste/other waste which is haphazardly spread, inside the premises, in the west direction towards natural drain/Nala.

Date – 07/12/2021

--xxooxx--

Annexure - I

Item No. 02 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 84/2020(WZ)

Dhananjy Balwant Kokate and Ors. Applicant(s)

Versus

Union of India & Ors. Respondent(s)

Date of hearing: 17.11.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. SATYAWAN SINGH GARBYAL, EXPERT MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Applicants: Mr Saurabh Kulkarni, Advocate

Respondents: Mr Rahul Garg, Advocate for PMC

ORDER

1. Grievance in this application is against setting up of a Garbage Processing Plant at Survey No. 51/10, Ambegaon Bk., Pune-411046, in violation of environmental norms. The applicants have *inter-alia* alleged that the site is close to residential area and a drain and thus the operation of the plant will be hazardous to the public health. It is also mentioned that the site caught fire on 01.11.2020 making the residential area like a gas chamber. Such incidents can again take place. The site therefore, needs to be shifted to any other appropriate place.

2. Before considering the matter, we direct constitution of a joint Committee of CPCB, State PCB and Collector, Pune. The State PCB will be the nodal agency for compliance and coordination. The said

Committee may look into the grievance and take such further action as may be found necessary, following due process of law.

3. An action taken report may be filed before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

A copy of this order be forwarded to the CPCB, the State PCB and Collector, Pune by email for compliance.

The applicants may serve a set of papers on the CPCB, the State PCB and Collector, Pune and file an affidavit of service within one week from today.

List for further consideration on 24.03.2021.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. S.S. Garbyal, EM

Dr. Nagin Nanda, EM

November 17, 2020
Original Application No. 84/2020(WZ)
SN

Annexure-IA

Item No.08

(Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

(By Video Conferencing)

Original Application No. 84/2020(WZ)

Dhananjay Balwant Kokate & Anr. Applicant

Versus

Union of India & Ors. Respondent(s)

Date of hearing: 21.09.2021

CORAM: HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

Applicant : Mr. Prashant Bhat h/f Mr. Saurabh Kulkarni, Advocate

Respondent : Ms. Manasi Joshi a/w Ms. Pooja Natu, Advocates for R-4 (MPCB)
Mr. Rahul Garg, Advocate for R-5 (PMC)

ORDER

1. This Tribunal in continuation of the earlier order dated 17.11.2020, is passing the following order-

2. The learned counsel appearing for the original applicant would submit that though the order constituting the joint committee came to be passed as early as 17.11.2020, the order is yet to be complied with, hence prays for appropriate orders.

3. The learned standing counsel appearing for the respondent no. 5 would submit that the site inspection was made on 09.09.2021 and prays for short accommodation to file the reply affidavit with supporting documents.

4. The learned standing counsel appearing for the respondent no. 4 who has been nominated as the Nodal agency, would submit that the site

inspection was made on 09.09.2021 and certain additional particulars are sought for, from the respondent no. 5 and hence prays for short accommodation to file the report with supporting documents. The report of the joint committee as well as reply affidavit of the respondent no. 5 with supporting documents, if any, be filed before the next date of hearing.

Call on 22.11.2021.

M. Sathyanarayanan, JM

Dr. Arun Kumar Verma, EM

September 21, 2021
Original Application No. 84/2020(WZ)
P.kr

Annexure- II

Dy. Municipal Commissioner
Solid Waste Management
Pune Municipal Corporation
Outward No:- SWM/2529
Date: -17/09/2021

To,
The Regional Officer (HQ),
Maharashtra Pollution Control Board
Sion Mumbai,

Subject:- Information regarding Joint Visit at Ambegaon Plant on dt.09/09/2021.
Reference-1. MPCB Application no: UAN MPCB-MSW_AUTH-0000000570
2. Maharashtra Pollution Control Board, sub regional office pune 1, Visit report.
3. Clarification in the authorisation application, solid waste management,pune municipal corporation, outward no. SWM/ 1729, date: 28/07/2021.
4. Joint visit of MPCB,CPCB,collector office and Pune Municipal Corporation officials at Ambegaon plant on 09/09/2021.

Pune Municipal Corporation has applied for authorisation under Solid Waste Management Rules, 2016 to MPCB vide reference no. 1 for Material recovery facility, RDF and Compost at Sr.no. 51/10 Ambegaon Budruk, Pune 411046. Accordingly Joint visit of MPCB,CPCB,collector office and Pune Municipal officials visited Ambegaon plant site on 09/09/2021. As per instructions given by Officials, Details of Ambegaon plant are as follows.

Plant name: MRF, RDF and Compost Ambegaon Budruk.
Plant Capacity: 200 MTPD.
Plant Operator : : Aadarsh Bharat Enviro Pvt.Ltd.
Plant location : Sr.no. 51/10 Ambegaon Budruk, Pune 411046.

Joint visited committee has asked for following Information about the plant-

Information required	Clarification
Total plot area, Existing and proposed.	Total plot area – 20979 sq.mtr. which is reserved in Development plan as Garbage Processing Plant. Total plot area in hand – 3313.7 sq.mtr. Proposed area – 4686.3 sq.mtr. Total area is not in hand today. Details are shown in draft sanction development layout plan copy with marking of Existing plant.

Approved development layout plan.	Proposed development layout plan has been attached herewith and Proposed work is shown in plan as total Garbage Processing Plant area is not in PMC's hand.
Distance of plant from nearby residential area.	Distance of plant from nearby residential area and plant shed measurement are shown in development layout plan. **At this stage we are proposing only 150 MTPD Material recovery facility (MRF).**

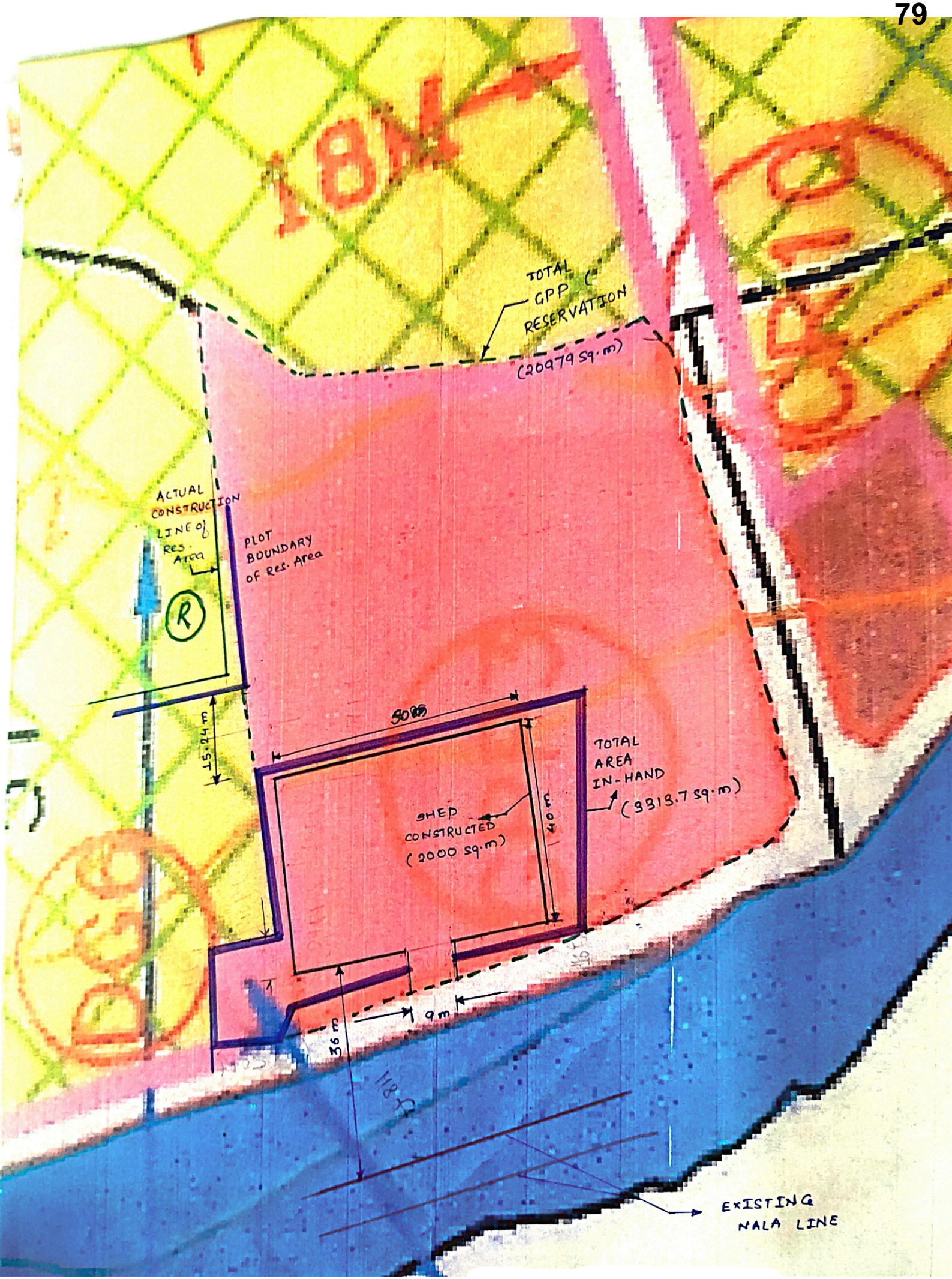
Recently 23 new villages have been added to PMC administrative limits leading to increase in generation of around 250 to 300 MT of waste daily thereby increasing the load on the existing waste disposal system. At this stage we are proposing only 150 MTPD Material recovery facility (MRF) at Ambegaon plant. Also please refer our previous correspondences for objection raised by you and Hence, With respect to above clarification we kindly request you to issue the necessary MSW-authorization at the earliest.

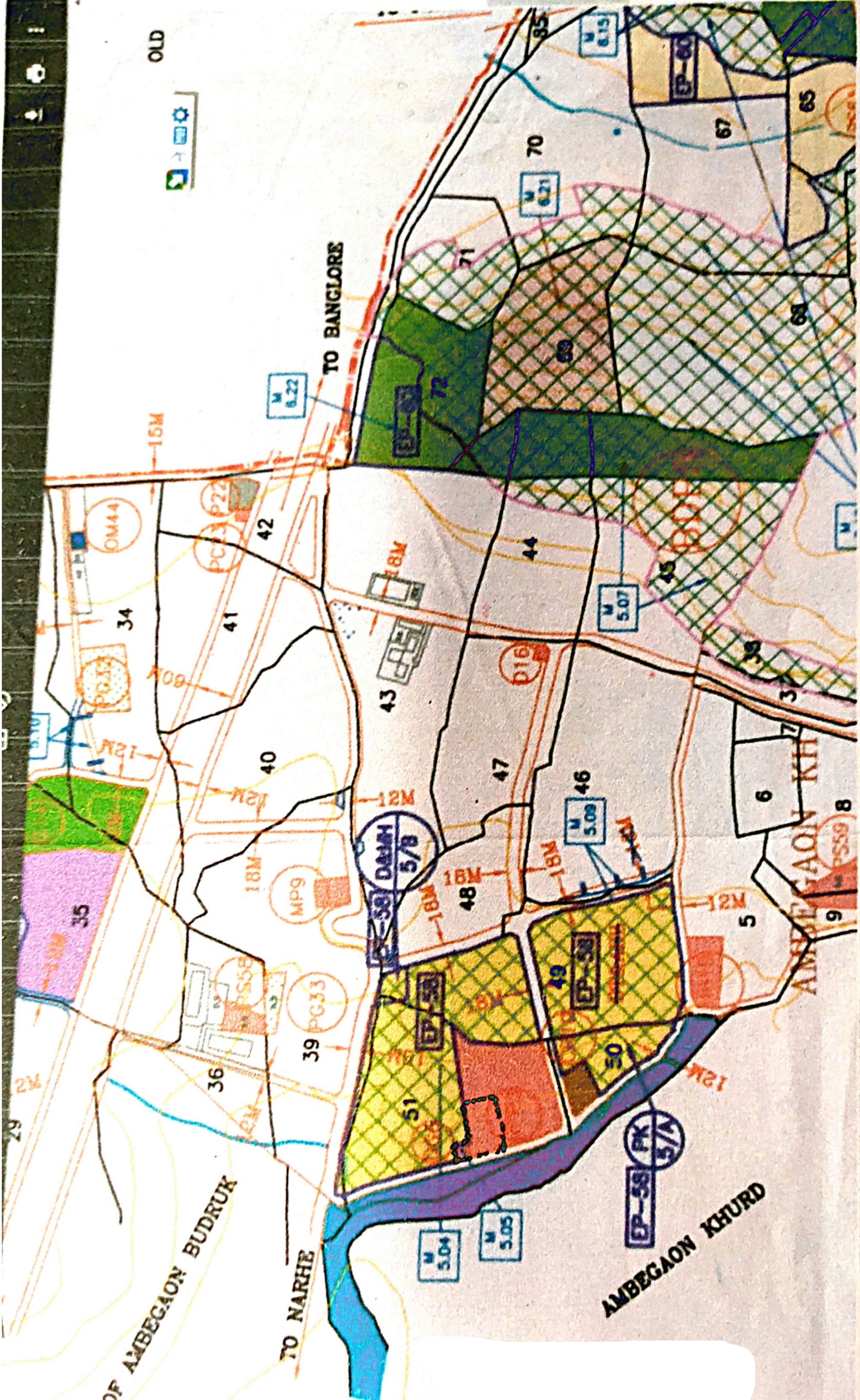
Ajeet Deshmukh
17/9/14

(Ajeet Deshmukh)
Deputy Municipal Commissioner
Solid Waste Management
Pune Municipal Corporation

Attachment

1. Development layout plan.
2. Measurement Graph.


18M
TOTAL GPP (RESERVATION (20979 Sq.m)
ACTUAL CONSTRUCTION LINE of Res. Area
PLOT BOUNDARY of Res. Area
R
15.24 m
50.85
40.84
SHED CONSTRUCTED (2000 Sq.m)
TOTAL AREA IN-HAND (3313.7 Sq.m)
36 m
9m
EXISTING NALA LINE


TO BANGLORE
TO NARHE
OF AMBEGAON BUDRUK
AMBEGAON KHURD
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EP-60
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PS58
PC33
PS59
OM44
D16
BDP
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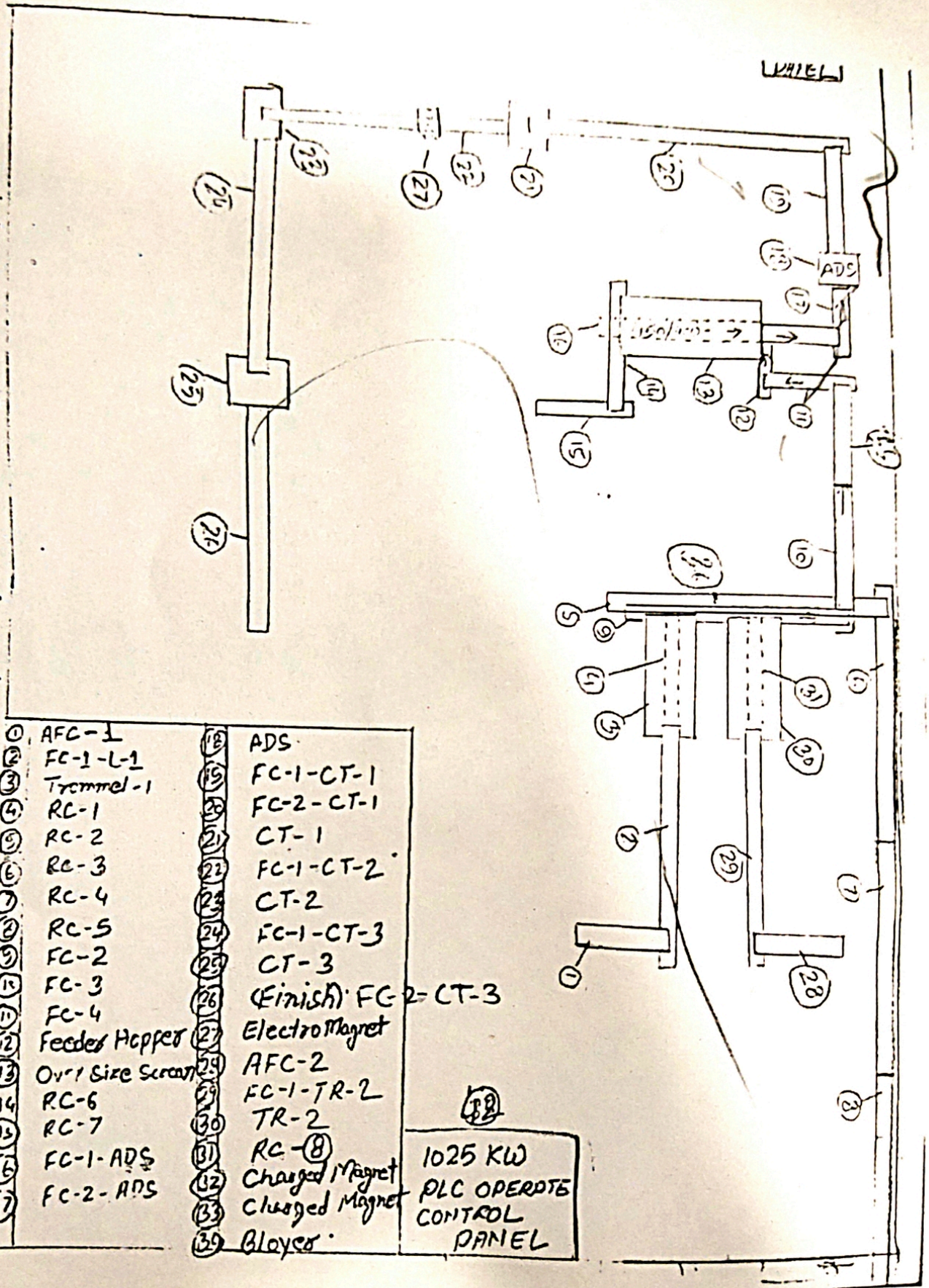


1	AFC-1	18	ADS
2	FC-1-L-1	19	FC-1-CT-1
3	Trommel-1	20	FC-2-CT-1
4	RC-1	21	CT-1
5	RC-2	22	FC-1-CT-2
6	RC-3	23	CT-2
7	RC-4	24	FC-1-CT-3
8	RC-5	25	CT-3
9	FC-2	26	(Finish) FC-2-CT-3
10	FC-3	27	Electro Magnet
11	FC-4	28	AFC-2
12	Feeder Hopper	29	FC-1-TR-2
13	Over Size Screen	30	TR-2
14	RC-6	31	RC-8
15	RC-7	32	Charged Magnet
16	FC-1-ADS	33	Charged Magnet
17	FC-2-ADS	34	Blower

(32)

1025 KW
PLC OPERATE
CONTROL
PANEL

AFC - Auto Feeding conveyor
Fc - Feeding conveyor
RC - Reject Conveyor
CT - shredder
ADS - Air Density seperater
TR - Tromel

Annexure – III

Office of the,
Deputy Commissioner
Solid Waste Management Dept.
Pune Municipal Corporation
Outward No:-SWMO/3613
Date:- 17/11/2021

The Regional officer
Maharashtra Pollution Control Board
Regional Office
Jog Centre , 3rd Floor, Wakadewadi
Old Pune Mumbai Road
Pune- 411 003

Sub: OA No.84/2020 (WZ) before NGT principal bench, New Delhi.

Ref: 1)MPCB Application No. UAN MPCB-MSW_AUTH-0000000570 on dt.01/09/2020.
2)Maharashtra Pollution Control Board, Sub regional office pune 1, visit report.
3)Clarification in the authorization application, solid waste management , pune municipal corporation outward no.SWM/1729, Dt.28/07/2021.
4) Joint visit of MPCB, CBCB, collector office and Pune Municipal Corporation officials at Ambegaon plant on dt.09/09/2021
5)NGT matter MPCB, SRO, Pune mail dated Nov 17, 2021.

The Pune Municipal Corporation has installed 200 MT capacity per day waste processing plant (MRF) at Ambegaon Budruk Sr.No.51/10, Pune-411046 on GPP Garbage Processing Plant reservation as per sanctioned deveplopment plan. The Pune Municipal Corporation has also applied for the authorization under solid waste management Rules 2016.

As per the above NGT court case we are furnishing following information for the application under sec 14, 15 read with section 18 of the NGT Act 2010.

1) Application for authorization to MPCB No.UANMPCB_MSW_AUTH_ 0000000570 on dt.01/09/2020.
2) Trial run for dry waste processing started from dt.20/09/2020.
3) From period dt.20/09/2020 to dt.31/10/2020 total 2092 MT dry waste was processed.
4) On dt.01/11/2020 the said plant was set on fire by unknown people from the same date plant is not in function.
5) As per mentioned in the Application PMC has illegally started waste processing facilities from Feb 2020 by cutting down numerous trees which is not correct and based on false information. No tree cutting was done by PMC. Also construction of said plant was in progress on feb 2020 Hence no any type of garbage has been dumped in feb 2020.
6) Final development plan sanctioned vide Govt. notification No. TPS-1808/247/CR-1408/DP sanctioned/ UD-13/ dated 02/03/2012. As shows garbage processing plant (GPP-3 reservation on serve No.51 (part) also development plan sanctioned by Govt. V/S 31 of MRTP act vide Notification No.TPS-1813/CR-596/13//EP/Sanction/UD-13 dated 13/02/2014 also shows GPP-3

reservation Hence the plant has been constructed on GPP reservation. The procedure for DP sanction is as follows:-

Chronology of the events regarding Sanctioned Development plan of Ambegaon Bk. S.no.51

Serial No.	Date	Events	Reference
1)	11/09/1997	Extension of PMC limits. Ambegaon budruk was included in PMC limits (No reservations were allotted till yet.)	UDD, Govt. of Maharashtra, Notification No. PMC-3096/1798/CR-259/UD-22
2)	27/12/2002	Draft Development plant of extended limit was prepared and published by PMC vide resolution no. 388, dated 27/12/2002 for suggestions and objections of the public as per section 26 of the MRTP act, 1966.	-
3)	30/12/2004	Planning Committee has submitted its report after suggestions and objections received from citizens	
3)	21/03/2005	After considering suggestions and objections received by it from public and planning committee, modified draft DP was published under section 28 of MRTP act, 1966.	-
4)	29/11/2005	After considering report of the Planning committee, General Body, PMC decided that no change in the draft DP is required and submitted it to Govt of Maharashtra for Sanctioning	Draft development plan of 2005 proposed to be sanctioned
5)	02/03/2012	Final development plan sanctioned vide Govt. notification No. TPS-1808/247/CR-1408/DP sanctioned/ UD-13. sanctioned by Urban Development Department dt.02/03/2012	Development plan shows (GPP) garbage Processing Plant reservation
6)	13/02/2014	Garbage processing plant (GPP-3 Reservation on survey No.51 (partly), Also Development plan sanctioned by Govt. of Maharashtra Urban Development Department Under Section 31 of MRTP Act 1966 vide Notification No.TPS-1813/CR-596/13/EP/Sanction/UD-13 dt.13/02/2014	In sanctioned Development plan (GPP) garbage Processing Plant reservation is remains same

Regards.

Ajeet deshmukh

(Ajeet Deshmukh)
Deputy Municipal Commissioner
Solid Waste Department
Pune Municipal Corporation

Annexure – IV

Electro Machanical Work						
	Total machinary list at Ambegaon(Municipal Solid Waste Management)					
A			Technical Specification For Segrigation RDF & Compost Unit			
SR.No		Short+ Name	Description (In Complit Set)	Specifiction	Motor (H.P)	qty (Set)
1	Material Handling	AFC 1	Auto Feeding conv 2x8Mtr	5Nu Gear Box,M28 -4plyx12mm Conv.Belt,1InchSporket &chain	20	2
		AFC 2	Auto Feeding conv 2x8Mtr	5Nu Gear Box,M28 -4plyx12mm Conv.Belt,1InchSporket &chain		
			Even Roll ,600mmx2mtr		0	2
		FC	Feeding conv 15mtr x .9mtr	5 hp LT Gear box,M28 -4plyx12mm Conv.Belt 3/4 Chain Sporket Etc.	5	2
			Opner bag jhapatya	30 hp motor v pully & v belt etc.	30	1
2	Screening	Tr	Tromel, 2mtr x 6mtr	6Nu Gear Box,Press Bond Wheel,1inch chain,Sporket	30	2
			Tromel 1.5mtr x 5mtr	6Nu Gear Box,Press Bond Wheel,1inch chain,Sporket	45	1
		FC	Finish Conv.Meterial (+) 10mtr x .9mtr	3 hp LT Gear box,M28 -4plyx12mm Conv.Belt 3/4 Chain Sporket Etc.	3	4
		FC	Finish Conv.Meterial (+) 5mtr x .9mtr	3 hp LT Gear box,M28 -4plyx12mm Conv.Belt 3/4 Chain Sporket Etc.	3	4
		FC	Finish Conv.Meterial (+) 8mtr x .9mtr	3 hp LT Gear box,M28 -4plyx12mm Conv.Belt 3/4 Chain Sporket Etc.	3	3
		RC	compost reject conv. (-) 15mtr x .9mtr	5 hp LT Gear box,M28 -4plyx12mm Conv.Belt 3/4 Chain Sporket Etc.	10	3
		RC	compost reject conv. (-) 10mtr x .9mtr	5 hp LT Gear boxM28 -4plyx12mm Conv.Belt,3/4 Chain Sporket Etc.	10	2
3	Size Reduction		Sharder hevy duty (cap. 6 TPH)	150hp motor, carbon blead ,30*C Rotter ,Bearing 6332 04 Nos etc	150	1
			Sharder hevy duty (cap. 6 TPH)	150hp motor, carbon blead ,30*C Rotter ,Bearing 6332 04 Nos etc	300	2
			Finish Conv.Meterial (+) 8mtr x .9mtr	3 hp LT Gear box,M28 -4plyx12mm Conv.Belt 3/4 Chain Sporket Etc.	3	5
			Finish Conv.Meterial (+) 8mtr x .9mtr	3 hp LT Gear box,M28 -4plyx12mm Conv.Belt 3/4 Chain Sporket Etc.	3	2
			compost reject conv. (-) 10mtr x .9mtr	5 hp LT Gear box,M28 -4plyx12mm Conv.Belt 3/4 Chain Sporket Etc.	5	2
4	Density Seperation		Ads System .9mtr x 1.2 mtr	20 hp motor,v pully+Heavy duty Nicle Coated Empular& blade 2800 RPM Etc.	20	1
	Beler m/c		Double Bucket	40 ton pressur 26Lx32w	10	2
5	Metal Detection		Electro magnetic Seperoter	STD	5	1
6	Any Other aqctivity to be accomplised complying With Scope of Work		1025 KW PLC Auto/Manual/ Partialy Remote control ele panal,With APFC KVR With All Plant cable , Wight Bridgh 9m x3.5m,cctv sys.	polycab cable with auto panal (2nos)		

Annexure- V

PHOTOGRAPHS DURING SITE VISIT OF THE COMMITTEE ON 09.09.2021

Auto Feeding Conveyer

Trommels

Feeding Conveyer, Magnetic sepeartor

Shredder

Feeding Conveyers, trommels etc

Open space within the Shed

West Side of the Shed showing dry waste mostly plastic waste

North West Side of Shed within Plant Boundary

North Side of Shed within Plant boundary

Annexure-VI

ANNEXURE-A-5

43

अजय नारायण झा
AJAY NARAYAN JHA, IAS

सचिव
भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Secretary
Government of India
Ministry of Environment, Forest and Climate Change

सत्यमेव जयते

D.O.No. 22-19/2017-IA-III

3rd July, 2017

Dear Shri Mishra,

Please refer to the D.O. letter No. Q-15014/2/2017-CPHEEO dated 14.02.2017 requesting to revisit the process of prior environmental clearance for Solid Waste Management Treatment and Processing Facilities.

2. The matter has been examined by the Expert Group constituted in the Ministry in its meeting held on 14.06.2017. The Expert Group has submitted its recommendations. The recommendations of the Expert Group have been examined in the Ministry.

3. The Environment Impact Assessment Notification, 2006 in the Schedule at item 7(i) mentions Common Municipal Solid Waste Management Facility (CMSWMF) as Category B project for which State Environment Impact Assessment Authority (SEIAA) is empowered to appraise the project for grant of prior environmental clearance.

4. The municipal solid waste management involves various steps like door to door collection, segregation, composting, refuse derived fuel (RDF) making, waste to energy generation through waste to energy plants and disposal in scientific landfills. The above activities, except landfill site, if proposed as standalone activities are not covered under item 7(i) of EIA Notification, 2006, hence do not require prior environmental clearance. In case the activities of composting, RDF making and waste to energy plant (up to capacity of 15 MW) are proposed at an existing landfill site, they do not attract the provisions of the EIA Notification, 2006.

5. If the activities of incineration, RDF making and waste to energy plant are proposed along with the new site of solid waste disposal/ landfill, it is advisable to obtain an integrated prior environmental clearance for these projects.

TRUE COPY
ADVOCATE

contd...2/-

इंदिरा पर्यावरण भवन, जोर बाग रोड़, नई दिल्ली-110 003 फोन : (011) 24695262, 24695265, फैक्स : (011) 24695270
INDIRA PARYAVARAN BHAWAN, JOR BAGH ROAD, NEW DELHI-110 003 Ph. : (011) 24695262, 2465265, Fax : (011) 24695270

6. It has been seen that locating a landfill site or municipal solid waste disposal site is a contentious issue and there is a tendency to locate them far from the habitation but near forest, rivers, ponds, wetlands and low lying areas etc. which are ecologically sensitive sites and require proper environmental management. Since, the forests, rivers, ponds, wetland and low lying areas are critical from environmental point of view, it may not be appropriate to exempt this activity of municipal solid waste disposal site or landfill site from the requirement of prior environmental clearance.

7. I believe this will expedite the achievement of the objectives of the Swachh Bharat Mission.

With regards,

Yours sincerely,

(A.N. Jha)

Shri Durga Shankar Mishra
Secretary,
Ministry of Urban Development,
Nirman Bhawan,
New Delhi-110011.

TRUE COPY
ADVOCATE

Annexure – VII

Central Pollution Control Board

UPC-II

Date: 15-04-2019

OFFICE MEMORANDUM

SUBJECT: **- " *Clarification on Buffer Zone* Guidelines " issued by CPCB.**

CPCB issued guidelines on Buffer Zone around waste processing and disposal facilities in April, 2017.

Subsequently, Central Monitoring Committee constituted under Solid Waste Management Rules, 2016 suggested MOEF & CC to revisit the buffer zone in respect of distance. The Central Pollution Control Board in its 182nd meeting agreed for revisiting of Guidelines.

It is decided that following changes have been made as mentioned at page no.13 of aforesaid Guidelines;

1. **Land of 200-500 m from the boundary of the processing unit is excluded for setting up the facilities but it is mandatory outside the project site as "No development area" for 30 years.**
2. **"No development area" can be utilized for agriculture purpose.**

(A. Sudhakar)
Member Secretary

To,
(As per list attached)
All SPCBs/PCCs

AMENDED GUIDELINES ON THE PROVISION OF BUFFER ZONE AROUND WASTE PROCESSING AND DISPOSAL FACILITIES

Central Pollution Control Board
March, 2019

Contents

1. Introduction

Indian cities are expanding with the increase in population, economic activities and the resulting urbanization. Whereas population residing in urban areas was 11.4% of total population in 1901, it increased to 28.53% in the 2001 census and crossed 30% as per 2011 census, standing at 31.16%. There are 53 urban agglomerations in India with a population of 1 million or more as of 2011 against 35 in 2001. About 43 percent of the urban population of India lives in these cities. The unprecedented growth of these cities has posed several challenges for municipal authorities. Identification of suitable sites for waste management infrastructure in cities is one of the toughest challenges municipal authorities are facing at present. Lack of proper/ updated land use plan with urban authorities is a stumbling block in implementing solid waste management projects.

Most of the existing solid waste management facilities are practicing crude dumping of solid waste. In some cases where solid waste is processed, the situation is still alarming due to use of conventional treatment technologies coupled with poor operation and maintenance by the fund starved ULB. This situataion is giving rise to numerous environmental and public health concerns in and around urban areas. "Not in My Back Yard (NIMBY) syndrome" and litigations are common as public at large do not trust ULBs in providing credible waste management services. Majority of existing solid waste treatment plants and dumping sites, though initially away from habitation but now have no adequate buffer zone from these habitations. Buffer even where available have come under illegal encroachment in many cities and settling societies demand shifting the waste treatment facility itself. Thus there is a general public resistance to the location of waste management facility in any area. Lack of identified sites for municipal solid waste management in master plan compounds the problem.

Disposal of waste in landfills/ dumpsites without any treatment is still practiced even as it impacts on the surrounding environment. Waste management sites encompass waste processing/disposal facilities, which become sources of pollution in terms of air, water, land and noise besides emitting foul smell. Therefore, provision of buffer zone around these facilities is essentially required to protect people living in the surroundings from

exposure/impacts of such pollutants but also to ensure continued safe operations in the waste management facility by maintaining its "island character". Buffer zone also acts as barrier, absorber and to some extent as remedial measure against the fugitive emissions. Fugitive emissions of pollutants emitted during handling of waste, storage, transportation and movements of traffics.

Currently, no scientific basis is available for making provisions for buffer zone around waste processing/disposal facilities. The provisions recommended in the "Municipal Solid Waste Management Manual, 2016" were broadly drawn from the "Report of the Committee constituted by the Hon. Supreme Court of India in March 1999" on Solid Waste Management in Class 1 Cities in India.

In this context, the Government of India through CPCB has framed these guidelines on maintaining Buffer zone including green belt around waste management facilities. These guidelines will not only facilitate the ULBs in meeting the regulatory requirements, reduce the aforesaid nuisance value of the waste management facilities but also make an effort to enhance their aesthetic appeal. In addition to above, the siting criteria for setting up these facilities for waste processing/ landfill is adopted as mentioned in SWM Rules, 2016 at tailing part of these guidelines.

In some instances, the actual separation distance may vary from those recommended in these Guideline, due to site-specific constraints. In such cases, variations to the recommended separation distances may be acceptable, subject to detailed assessment by concerned authorities and to the satisfaction of the State Pollution Control Board/Committee.

2. Objective of the Guidelines

The purpose of this Guideline is to specify adequate separation distances between solid waste management facility and its surrounding area having different land usage characteristics.

To achieve the purpose, these Guidelines aim to:

- minimize the risk of adverse impacts on the environment (land, air, water, noise pollution) and the impacts on the Public Health
- inform and support strategic land use planning decisions and prevent encroachment of controlled areas
- Generate/ develop public acceptance for solid waste treatment and disposal infrastructure
- Encourage new technological innovations for processing facilities with minimal land requirement

3. Regulatory Framework

The buffer zone was first envisaged in 1982 after Indian task force developed the 'Core-Buffer-Multiple Use Zone' strategy. This strategy aimed at separating incompatible land uses, particularly in relation to wildlife. In this approach, the buffer zone would be under the wildlife park authorities' administration and controlled use of forest produce would be allowed. The multiple-use zone was located outside the park boundaries designated for rural development. With similar analogy, these buffer zone guidelines are framed for waste processing and disposal facilities. The existing regulatory provisions for these guidelines are given as under:

i. Provisions related to Buffer Zone specified in the **Solid Waste Management Rules**, 2016 mentioned as under;

- **Rule 11** Section (l)- **Duties of the Secretary–in-charge, Urban Development in the States and Union territories-** Notify buffer zone for the solid waste processing and disposal facilities of more than five tonnes per day in consultation with the State Pollution Control Board
- **Rule 12** Section (h)- **Duties of Central Pollution Control Board-** Publish guidelines for maintaining buffer zone restricting any residential, commercial or any other construction activity from the outer boundary of the waste processing and disposal facilities for different sizes of facilities handling more than five tonnes per day of solid waste;

- The **distance/siting criteria's for setting up waste management facilities as** specified in Solid Waste Management Rules, 2016 at **Schedule I (A)(vii)**
- **Schedule I (A) (viii)**-The sites for landfill and processing and disposal of solid waste shall be incorporated in the Town Planning Department's land-use plans.
- **Schedule I (A) (ix)**-A buffer zone of no development shall be maintained around solid waste processing and disposal facility, exceeding five tonnes per day of installed capacity. This will be maintained within the total area of the solid waste processing and disposal facility. **The buffer zone shall be prescribed on case to case basis by the local body in consultation with concerned State Pollution Control Board.**
- **Schedule I (F)**-Criteria for ambient air quality monitoring

ii. The **Coastal Zone Regulation** notified by Ministry of Environment Forest And Climate Change also prohibits setting up and expansion of units or mechanism for disposal of wastes in High Tide Line (hereinafter referred to as the HTL) to 500 mts on the landward side along the sea front. Also dumping of city or town wastes including construction debris, industrial solid wastes, fly ash for the purpose of land filling and the like with high tide line shall be regulated by the concerned authority, where shall implement schemes for phasing out any existing practice, if any.

iii. The buffer zone guidelines for setting up processing and disposal facility also come under the purview of The Water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981.

iv. For setting up solid waste processing and disposal facilities, The Environment (Protection) Act, 1986 also need to be adhered to particularly from the angle of Environmental Clearances. Authorities concerned need to deliberate on the number of issues and criteria when siting a buffer zone as broadly categorized below:

a) Environmental considerations

- Distance from the flood plains, coastal regulation, wetland, Critical habitat areas, sensitive eco-fragile areas, highways, habitations, public parks and water sources

- Topography- Hilly areas, land availability and also the slope's landslide potential.
- Wind Speed and Direction- Wind direction is one of the important consideration as to the area that can be affected due to dust and odour.

b) Proximity and access considerations

- Transportation Network
- Utilities and Services

c) Land-use considerations

- Land Usage and Activities on Adjacent Sites
- Allowable Land Uses and Zoning
- Proximity to Airports
- Proximity to Other Waste Management Facilities

4. Existing Norms for Buffer Zone in India and Abroad

A.) Buffer Zone

The buffer zone, particularly in context of NIMBY syndrome in India, is one of the limiting conditions for obtaining Environmental Clearance for setting up solid waste processing and disposal facilities. At present, there are no published norms for buffer zone for solid waste management facilities by MoEFCC/ CPCB.

However, the "Manual on Municipal Solid Waste Management, 2016" published by CPHEEO, Ministry of Urban Development recommends certain provisions for buffer zone particularly the one of maintaining 500 m buffer zone around the waste processing facilities. In the given pace of urbanization in the country, getting such large piece of land is becoming increasingly difficult and costly. ULBs in setting up waste processing and disposal facilities expeditiously.

The provisions made for Buffer zone for solid waste processing and disposal facilities in various countries are tabulated below:

i. Landfill

International Solid Waste Association	500 m should be provided depending on the size of landfill, height, wind direction
South Australia	500m buffer distance shall be maintained between areas dedicated for waste disposal and the nearest surface water
Ontario, Canada	Buffer area shall be at least 100 m wide at every point, if that does not apply to a buffer area, if the buffer area is at **least 30 metres** wide at every point and a written report confirms that; (a) the buffer area provides adequate space for vehicle entry, exit, turning, access to all areas of the site and parking; (b) the buffer area provides adequate space on the surface of the site for all anticipated structures, equipment and activities; and (c) the buffer area is sufficient to ensure that potential effects of the landfilling operation do not have any unacceptable impact outside the site.
Malaysia	500m
South Africa	Buffer zone min 200m to 500m
Bangladesh	250m from the habitat
Hong Kong	250 m away from the edge of the waste (landfill boundary)

ii. Waste processing facilities

Canada	minimum buffer strip between composting facility boundary and adjacent property. For in-vessel Composting distance between active area and the nearest residential or institutional building shall be min 500m, nearest commercial or industrial building 250 m and nearest property boundary will be **min 100m.**

CANADA-Nova Scotia	In case of in-vessel composting facilities, where it can be demonstrated that particular equipment will not release odours generated from the composting process into the surrounding environment, the distance between the equipment and the nearest property boundary shall be a minimum of **30 metres**
Malaysia	production of compost from organic waste- 500m
Devon city Council (UK)	buffer distance 500m
China	300m buffer zone between incineration plants and local residents

From above, it i s observed that the minimum buffer area varies from 100 m to 500 m in case of both waste processing and disposal facilities.

B.) Facility Siting Criteria

In addition to the suitable provisions of the buffer zone, the SWM Rules, 2016 provides norms for siting criteria for landfills. The same is reproduced below for adoption while setting up **landfill facilities.**

Table 1. Criteria specified for identifying Suitable Land for Sanitary Landfill Sites (Not a treatment facility)

S. No.	**Place**	**Minimum Siting Distance**
1.	Rivers	100 m away
2.	Ponds, Lakes, water bodies	200 m
3.	Highway, **Habitations, Public Parks and water supply wells**	200 m from center line
4.	Flood Plains as recorded for the **last 100 years**, zone of coastal regulation, wetland, Critical habitat areas, and sensitive eco-fragile	Sanitary landfill site not permitted

	areas	
5.	Airport/ Airbase	20 km**

In a special case, **landfill site** may be set up within a **distance of 10 and 20 km** away from the Airport/Airbase after obtaining no objection certificate from the civil aviation authority/ **Air force as the case may be.

However, there is no such siting criteria applicable for setting up waste processing facilities.

5. Recommended Provisions for Buffer Zone

The Solid Waste Management Rules, 2016 specified the terminology of **Buffer Zone**, *as "**no development zone to be maintained around solid waste processing and disposal facility, exceeding 5 TPD of installed capacity. This will be maintained within total land area allotted for the solid waste processing and disposal facility.**"*

Buffer Zone around the core waste processing area consists of utility area, open parks and green belts etc. Further, depending on feasibility of planning, the interface land use between the boundary of waste processing facility and sensetive receptors, can also be developed as an additional measure.The layout of buffer zone (utility area, open parks and green belts) including core waste processing area and optional interface land use is shown in the figure below:

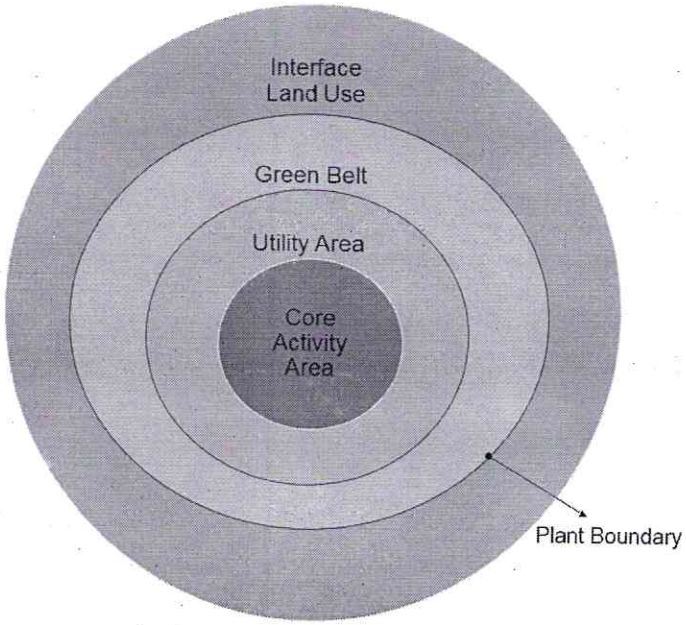


Figure 1 Depicts activity boundary, green belt and separation distance

For the purpose of these guidelines, the Buffer Zone, Separation Distance, Utility Area, Green belt and Interface Land use shall have the meanings set out below, unless otherwise provided, hereafter, for the exclusive interpretation of these Guidelines.

a) The **Buffer Zone** is generally defined as an area of restricted activities, depending on the activity in adjacent land uses. It also ensures long-term continuous availability of disposal sites by avoiding potential conflicts between waste disposal sites and adjacent lands with different users.

b) **Buffer Distance or Separation distance** is measured as the areal distance between the source of emission and sensitive receptors. For the purpose of these guidelines and addressing the required protection from adverse impacts, separation distance is measured from the tip of core SWM facility processing boundary, as the source of emission, to the nearest boundary of the property of sensitive receptors as shown in figure 1.

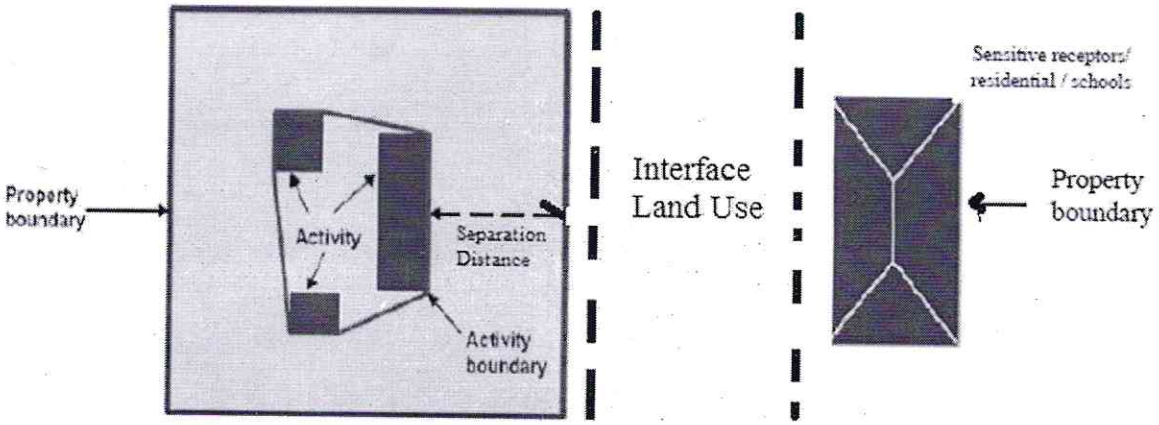


Figure 2. Core Plant activity area, buffer Zone and interface land use

c) **Core Waste Processing/Landfilling Area** typically requires space for receiving waste, storing waste, segregation of waste and treatment units within the facility. Similarly, for Landfilling it is the area of cell which is receiving the waste/inert.

d) **Utility Area** within the facility is designated area for the facility operations other that the core activities like. Weigh bridge, parking, vehicle cleaning, laboratory, emergency services etc.

e) **Green Belt** for the purpose of these guidelines shall refer to an area that is kept in reserve within the alloted land for setting up facility, around the core SWM processing area, for the purpose of plantation and landscaping to reduce the adverse effects from pollutants like air & noise, soil erosion control etc. It also works as a natural shield to protect people around the facility from these pollutants.

f) **Interface Land Use:** The buffer zone could be further augmented with interface land use area, where above beneficial and feasible as an additional optional measure, after due approval of the concerned authorities. The interface land use shall not generate significant emissions, nor warrants protection from them. The activities in the interface land use are **vehicle**

showrooms, service stations, warehouses, display homes, emergency services facilities, funeral, veterinary clinic and parks etc.

i. Separation Distances for Solid Waste Processing and Disposal Facilities

Ideally, a distance of 500 meter from the boundary of the Solid Waste Processing and Disposal Facility (sanitary landfill) should be maintained. However, on case to case basis a distance of minimum 200 meter from the Solid Waste Processing and Disposal Facility (sanitary landfill) can be considered subject to the condition that such facility meets the stipulated standards prescribed by State Pollution Control Board with respect to ambient air as well as for stack emissions.

The above provisions have been made keeping in view of high population density in urban areas, scarcity of land to set up such facilities and protest from local inhabitants in the area of processing/ disposal facility and is in line with those being adopted at international level. Besides, the following three conditions need to be ensured:

(a) the buffer area provides adequate space for vehicle entry, exit, turning, access to all areas of the site and parking;

(b) the buffer area provides adequate space on the surface of the site for all anticipated structures, equipment and activities; and

(c) the buffer area coupled with technological interventions is sufficient to ensure that potential effects of the processing/ landfilling operation do not have any unacceptable impact outside the site.

Note:

1. ***Land of 200-500 m from the boundary of the processing unit is excluded for setting up the facilities but it is mandatory outside the project site as " No development area" for 30 years.***
2. ***No Development area can be utilized for agriculture purpose.***

6. Green Belt

The buffer zone effectiveness is reinforced by the green belt within the solid waste processing and disposal boundaries. An important aspect of a green belt sometimes overlooked is that the plants constituting green belts are living organisms with limits to their tolerance towards air pollutants. For the purpose of these guidelines, the green belt shall refer to an area that is kept in reserve within and around the SWM facility for the plantation and landscaping to reduce the adverse effects from the activity area like air & noise pollution, soil erosion etc. The green belt is an effective pollution sink only within the tolerance limits of constituent plants. The philosophy is that when primary pollutants are taken care of, formation of secondary pollutants will not reach menacing proportions. Primary pollutants of concern are – SO_2, HF, NO_2, CO, CO_2, NH_3, H_2S, Cl, SPM and organics. **Annexure- 1** attached to these guidelines shows the selection criteria for plants near the processing facility.

These guidelines recommend minimum 10 metres green belt within and all around the facility along the boundary. Vegetation, shrubs, trees, and berms with high density greenery can be incorporated into green belt within facility limits to serve as visual barriers and to reduce noise levels. Depending on the monitoring of level of pollutants in ambient air after the boundary of facility, on case to case basis, suitable technological measures/ barriers to check pollutants need to be resorted. The important factors for developing green belt for agro-climatic conditions are stated below:

a) Criteria for Selection for Plant Species

- The plant species should be fast growing
- They should have thick canopy cover
- They should be perennial and evergreen
- They should have high carbon – CO_2 sink potential
- They should be effective in absorbing pollutants without significantly affecting their growth

b) Recommended plant species:

Keeping in view the nature of pollutants expected from the disposal site, a green belt of minimum 10 metre width is recommended and the following plant species can be selected for plantation:

- Acacia nilotica (Babul)
- Deldergia Sissoo (Shishum)
- Acacia auriculiformis (Australian Babul).
- Azadirachta Indica (Neem)
- Lagerstroemia speciosa (jamun)
- Prongamia pinnata (Karanji)

c) Recommended plant species Density around Processing & Disposal/ Landfill site:

These guidelines recommend the green belt width of minimum 10 meters within and all around processing and disposal facilities. The recommended minimum density of the green belt should be as discussed in the green belt model provided in the CPCB guidelines for developing green belts in 2000. These guidelines introduce the concept of a pollution attenuation coefficient for estimating the removal of pollutant while passing through the green belt. The formulation of pollution attenuation coefficient makes use of parameters such as leaf area, density of the tree plantation, deposition velocity of the pollutant on leaf surface and wind speed to the green belt. The model gives the dependence of the pollution attenuation factor of a green belt on various physical parameters of the green belt such as its height, width, distance from the pollution source and on atmospheric stability conditions and hence the model can be used to optimize the design of the green belt in obtaining the desired degree of attenuation of the pollution around an industry. The case to case basis CPCB guidelines for developing green belts (March, 2000) to be referred for optimal density applications.

7. Operationalization Framework

Solid Waste Management Rules, 2016 has empowered Central Pollution Control Board for maintaining buffer zones restricting any residential, commercial or any other construction activity from the outer boundary of the waste processing and disposal facilities for different sizes of facilities handling more than five tonnes per day of solid waste. The guidelines will be updated, from time to time, and address environmental aspects of processing and disposal of solid waste to enable local bodies to comply with the provisions of SWM Rules, 2016.

i. Role of State Pollution Control Board

a) The SPCB shall link the buffer zone achievement with grant of Consent to operate and establish under stipulated norms;
b) The SPCB shall conduct periodic environmental monitoring around buffer zone and assess the impact on the sensitive receptors;
c) The SPCB shall bi-annually review the Green Belt condition within the facility premises and give suggestions to the ULBs for further improvements. Stringent measures and penalties as per the stipulated norms to be imposed in case of default;
d) The SPCB shall extend all necessary support to local authority for the site selection for the newly proposed waste processing and disposal facility;

ii. Role of Local Body/ Facility Operator

a) The ULB shall be responsible for the selection of site in close coordination with SPCB;
b) The ULB/ operator shall be responsible for green belt development and maintenance in the buffer zone;
c) The ULB shall direct the operator concerned, in case it outsources facility to comply with these guidelines

iii. Role of Town and Country Planning Department

a) Town and Country Planning Department shall allocate adequate land for waste

management facilities in the Master Land Use Plan;

b) Town and Country Planning Department shall make all efforts to restrict/ prohibit peri-urban growth near such facility;

c) Town and Country Planning Department shall be responsible for making provisions of Green Area development around such existing/ exhausted facilities to the extent feasible to minimize the impact of pollution to sensetive receptors.

8. Annexure-1- Selection criteria for plants near the processing facility

Table 2.6 Compilation of research in India indicating sensitive and tolerant species, with reference to industrial pollutants

Name of Plant	Sensitive	Tolerant	Reference
Mangifera indica	Coal dust		
Citrus lemon		Coal dust	Rao, 1971
Phasaeolus aureus (Green gram)	Petro cake		Prasad and Rao (1981)
Zea mays	Cement dust		Sree Rangaswamy et al. (1973)
Syzygium cumini	Cement dust		Jafri et al. (1979)
Psidium guyava	Cement dust		Yunus and Ahmed (1980)
Triticum aestivum	Cement dust		Singh and Rao (1980 a)
Calotropis procera	Cement dust		Yusuf and Vyas (1982)
Cassia fistula	Cement dust		
Dalbergia sissoo	Cement dust		
Withania somnifera	Cement dust		
Glycine max	Cement dust		
Hordeum vulgare			Singh and Rao (1978 a)
Portulaca sp.		5% fly ash	Bhatia (1978)
Triticum aestivum	above 20% fly ash		
Trichum aestivam			Pawar and Dubey (1982)
		6g/m²/day fly ash	Dubey et al. (1982)
Dolichos lablab		4g/m²/day fly ash	
		4g/m²/day fly - ash	Pawar et al. (bean) (1983)
Abelmoschus esculantus Var Pusa savani	Cement and Coal dust	fly - ash	Pawar et al. (1982)
Commelina benghalensis	Air borne dust		Chaphekar et al. (1980)
Brassica oleraceae	Urban air		Garg and Varshney (1980)
Chenopodium album			
Cicer arietinum			
Dolichos lablab			
Sonchus asper			
Withania somnifera			
Tabernaemontana coronaria	Polluted environment		Srivastava et al. (1980)
Calotropis procera		Polluted conditions	Yunus and Ahmed(1981)

(Contd.....)

12

Table 2.6 (*Contd....*)

Name of Plant	Sensitive	Tolerant	Reference
Calotropis gigantea	Polluted areas		Bhirava Murthy and Kumar (1983)
Baro paddy, Var. Ratna	Urban dust		Das and Pattanayak (1978)
Mangifera indica		Dust Collector	Shetye and
Thespesia populnea			Chaphekar (1980)
Erythrina indica	Poor dust Collector		---"---
Polyalthia longifolia			
Ficus benghalensis			
Ficus infectoria		Dust Collector	Das 1981 and Das et al. (1981)
Ficus religiosa			
Mangifera indica			
Tectona grandis			
Polyalthia longifolia			
Shorea robusta			
Terminalia arjuna			
Cassia fistula	Poor dust Collector		Das (1981) and Das et al. (1981)
Poinciana regia			
Sesbania sp.			
Pithecolobium dulce		Better dust collector.	Rao (1971)
Argyrea speciosa			
Leucaena leucocephala			
Melilotus alba	Polluted area		Ghouse and Khan (1983)
Banana Crop.	SO_2 and dust From brick Kiln		Bedi et al. (1982)
Lycopersicum esculentum	SO_2 and dust from brick Kiln		Bell and Bedi (1981)
Mangifera indica	SO_2		Rao 1972 Shetye 1979 Girdhar (unpublished data) Pawar and Dubey (1983)
Helianthus annus	To pollute areas		Chaphekar et al. (1980 a)
Crotalaria juncea			
Commelina benghalensis			
Cyamopsis tetragonoloba			
Cicer arietinum	Fly ash SO_2		Dubey et al. (1982)

(*Contd.....*)

Table 2.6 (*Contd....*)

Name of Plant	Sensitive	Tolerant	Reference
Medicago sativa (Alfa-alfa)	SO_2		Singh and Rao (1979, 1980)
Sorghum vulgara var CSH - 1	SO_2		Boralkar and Chaphekar (1978)
Glycine max	SO_2		Pandey and Rao (1979), Prasad and Rao (1982)
Phaseolus aureus	SO_2		Singh and Rao (1980)
Arachis hypogea	SO_2		Mishra (1980)
Dolichos lablab	SO_2		Banerjee and Chaphekar (1979)
Phaseolus aureus Var. Vaishakhee	SO_2		Boralkar and Chaphekar (1980)
Trigonella foenum-graecum	SO_2		Boralkar and Chaphekar (1983)
Pisum sativum	SO_2		Varshney and Varshney (1978)
Crossandra undulaefolia	SO_2		Chaphekar and Karbhari (1974)
Mirabilis jalapa			
Amaranthus spinosus	SO_2		Boralkar and Chaphekar (1980)
Spinacea olercea			
Raphanus sativus	SO_2		Banerjee and Chaphekar (1978)
Commeling benghalensis			
Erythrina indica			
Barley, Cotton, Wheat, Aster, Cosmos, Verbena Zinnia, Sweat Pea, Ipomoea purpurea, 4 o'clock plant, Bean Beet, Carrot, Chilli, Pumpkin, Radish Bhendi, Sunflower etc.	SO_2		Pandey and Vaidya (1979)
Most trees		SO_2	Pandey and Vaidya (1979)
Mangifera indica	SO_2		Chaphekar (1972)
Terminalia catappa			
Malachra capitata Dahlia			
Croton, Plumeria		SO_2	Chaphekar (1972)
Opuntia, Nerium			
Dahlia, Petunia, Alfalfa, cotton	SO_2		Vaishnavi (1975)
Barley			

(*Contd....*)

14

Table 2.6 (*Contd...*)

Name of Plant	Sensitive	Tolerant	Reference
Dalbergia sissoo Terminalia arjuna Cassia fistula Cedrela toona Syzygium cumini Oat, Pea, Brinjel, Potato Cucurbit Azadirachta indica Ficus religiosa Pithecolobium dulce Calotropis procera Trees, Bushes, crops of those areas.	SO_2	SO_2	Yunus and Ahmed (1979)
Phaseolus aureus Cicer arietinum Oryza sativa Panicum miliaceum Solanum melongena Vicia faba Abelmoschus esculentus, Var. Pusa savani	SO_2, O_3, SO_2+O_3 SO_2, O_3, SO_2+O_3 SO_2, O_3, SO_2+O_3 SO_2, O_3, SO_2+O_3 SO_2, O_3, SO_2+O_3	SO_2, O_3, SO_2+O_3 SO_2, O_3, SO_2+O_3	Agrawal and Rao (1983)
Abelmoschus esculentus Phaseolus aureus Triticum aestivum Brassica juncea	SO_2, O_3, SO_2+O_3, SO_2, HF, SO_2+HF		Bolalkar and Shinde (1983) Sharma (1981)
Triticum aestivum	NO_2		Prasad and Rao (1979)
Triticum aestivum	NO_2+SO_2		Prasad (1980)
Dalbergia sissoo Madhuca indica	SO_2		Rao et al. (1983)
Pisum sativum var. Bonneville, Pisum sativum var. T163 Hordeum vulgare Zea mays	NaF		
Lycopersicum esculentum	NaF		Arya (1971)
Terminalia tomentosa Buchanania lanzan	HF		Pandey (1979)
Zea mays	HF		Rao and Pal (1978 b)
Gladiolus sp.	HF		Pandey and Rao (1980 a)

(*Contd....*)

Table 2.6 (*Contd....*)

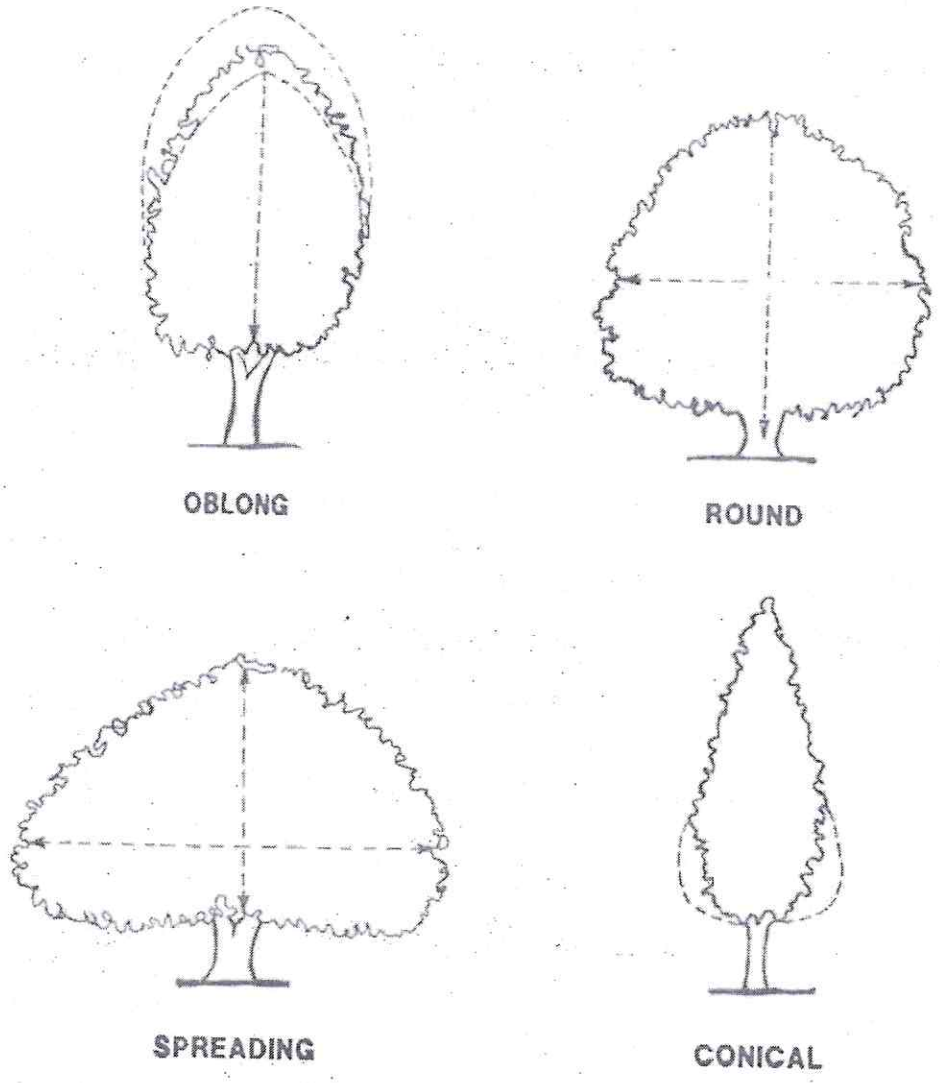
Name of Plant	Sensitive	Tolerant	Reference
Spinacia oleracea	Gasoline Vapour.		Prasad (1980)
Abelmoschus esculantus Cyamopsis tetragonoloba Crotalaria juncea Trigonella foenum-graecum	Ammonia		Chaphekar and Boralkar (1979)
Nerium indicum	SO_2		Varshney, (Unpublished)
Cynodon dactylon	HF		Meenakshy et al (1981)
Cicer arietinum Nasturtium indicum Petunia alba Tradescantia axillaris	SO_2		Varshney and Varshney (1981)
Madhuca indica	SO_2, fly-ash		Agrawal M (1989)
Cassia siamea Delonix regia Shorea robusta	-"-		
Acacia arabica		SO_2, fly-ash	
Acacia catechu Zizyphus sp			
Mangifera indica		Dust	Agrawal & Khanam (1989)
Ficus benghalensis L. Ficus infectoria Roxb Holoptelia integrifolia Planch Ipomoea fistulosa Mart ex choisy Lagerstroemia sp. Nyctanthes arbortristis L. Peltophorum pterocarpum (DC) K.Heyne		Dust	Ahmad Yunus et al (1991)
Tectona grandis L. Terminalia arjuna W & A Thevetia nerifolia Jass Acacia arabica Willd Bougainvillea spectabilis Willd Hibiscus rosa sinensis Willd Morus alba		Dust	Ahmad Yunus et al (1991)

(*Contd....*)

Table 2.6 (*Contd...*)

Name of Plant	Sensitive	Tolerant	Reference
Nerium indicum Mill Thevetia nerifolia juss Dalbergia sissoo Roxb		Cement dust	
Azadirachta indica A.Juss Brassica campestris L Citrus aurantium L Delonix regia Raffin Syzygium cuminii (L) skeel Mangifera indica L Pisum sativum L Tabernaemontana coronaria Willd Triticum aestivum L Zizyphus mauritiana Lamk	Cement dust		Pandey, Misra et al (1994)
Helianthus annus L		fly ash	
Opuntia monocantha Opuntia dillenia Kalanchoe marmorata Crassula Bryophyllum Aloe Bryophyllum tabiflorum Euphorbia cattamindoios	SO_2	SO_2	Raza S.H., Shylaja G. (1992)
Caesalpinia pulcherima Euginia jambolana Polyalthia longifolia Pongamia pinnata	SO_2	SO_2	Murthy M.S.R. et al (1990) Raza S.H. et al (1991)
Caesalpinia pulcherima Pithecolobium dulce Cassia fistula Pongamia globra Polyalthia longifolia	Dust	Dust	
Pithecolobium dulce Caesalpinia pulcherima Polyalthia longifolia Pongamia pinnata	SO_2	SO_2	Raza S.H. et al (1989)

Fig.5.1 TREE CANOPY SHAPES



The shapes given here are for convenience only. Many crown shapes range between those identified following viz. Oblong-Round, Round-Spreading, Conical-Oblong, etc. Some shapes also change with age or environmental stresses.

FIG. 5.1 TREE CANOPY SHAPES

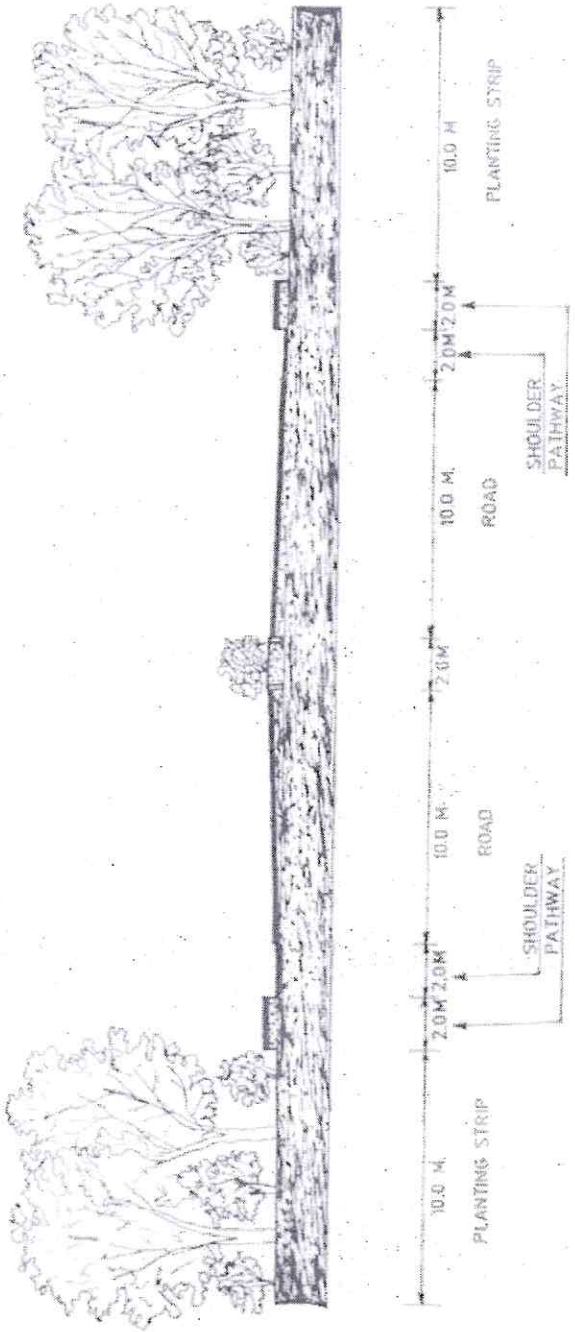


FIG. 5.2 TYPICAL ROAD-SIDE PLANTATION