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Before the National Green Tribunal
Eastern Zone Bench, Kolkata

(DR. BISHU KARMAKAR)
Member Secretary,
TSPCB, Agartala.

In the matter of

OA No. 97/2022/EZ

Subrata Debnath

Versus

State of Tripura & Ors.

Status Report – cum – Compliance Affidavit affirmed on behalf of the respondent No.3

Index

11 MAR 2025

(DR. BISHU KARMAKAR)
Member Secretary,
TSPCB, Agartala.

Before the National Green Tribunal

Eastern Zone Bench, Kolkata

In the matter of

OA No. 97/2022/EZ

Subrata Debnath

Versus

State of Tripura &Ors

Status Report – cum - Compliance Affidavit affirmed on behalf of the respondent No.3

I, Dr. Bishu Karmakar, S/o, Late Jogendra Karmakar, residing at P.O.- Noagaon, Krishnanagar-799006, Police Station- New Capital Complex, Agartala, District- West Tripura, State – Tripura, aged about 50 years, by occupation- Service at a statutory organization, do hereby solemnly affirm and submit before this Hon'ble Tribunal as follows: -

1. I am holding the post of Member Secretary of the Tripura State Pollution Control Board ("TSPCB" in short), whichwas impleaded as the respondent No.3 in the original application.The original application about environmental impact of the solid waste management facility of the Agartala Municipal Corporation at Devendra Chandra Nagar at Agartala was disposed of by this Hon'ble Tribunal on 09.02.2023 with, inter alia, a direction upon the TSPCB for submission of their Status Report/Compliance Affidavit about functioning status of the solid waste management facility. In compliance with the said solemn direction of this Hon'ble Tribunal the answering respondent humbly craves leave to file this affidavit.

2. The functioning of the solid waste management facility of the Agartala Municipal Corporation, which is a Common Municipal Solid Waste Management Facility (CMSWMF), is being monitored by the TSPCB to minimise any harmful environmental impact out of operation of the said facility. Therefore, the expert team of scientific and technical officials of the TSPCB, which was constituted by the TSPCB pursuant to the order of this Hon'ble Tribunal dated 03.01.2023, carried out a detailed scientific study at the solid waste management facility located at Devendra Chandra Nagar and its peripheral area on 11.02.2025 and prepared a comprehensive report based upon their scientific

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analysis. The Solid Waste Management Plant spreading across an area of 56.83 acres is an existing functional solid waste processing, treatment and disposal site operated by the Agartala Municipal Corporation. During the inspection, it was found that the Plant capacity is 250 MTPD having its functional Segregation, Treatment and Composting Facility Sector for scientific processing of the solid waste for proper disposal of the same. However, additional composting facilities were being set up.

3. The Solid Waste Management Plant of the Agartala Municipal Corporation (in short, "the AMC") at Devendra Chandra Nagar was being operated by M/s Mandy Enterprise of New Delhi which is also engaged for bio-mining/bioremediation work of the existing Legacy Waste. The municipal solid waste transported to the Plant was being quantified by a weighing bridge which was found to be managed by an application, viz. "Weigh Bridge Management App". Recyclable waste such as plastic items, iron scraps, glass bottles were sorted out semi-mechanically from the solid waste which was collected through a door-to-door mechanism by the AMC. After segregation, recyclable waste was being sold to recyclers/vendors whereas non-recyclable plastic carry bags were kept separately for selling to cement factories. Considerable quantity of legacy waste has been bio-remediated. The National Environmental Engineering Research Institute (NEERI) has quantified the legacy waste at the dumpsite of the Plant at 3,32,249.5 tonnes as on December, 2022. The process of bio-remediation of the legacy waste was going on. Bio-remediation of the legacy waste is expected to be completed by July, 2025.

4. The Solid Waste Processing and Disposal Facility were surrounded by a Buffer Zone of "No Development Area" where there was adequate natural plantation. No trace of burning of waste, which has been prohibited, was noticed.

5. The team upon detailed analysis of ground water quality, ambient air and noise quality, and the adequacy of plantation of green belts all around the boundary of the landfill site submitted their report on 24.02.2025. The parameters were found within prescribed standard. A copy of the report submitted by the team

(DR. BISHU KARMAKAR)
Member Secretary,
TSPCB, Agartala.

of experts of the TSPCB with copies of the annexures thereof, including the photographs obtained by the team showing the functional status of the plant, is annexed herewith and collectively marked as **Annexure -"I"**.

6. The Certificate for Consent to Operate for the Solid Waste Processing Plant, which was functioning properly, has been extended by the TSPCB on 14.02.2025 under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. The validity of the Certificate has been extended till 20.02.2030 provisionally imposing suitable terms and conditions. A copy of the Certificate is annexed hereto and marked as annexure "**II**".

SAMIR BHATTACHARYA ★ CALCUTTA ★ NOTARY
Regd. No. 948/97
Govt. of India

7. The deponent humbly craves leave of the Hon'ble Tribunal to submit any other documents by way of supplementary affidavits for clarifying any matter which may require further elucidation.

8. This affidavit is made bona fide and for the ends of justice.

9. The statements made in the paragraphs 1 and 7 herein above are true to my knowledge, those made in paragraphs 2 to 6 hereinabove are obtained from the records kept and maintained at the Office of the TSPCB which I verily believe to be true, and the rest are my humble submissions before the Hon'ble Tribunal.

Prepared in my Office

Atmab Ray
Advocate

Enrolment No. WB/1335/2011

The Deponent is known to me

(DR. BISHU KARMAKAR)
Member Secretary,
TSPCB, Agartala.
Advocate

Samir Bhattacharya
Notary Govt. of India
Regd. No. 948/97
City Civil Court, Calcutta

Notary

Signature/s of the Executant/s are Attested in the Identification of the Advocate

11.3.25
Notary

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SAMIR BHATTACHARYA
Regn. No. 948/87
Govt. of India
NOTARY, CALCUTTA

(DR. BISHU KARMAKAR)
Member Secretary,
TSPCB, Agartala.

VERIFICATION

I, Dr. Bishu Karmakar, S/o, Late Jogendra Karmakar, residing at P.O.-Noagaon Krishnanagar-799006, Police Station- New Capital Complex, Agartala, District- West Tripura, State – Tripura, aged about 50 years, by occupation- Service at a statutory organization, do hereby solemnly declare and verify that I amholding the post of Member Secretary of the Tripura State Pollution Control Board at its office 'Parivesh Bhawan' at Pandit Nehru Complex, Gorkhabasti, Post Office- Kunjaban, Agartala, West Tripura, PIN- 799006, and in my official capacity I am well acquainted with the facts and circumstances of the present case and also that the statements made in paragraphs 1 and 7 in the foregoing Affidavit are true to my knowledge, the averments made in paragraphs 2 to 6 therein are obtained from the records kept and maintained at the office of the TSPCB which I verily believe to be true and the rest are my respectful submissions before this Hon'ble Tribunal. I have not suppressed any material facts. I am competent to sign this Verification.

I signed this verification on this the 07th day of March, 2025 at the office of the TSPCB at Agartala.

Prepared in my office

Signature of the deponent

(DR. BISHU KARMAKAR)
Member Secretary,
TSPCB, Agartala.

Asmab Ray.

Advocate

Enrolment No. WB/1335/2011

Identified by me.

Asmab Ray.

Advocate

Enrolment No. WB/1335/2011

11 MAR 2025

Annexure- I

PRESENT STATUS REPORT OF FUNCTIONING AND OTHER ENVIRONMENTAL ISSUES OF THE SOLID WASTE MANAGEMENT PLANT LOCATED AT DEVENDRA CHANDRA NAGAR, WEST TRIPURA DISTRICT IN VIEW OF THE DIRECTION DATED 09.02.2023PASSED BY THE HON'BLE NATIONAL GREEN TRIBUNAL, EZ IN OA NO. 97/2022/EZ IN THE MATTER OF SUBRATA DEBNATH VS STATE OF TRIPURA & OTHERS

TRIPURA

tspcb

SAMIR BHATTACHARYA

SUBMITTED BY

THE EXPERT COMMITTEE OF TRIPURA STATE POLLUTION CONTROL BOARD CONSTITUTED VIDE OFFICE ORDER NO.F. 18(28)/TSPCB/NGT/97/S/6485-91 DATED 05.08.2022 AND NO.F.18(28)/TSPCB/NGT/97/S/ 150-57 DATED 12.01.2023.

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1. Background:

The Hon'ble National Green Tribunal, Eastern Zone Bench in the matter of Subrata Debnath Vs State of Tripura & Others in OA No. 97/2022/EZ in connection with Solid Waste Management in Devendra Chandra Nagar Solid Waste Processing Plant has passed an Order on 28.07.2022. In this Order dated 28.07.2022, the Hon'ble National Green Tribunal, Eastern Zone Bench had directed to file counter-affidavit within four weeks from 28.07.2022. Accordingly, in order to assess the present status and other Environmental issues of the Solid Waste Management Plant located at Devendra Chandra Nagar and its Peripheral Area,the Tripura State Pollution Control Board (TSPCB)has constituted a team comprising of the Scientific and Technical Officials of the Tripura State Pollution Control Board vide Office Order No.F.18 (28)/TSPCB/NGT/97/S/6485-91 dated 05.08.2022. A copy of the said Office Order is enclosed herewith and marked as **Annexure-A.**

Subsequently, the Tripura State Pollution Control Board has filed its counter affidavit before the Hon'ble National Green Tribunal, EZ Bench on 29.08.2022.

The Hon'ble Tribunal in its Order dated 03.01.2023 has directed the Tripura State Pollution Control Board tofile a fresh Inspection Report with regard to the field visit and observation submitted by the Respondent No.3, i.e. TSPCB through its earlier affidavit dated 29.08.2022 within three weeks. Accordingly, in compliance with the direction of the Hon'ble NGT, EZ Bench, the Tripura State Pollution Control Board has re-constituted its expert team comprising of the following Scientific and Technical Officials of the Tripura State Pollution Control Board vide Office Order No.F.18(28)/TSPCB/NGT/97/S/150-57 dated 12.01.2023

a) Sri Manas Mukherjee, Executive Engineer, TSPCB
b) Sri Dipak Rudra Pal, Jr. Scientist, TSPCB
c) Sri Gautam Ghosh, Jr. Scientist, TSPCB
d) Dr. Rajib Paul, Jr. Scientific Assistant, TSPCB
e) Sri Ratan Debnath, Sr. Laboratory Assistant, TSPCB
f) Sri Saptarshi Roy, Project Engineer, TSPCB

A copy of the said Office Order is enclosed herewith and marked as **Annexure-B.**

Subsequently, the Tripura State Pollution Control Board has filed its report in the form of Affidavit before the Hon'ble National Green Tribunal, Eastern Zone Bench, Kolkata on 01.02.2023.

The Hon'ble National Green Tribunal, Eastern Zone Bench, Kolkata, in its Order dated 09.02.2023 has directed that:

> *"27. We, therefore, direct the State Pollution Control Board, Tripura, toensure that the Waste Processing Plant is activated and madefunctional for processing of solid waste at Debendra Chandra Nagarand this aspect shall also be covered in their StatusReport/Compliance affidavit with completion timelines."*

Accordingly, in compliance with the Direction of the Hon'ble National Green Tribunal, Eastern Zone Bench, Kolkata, the Tripura State Pollution Control Board has directed the Agartala Municipal Corporation as well as the Urban Development Department for taking necessary initiatives as per the direction of the Hon'ble Tribunal. Further, regular monitoring has been done to check the compliances of the direction of the Hon'ble NGT and also to check functionality of the Solid Waste Processing Plant at Debendra Chandra Nagar.

2. About the Solid Waste Management Plant:

The Solid Waste Management Plant located at Devendra Chandra Nagar, Agartala, West Tripura is an existing Solid Waste Processing, Treatment & Disposal site operated by Agartala Municipal Corporation (AMC). Agartala Municipal Corporation (AMC) is the Nodal Agency for executing Solid Waste Management infrastructure in the city of Agartala. The AMC has set up an integrated Solid Waste Management Plant/ processing facility at Devendra Chandra Nagar over an area of 56.83 acres. The main objective of the establishment of waste processing site is for scientific processing and disposal of the solid waste by the local bodies in compliance with the Solid Waste Management Rules, 2016.

The total capacity of this Solid Waste Management Plant is 250 MTPD with composting facility. The Solid Waste Management Plant located at Devendra Chandra Nagar, Agartala, West Tripura has mainly three sectors namely Segregation Sector, Composting Facility Sector and Sanitary Landfill Sector.

4. Statutory Compliances:

4.1) Consent to Establish and Operate Certificate under the Water and Air Act:

The Solid Waste Processing Plant located at Devendra Chandra Nagar, Agartala, West Tripura is an existing Solid Waste Processing, Treatment & Disposal Facility. The Solid Waste Processing Plant has obtained Consent to Establish & Operate Certificate under Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 with validity up to

20.02.2030. Copy of the Consent to Operate Certificate is enclosed herewith and marked as **Annexure-C**.

4.2)Authorization under Solid Waste Management Rules,2016:

The said Solid Waste Processing Plant hasalready obtained Authorization under Solid Waste Management Rules, 2016 which has been renewed with validity up to 20.02.2030 from the Tripura State Pollution Control Board. Copy of the Authorization issued in favour of the Agartala Municipal Corporation is enclosed herewith and marked as **Annexure-D.**

4.3)Environmental Clearance (EC):

The Solid Waste Processing Plant located at Debandra Chandra Nagar, Agartala, West Tripura has also obtained Environmental Clearance (EC) from the State Environment Impact Assessment Authority (SEIAA), Tripura. A copy of the Environmental Clearance (EC) is enclosed herewith and marked as **Annexure –E**.

4.4)Operation and Maintenance of the Waste Disposal Site:

Vide Order No.F.601/Mech. Div./AMC/2022/11-17 dated 01.04.2022, the Agartala Municipal Corporation has engaged M/s Mandy Enterprise, New Delhi for processing of fresh waste transported by AMC daily including operation and maintenance of all allied infrastructure in site compliance with Solid Waste Management Rules, 2016 at Devendra Chandra Nagar Waste Processing Plant. A copy of the said work order is enclosed herewith and marked as **Annexure-F**.

4.5) Work Order on Quantification and Status of the Existing Legacy Waste:

Vide Order F.No.458/Mech. Div/AMC/2019/P-I(Shadow)/3289-92 dated 25.07.2022, the Agartala Municipal Corporation has issued Work Order in favour of the National Environmental Research Institute (NEERI) for studies on quantification and status of the existing condition of Legacy Waste at Devendra Chandra Nagar Waste Processing Site of Agartala Municipal Corporation. A copy of the Work Order dated 25.07.2022 is enclosed herewith and marked as **Annexure-G**.

4.6) Estimation of Legacy Waste:

Based on the site inspection and survey conducted for the quantification of the legacy waste, the National Environmental Research Institute (NEERI) has submitted its report on December, 2022. It was estimated by NEERI that legacy waste in DC Nagar dumpsite is 3,32,249.50 tonnes.

4.8)Biomining / Bioremediation of the Existing Legacy Wastes:

Vide No.F.458/Mech. Div/AMC/2019/Part-I/8057(A)-8057(E) dated 11.01.2023, the AMC has engaged M/s Mandy Enterprise, New Delhi for Biomining/ Bioremediation of the existing legacy waste at Devendra Chandra Nagar. A copy of the said Order is enclosed herewith and marked as **Annexure-H.**

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5. Field Visit and Observation:

In order to assess the present status and other Environmental issues of the Solid Waste Management Plant located at Devendra Chandra Nagar and its Peripheral Area, the team constituted by TSPCB comprising of the Scientific and Technical Officials have visited the site periodically and latest by the month of February, 2025 and observed the following-

i) The existing Solid Waste Processing Plant has segregation, storage and composting facility and presently found functional. The necessary machineries have been installed in the plant for segregation, material recovery, composting and disposal of Municipal Solid Waste. During the inspection, the Solid Waste Management Plant located at Devendra Chandra Nagar is found in functional condition. The operator namely M/s Mandy Enterprise, New Delhi and M/s Agartala Waste Management has started the operation of the plant. The material recovery Centre/unit inside the Plant is also found functional. The weighing bridge has the provision of quantification of municipal solid waste transported in the plant and the said information/data are being managed through an application namely "Weigh Bridge Management App". Recyclable waste such as plastic items, iron scraps, glass bottles are sorted out semi-mechanically from the Municipal Solid Waste and sold to recyclers/vendors.

As informed by Sri Avik Das, Manager of the Plant, the non-recyclable plastic carry bags are kept separately for onward selling to Cement Factories. Moreover, AMC has the mechanism for door-to-door waste collection through women Self Help Groups and collected Municipal Solid Waste from the Agartala City are being transported in the Devendra Chandra Nagar Solid Waste Management Plant. Further, augmentation of the composting facility is going on and additional composting facilities are being set up.

ii) The compostable wastes are being kept for drying and the workers of the engaged agency has been found to be working on the various components of the composting process.

iii) The AMC has engaged M/s Mandy Enterprise, New Delhi for Biomining/ Bioremediation of the existing legacy waste at Devendra Chandra Nagar. Considerable quantity of the legacy wastes has already been bioremediated.

iv) The Buffer Zone of "No Development Area" around the Solid Waste Processing and Disposal Facility of Agartala Municipal Corporation located at Devendra Chandra Nagar, West Tripura District has already been notified.

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v) No trace of burning of waste has been noticed during inspection. However, the Government of Tripura vide Notification No.F.11(49)/DSTE/CC/Pt-I/3382-3414 dated 04.05.2017 notified that no person or body including local body, any agency, organization, concessionaire etc. shall be allowed open burning of waste on lands, including at landfill sites in the whole State of Tripura. And for each such default, the violators shall be liable to pay Environmental compensation. This notification has been issued to combat air pollution throughout the State.

vi) Adequate natural plantation has been observed surrounding the Devendra Chandranagar Solid Waste Processing Plant.

vii) During inspection, the team of TSPCB has also obtained views of the nearest residence namely Smt. Sarbajit Thapa, Smt. Jamuna Thapa, Sri Amrit Kal etc. and they have informed that they have no such issue with this unit at this moment.

viii) Biomining/ Bioremediation work of the existing legacy waste at Devendra Chandra Nagar is going on. It has been noticed that considerable quantity of Legacy Wastes has already been Bioremediated.

6. Timeline for completion of the Bioremediation of the existing Legacy Waste:

Considering the climatic condition and other environmental issues, the Committee is of the opinion that the Agartala Municipal Corporation shall complete the Bioremediation / Biomining works of the existing Legacy Wastes by July, 2025.

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7.Environmental Monitoring (Water, Air & Noise):

A. Groundwater Quality Monitoring:

Analytical Results of Groundwater Samples Collected in and around the Devendra Chandra Nagar Solid Waste Processing Site, Tripura West.

Sl. No	Parameters	S-1	S-2	S-3	Standards (BIS, 2012)	Remarks
1.	pH	6.59	6.72	6.81	6.5-8.5	All the parameters are found within prescribed standard
2.	Conductivity (µS/cm)	177	72	66	-	
3.	TDS (mg/l)	88	36	34	500	
4.	Turbidity (NTU)	0.95	0.86	0.75	5	
5.	Chlorides (mg/l)	28.4	23.6	19.8	250	
6.	Total Hardness (mg/l)	110	50.5	30.3	200	
7.	Sulphate (mg/l)	8.66	5.8	5.2	200	
8.	Chromium (as Cr^{+3})	BDL	BDL	BDL	0.05	
9.	Cadmium (mg/l)	BDL	BDL	BDL	0.01	
10.	Lead (mg/l)	BDL	BDL	BDL	0.05	
11.	Iron (mg/l)	0.16	0.08	0.07	0.30	
12.	Arsenic (mg/l)	BDL	BDL	BDL	0.01	

**BDL (Below Detectable Limit)*

Site of collection:

S-1: Eastern side of Devendra Chandra Nagar dumping site, Agartala. (Inside the dumping yard)

S-2: North East side of Devendra Chandra Nagar dumping site, Agartala (Residence of Sri Sarvajit Thapa)

S-3: North side of Devendra Chandra Nagar dumping site, Agartala (Residence of Sri Amrit Kal)

Materials and Methodology:

Three groundwater samples were collected in and around the Devendra Chandra Nagar dumping site, Agartala on 11.02.2025 for the analysis of different physical & chemical parameters. Samples were analyzed in the laboratory of TSPCB using the standard methods given in **APHA, 2012 (*American Public Health Association*, 2012).**

Observations:

From the result table, it has been observed that, all the analytical parameters of collected ground water samples were within the prescribed standard of BIS (Bureau of Indian Standard, 2012).

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B. Ambient Air Quality Monitoring:

Ambient Air Quality Data at Devendra Chandra Nagar Solid Waste Processing Site, Tripura West

Pollutants	Time weighted Average	S-1	Standards (CPCB, 2009)	Methods of Measurement	Remarks
Particulate matter (PM_{10}), µg/m³	24 Hours	67.8	100	Gravimetric	All the parameters are found within prescribed standard.
Particulate matter ($PM_{2.5}$), µg/m³	24 Hours	49.2	60	Gravimetric	
Sulphur Dioxide (SO_2), µg/m³	24 Hours	11.6	80	Improved West and Geake	
Nitrogen Dioxide (NO_2), µg/m³	24 Hours	7.86	80	Jacob & Hochheiser	

Materials and Methodology:

The air quality monitoring was conducted on **11.02.2025** for 24 hours inside the **Devendra Chandra Nagar Solid waste processing site**. The sampling procedures for measurement of PM-2.5, PM-10, NO_2 and SO_2 were made according to the internationally accepted standard technique through use of Respirable Dust Sampler (RDS) with gaseous sampling attachments and PM-2.5 Sampler manufactured by M/s Envirotech Instruments PVT. LTD., New Delhi.

Observations:

From the result table it has been observed that the measured concentration of Respirable Particulate Matter (PM-10), Fine Particulate Matter (PM-2.5), SO_2 and NO_2 are well within the prescribed standard limit of CPCB (*Central Pollution Control Board, 2009*).

C. Noise Level Monitoring:

- **Monitoring Location** : Devendra Chandra Nagar Solid Waste Processing Site, Tripura (W)
- **Date of Monitoring** : 11/02/2024
- **Time of Monitoring** : 3.00 PM to 5.00 PM
- **Type of sample** : Ambient Noise
- **Major Source(s) during monitoring:** Vehicular movement and operation of Solid Waste processing Plant including human gathering.
- **Other Noise Sources(s) during monitoring:** NA

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Monitoring Results:

Sl. No	Sampling location	Distance from the dumping site	Leq dB(A)	Standards dB(A) Leq (Day time)	Remarks
1.	Eastern side of Devendra Chandra Nagar dumping site	150 meters	53.8	55	All the parameters are found within prescribed standard limit.
2.	North East side of Devendra Chandra Nagar dumping site, Agartala	250 meters (approx.)	43.2	55	
3.	North side of Devendra Chandra Nagar dumping site, Agartala	850 meters (approx.)	41.1	55	

Observations:

From the monitoring results it has been observed that, the noise level in and around the **Devendra Chandra Nagar Solid Waste Processing Site** are within the prescribed standard limit of Ambient Air Quality standard in respect of noise (55dB) of CPCB [Rule 3(1) & 4(1)] at day time in respect of residential area.

Saptarshi Roy 28/02/25
(Saptarshi Roy)
Project Engineer
TSPCB

Rajib Paul 28/02/25
(Dr. Rajib Paul)
Jr. Scientific Assistant
TSPCB

Gautam Ghosh 28/2/25
(Gautam Ghosh)
Junior Scientist
TSPCB

Dipak Rudra Pal 28/2/25
(Dipak Rudra Pal)
Junior Scientist
TSPCB

28/02/25
(Manas Mukherjee)
Executive Engineer
TSPCB

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PHOTOGRAPHS

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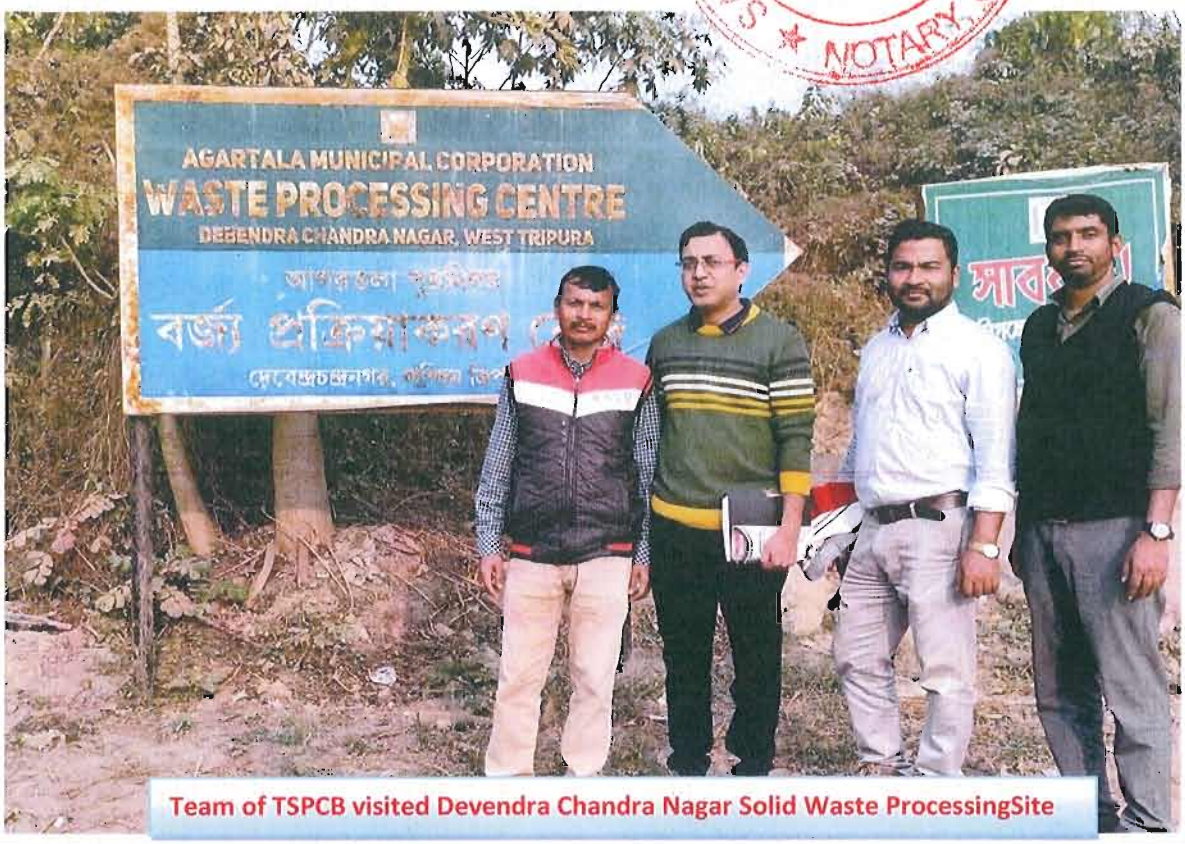
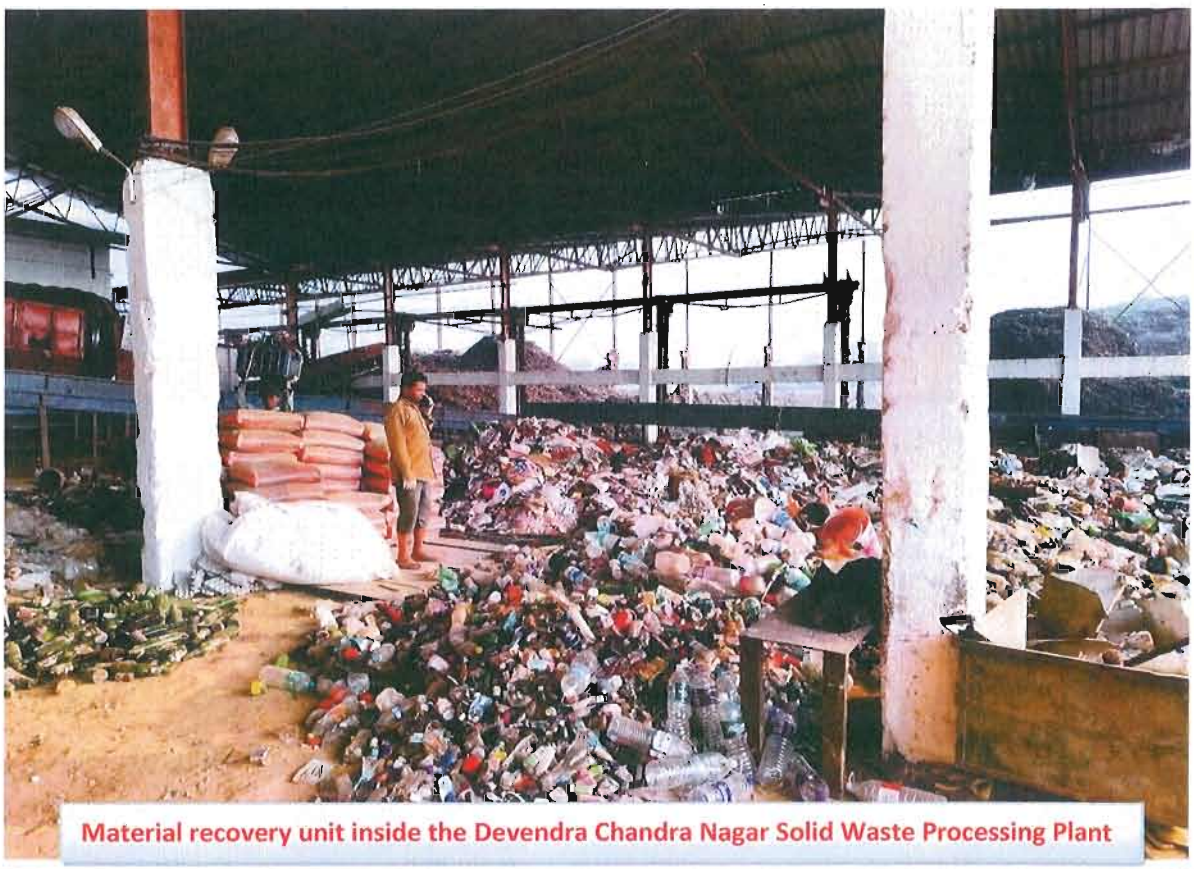


Team of TSPCB visited Devendra Chandra Nagar Solid Waste ProcessingSite



Material recovery unit inside the Devendra Chandra Nagar Solid Waste Processing Plant

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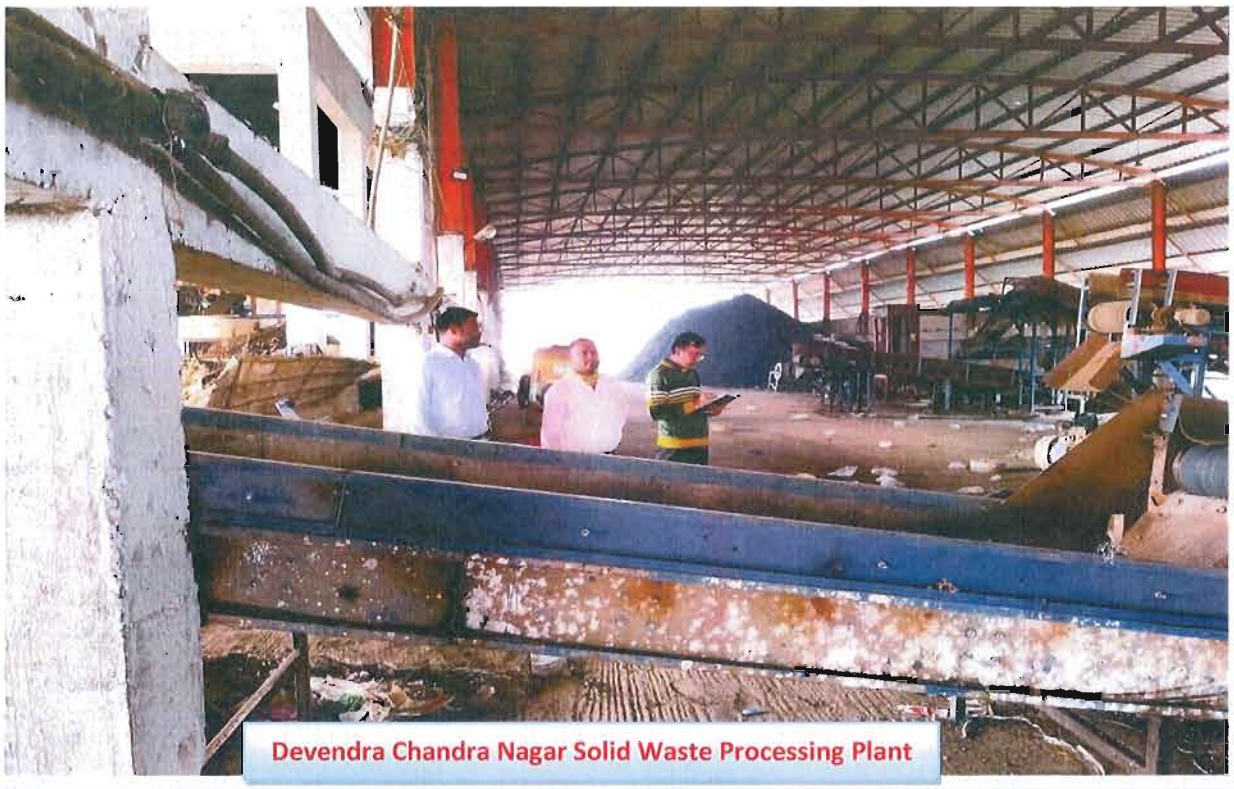
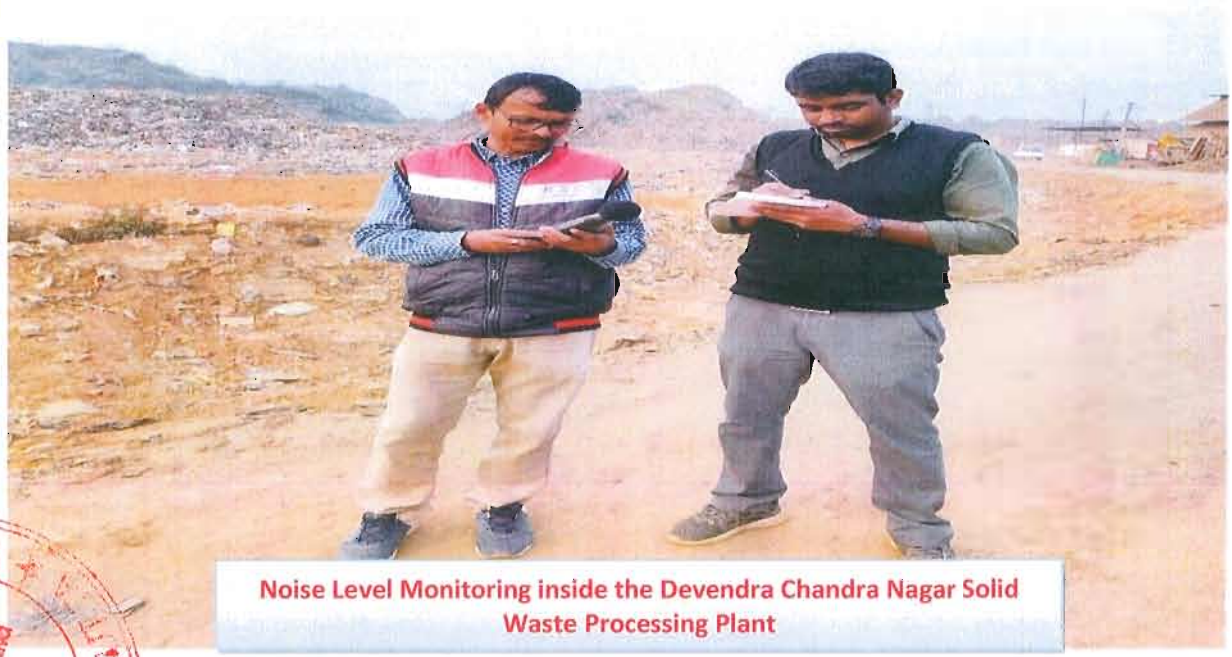


Devendra Chandra Nagar Solid Waste Processing Plant



Noise Level Monitoring inside the Devendra Chandra Nagar Solid Waste Processing Plant

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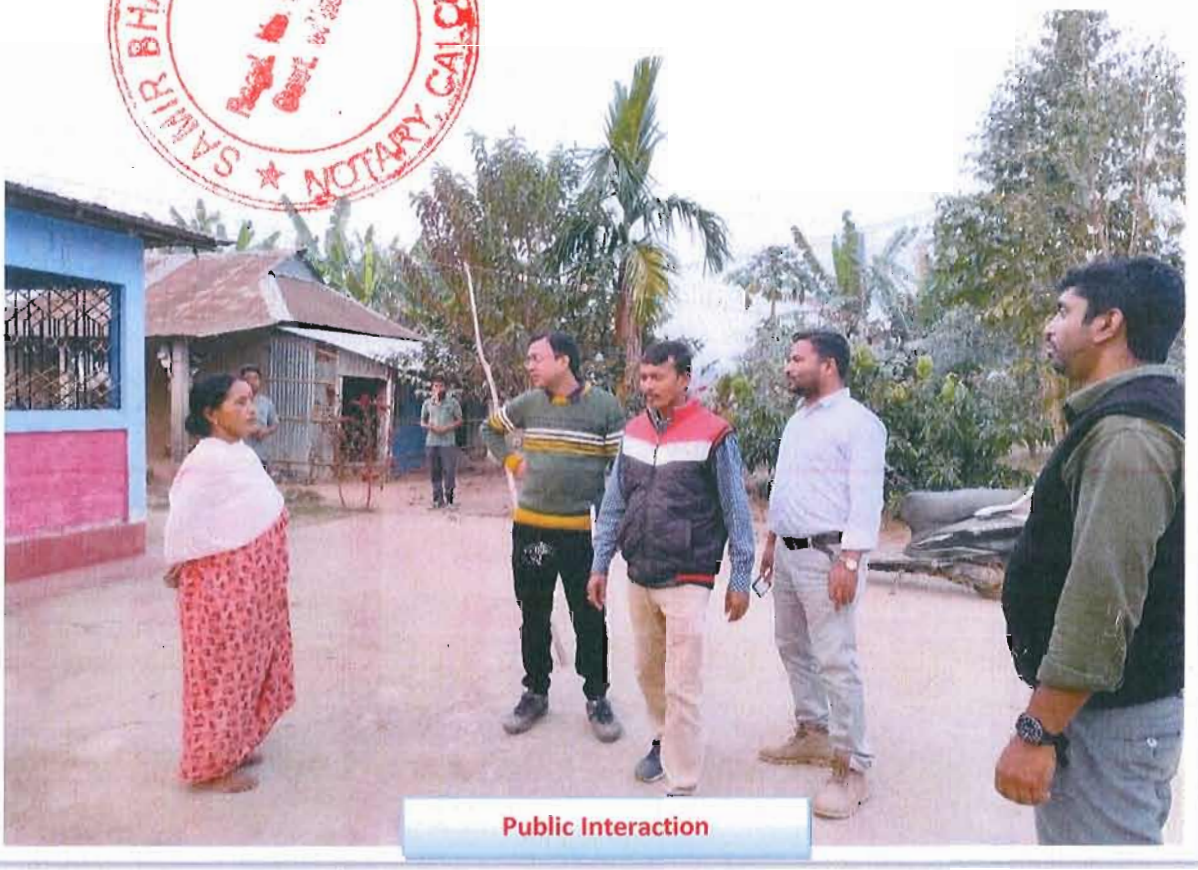

Public Interaction

Bioremediation Work

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Air Quality Monitoring at Devendra Chandra Nagar Solid Waste Processing Site

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Govt. of India

TRIPURA STATE POLLUTION CONTROL BOARD

(A Statutory Organisation Under Government of Tripura)
Department of Science Technology & Environment

No.F.18(28)/TSPCB/NGT/97/S/6485-91 August 05, 2022

OFFICE ORDER

In compliance with the Direction of the Hon'ble National Green Tribunal, Eastern Zone Bench in OA No.97/2022/EZ in the matter of Subrata Debnath Vs State of Tripura & others in connection with Solid Waste Management in Debendra Chandra Nagar Solid Waste Processing Plant, the Tripura State Pollution Control Board require to file an Affidavit before the Hon'ble NGT within four weeks from 28.07.2022. To assess the present status and other environmental issues of the Solid Waste Processing Plant at Debendrachandra Nagar Nagar and its peripheral area, a team comprising of the following scientific and technical officials of TSPCB is hereby constituted:

a) Sri Manas Mukherjee, Executive Engineer, TSPCB
b) Sri Gautam Ghosh, Jr.Scientist, TSPCB
c) Dr. Rajib Paul, Jr. Scientific Assistant, TSPCB
d) Sri Ratan Debnath, Sr. Laboratory Assistant, TSPCB
e) Sri Saptarshi Ray, Project Engineer,TSPCB

2. The Team will conduct field visit, collect and analyze documentary evidences including status of quality of Air, Water and Noise as well as leachate, compliance of siting guidelines etc of the Solid Waste Processing Plant at Debendrachandra Nagar and its peripheral area including detail quantification of legacy waste.

3. The Team will submit a comprehensive report based on the scientific and technical information and factual evidences within 12.08.2022 to enable TSPCB to file the Affidavit within stipulated timeline. Moreover, the Team shall also suggest the suitable steps to be taken to ensure an environmentally safe waste processing facility in Debendra Chandra Nagar Solid Waste Processing Plant.

4. The study and other activities will be conducted under the supervision of Sri Manas Mukherjee, Executive Engineer, TSPCB and he also will coordinate the entire work.

5. This has been issued with the approval of the Chairman, TSPCB vide U.O.No.16242 dated.05/08/2022.

5.8.2022

(Dr. Bishu Karmakar)
Member Secretary

To

1. Sri Manas Mukherjee, Executive Engineer & In-Charge, Waste Management Division,TSPCB.
2. Sri Gautam Ghosh, Jr Scientist, TSPCB
3. Dr. Rajib Paul, Jr. Scientific Assistant, TSPCB
4. Sri Ratan Debnath, Sr. Laboratory Assistant,TSPCB
5. Sri Saptarshi Ray, Project Engineer,TSPCB

Copy to:

1. PA to the Chairman, Tripura State Pollution Control Board for kind information.
2. Head of Office & DDO, Tripura State Pollution Control Board for necessary arrangement.

SAMIR BHATTACHARYA NOTARY AGARTALA

Address :
PARIVESH BHAWAN
Pandit Nehru Complex, Gorkhabasti,
PO : Kunjaban, Agartala, West Tripura - 799 006

website :
www.tspcb.tripura.gov.in / trpenvis.nic.in
e-mail :
tripuraspcb@gmail.com / hoospcb-tr@gov.in

Contact :
Chairman : 0381 - 2322462
Member Secretary : 0381 - 2325421
Head of Office : 0381 - 2322455
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TRIPURA STATE POLLUTION CONTROL BOARD

(A Statutory Organisation Under Government of Tripura)
Department of Science Technology & Environment

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No.F.18(28)/TSPCB/NGT/97/S/150-57 January 12, 2023

OFFICE ORDER

In compliance with the Direction of the Hon'ble National Green Tribunal, Eastern Zone Bench in OA No.97/2022/EZ in the matter of Subrata Debnath Vs State of Tripura & others in connection with Solid Waste Management in Debendra Chandra Nagar Solid Waste Processing Plant, the Tripura State Pollution Control Board (TSPCB)had constituted a team comprising of the scientific and technical officials of TSPCB vide Office Order No. F.18(28)/TSPCB/NGT/97/S/6485-91 Dated August 05, 2022 to assess the present status and other environmental issues of the Solid Waste Processing Plant at Debendrachandra Nagar Nagar and its peripheral area and to submit a report in this regard.

The Hon'ble NGT in its Order dated 03.01.2023 has directed the TSPCB to file a fresh inspection report with regard to the field visit and observation submitted by TSPCB in its earlier affidavit dated 29.08.2022 within three weeks from 03.01.2022.

2. The Team will conduct a fresh field visit andascertain present status of functioning of the Solid Waste Processing Plant at Debendrachandra Nagar and its peripheral area including detail quantification of legacy waste.

3. The Team will submit a fresh comprehensive report based on the scientific and technical information and factual evidences within **20.01.2023** to enable TSPCB to file the Affidavit within stipulated timeline.

4. Sri Dipak Rudra Pal, Junior Scientist and Nodal Officer (Law) is hereby coopted in this team constituted vide Office Order No. F.18(28)/TSPCB/NGT /97/S/6485-91 Dated August 05, 2022.

5. This has been issued with the approval of the Chairman, TSPCB.

12.1.2023

(Dr. BishuKarmakar)
Member Secretary

To

i) Sri Manas Mukherjee, Executive Engineer & In-Charge, Waste Management Division,TSPCB
ii) Sri Dipak Rudra Pal, Jr Scientist, TSPCB
iii) Sri Gautam Ghosh, Jr Scientist, TSPCB
iv) Dr. Rajib Paul, Jr. Scientific Assistant, TSPCB
v) Sri Ratan Debnath, Sr. Laboratory Assistant,TSPCB
vi) Sri Saptarshi Ray, Project Engineer,TSPCB

Copy to:

1. PPS to the Chairman, Tripura State Pollution Control Board for kind information.
2. Head of Office, Tripura State Pollution Control Board for necessary arrangement.

Address :
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Certificate Sl. No. 16467

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TRIPURA STATE POLLUTION CONTROL BOARD

PARIVESH BHAWAN, Pandit Nehru Complex, Gorkhabasti,
Kunjaban, Agartala - 799 006, West Tripura.

No.F.17(10)/TSPCB/W/ Solid Waste/(L- Red)/ 5363/1160-64 Date : 03 / 03 / 2025

CERTIFICATE FOR CONSENT TO OPERATE

Under Section 25/26 of Water (Prevention and Control of Pollution) Act, 1974 and
Under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981

Reference : i) Your Application No. **333899** Dated : **14-02-2025**
ii) Our NOC Register Sl. No.**15217** For : **Extension of validity**

Capital Investment : **Rs. 16.50 Cr.** Plant Capacity: **250 MT/Day**
Type : **Common Solid Waste Processing Plant** Category : **Red**

With reference to the above Application, a provisional Consent to Operate Certificate (Extension of validity) is hereby issued in favour of **M/s. Mechanical Division, The Executive Engineer (Mech.), Devendra Chandra Nagar, AMC, Agartala, Tripura (W)** to discharge its industrial and other effluents arising out of their premises into a stream/ well/ land as per section 25/26 of Water (Prevention and Control of Pollution) Act,1974 and to make emission from the plant /unit as per Section 21 of the Air (Prevention and Control of Pollution) Act,1981situated at **Devendrachandra Nagar, AMC, Agartala, Tripura (W)** to subject to observance of other codal formalities of the Govt. of India/Govt. of Tripura/District Administration/ Agartala Municipal Corporation or concerned Municipal Council or concerned Nagar Panchayat (whichever is applicable)/ Health Department/Industries & Commerce Department and subject to observance of the following terms & conditions stated at **Annexure – I.**

The Tripura State Pollution Control Board may, at any time, add or revoke any of the conditions applicable under the Consent to Establish Certificate/ Consent to Operate Certificate and shall communicate the same in writing.

AMC shall always have to obtain valid EC from SEIAA for Operation of Solid Waste Processing facility under EIA Notification, 2006 as amended to date.

This Certificate is valid 20-02-2030. Application for extension of validity of Consent Certificate shall have to be made one month before the date of expiry of validity of this Certificate. This Certificate has been issued in cancellation of earlier Consent to Operate Certificate No.F.17(10)/TSPCB/W/ Solid Waste/(L- Red)/ 5363/891-95 Dated 21/ 02/2025.

(Amarendra Jamatia) 03/03/2025
Asst Environmental Engineer
Tripura State Pollution Control Board

To
M/s. Mechanical Division
The Executive Engineer (Mech.)
Devendrachandra Nagar, AMC, Agartala, Tripura (W)

Copy to :
1. MC, Agartala Municipal Corporation, Tripura (W)
2. DM&C, West Tripura (W).
3. DI&C, Department, Tripura (W).
4. ~~Sub-Divisional~~ Magistrate, Mohanpur, Tripura (W)

03/03/2025
Asst Environmental Engineer
Tripura State Pollution Control Board

SAMIR BHATTACHARYA NOTARY Regd. No. Govt. of Tripura

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TERMS & CONDITIONS

I. GENERAL CONDITIONS:

(1) Agartala Municipal Corporation shall prepare a solid waste management plan as per the State Policy and Strategy on Solid Waste Management.

(2) Agartala Municipal Corporation shall arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location;

(3) Agartala Municipal Corporation shall establish a system to recognise organisations of waste pickers or informal waste collectors and promote and establish a system for integration of these authorised waste-pickers and waste collectors to facilitate their participation in solid waste management including door to door collection of waste;

(4) Agartala Municipal Corporation shall facilitate formation of Self Help Groups, provide identity cards and thereafter encourage integration in solid waste management including door to door collection of waste;

(5) Agartala Municipal Corporation shall frame bye-laws incorporating the provisions of these rules within one year from the date of notification of these rules and ensure timely implementation;

(6) Agartala Municipal Corporation shall prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorized agency;

(7) Agartala Municipal Corporation shall direct waste generators not to litter i.e. throw or dispose of any waste such as paper, water bottles, liquor bottles, soft drink canes, tetra packs, fruit peel, wrappers, etc., or burn or burry waste on streets, open public spaces, drains, waste bodies and to segregate the waste at source as prescribed under these rules and hand over the segregated waste to authorized the waste pickers or waste collectors authorized by the local body;

(8) Agartala Municipal Corporation shall setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorized waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities; Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black;

SAMIR BHATTACHARYA ★ NOTARY, CALCUTTA ★

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(9) Agartala Municipal Corporation shall establish waste deposition centres for domestic hazardous waste and give direction for waste generators to deposit domestic hazardous wastes at this centre for its safe disposal. Such facility shall be established in a city or town in a manner that one centre is set up for the area of twenty square kilometers or part thereof and notify the timings of receiving domestic hazardous waste at such centres;

(10) Agartala Municipal Corporation shall ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the Tripura State Pollution Control Board.

(11) Agartala Municipal Corporation shall direct street sweepers not to burn tree leaves collected from street sweeping and store them separately and handover to the waste collectors or agency authorised by local body;

(12) Agartala Municipal Corporation shall provide training on solid waste management to waste-pickers and waste collectors;

(13) Agartala Municipal Corporation shall collect waste from vegetable, fruit, flower, meat, poultry and fish market on day to day basis and promote setting up of decentralized compost plant or bio-methanation plant at suitable locations in the markets or in the vicinity of markets ensuring hygienic conditions;

(14) Agartala Municipal Corporation shall collect separately waste from sweeping of streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the density of population, commercial activity and local situation;

(15) Agartala Municipal Corporation shall set up covered secondary storage facility for temporary storage of street sweepings and silt removed from surface drains in cases where direct collection of such waste into transport vehicles is not convenient. Waste so collected shall be collected and disposed of at regular intervals as decided by the local body;

(16) Agartala Municipal Corporation shall collect horticulture, parks and garden waste separately and process in the parks and gardens, as far as possible;

(17) Agartala Municipal Corporation shall transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for onsite processing of such waste;

(18) Agartala Municipal Corporation shall transport non-bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility;

(19) Agartala Municipal Corporation shall transport construction and demolition waste as per the provisions of the Construction and Demolition Waste management Rules, 2016;

(20) Agartala Municipal Corporation shall involve communities in waste management and promotion of home composting, bio-gas generation, decentralized processing of waste at

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community level subject to control of odour and maintenance of hygienic conditions around the facility;

(21) Agartala Municipal Corporation shall phase out the use of chemical fertilizer in two years and use compost in all parks, gardens maintained by the local body and wherever possible in other places under its jurisdiction. Incentives may be provided to recycling initiatives by informal waste recycling sector.

(22) Agartala Municipal Corporation shall facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilization of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the Ministry of Urban Development from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralized processing to minimize transportation cost and environmental impacts such as-

a) bio-methanation, microbial composting, vermi-composting, anaerobic digestion or any other appropriate processing for bio-stabilization of biodegradable wastes;

b) waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based power plants or cement kilns;

(23) Agartala Municipal Corporation shall undertake on their own or through any other agency construction, operation and maintenance of sanitary landfill and associated infrastructure as per Schedule 1 for disposal of residual wastes in a manner prescribed under these rules;

(24) Agartala Municipal Corporation shall make adequate provision of funds for capital investments as well as operation and maintenance of solid waste management services in the annual budget ensuring that funds for discretionary functions of the local body have been allocated only after meeting the requirement of necessary funds for solid waste management and other obligatory functions of the local body as per these rules;

(25) Agartala Municipal Corporation shall submit application for renewal of authorization at least sixty days before the expiry of the validity of authorization;

(26) Agartala Municipal Corporation shall prepare and submit annual report in Form IV on or before the 30th April of the succeeding year to the Commissioner or Director, Municipal Administration or designated Officer;

(27) Agartala Municipal Corporation shall the annual report shall then be sent to the Secretary - in-Charge of the State Urban Development Department and to the Tripura State Pollution Control Board or Pollution Control Committee by the 31st May of every year;

(28) Agartala Municipal Corporation shall educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility;

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(29) Agartala Municipal Corporation shall ensure that the operator of a facility provides personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate foot wear and masks to all workers handling solid waste and the same are used by the workforce;

(30) Agartala Municipal Corporation shall ensure that provisions for setting up of centers for collection, segregation and storage of segregated wastes, are incorporated in building plan while granting approval of building plan of a group housing society or market complex; and

(31) Agartala Municipal Corporation shall frame bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines as per the bye laws framed; and

(32) Agartala Municipal Corporation shall create public awareness through information, education and communication campaign and educate the waste generators on the following; namely:-

(i) Not to litter;
(ii) Minimize generation of waste;
(iii) Reuse the waste to the extent possible;
(iv) Practice segregation of waste into bio–degradable, non-biodegradable (recyclable and combustible), sanitary waste and domestic hazardous wastes at source;
(v) Practice home composting, vermi-composting, bio-gas generation or community level composting;
(vi) Wrap securely used sanitary waste as and when generated in the pouches provided by the brand owners or a suitable wrapping as prescribed by the local body and place the same in the bin meant for non-biodegradable waste;
(vii) Storage of segregated waste at source in different bins;
(viii) Handover segregated waste to waste pickers, waste collectors, recyclers or waste collection agencies; and
(ix) Pay monthly user fee or charges to waste collectors or local bodies or any other person authorised by the local body for sustainability of solid waste management.

(33) Agartala Municipal Corporation shall stop land filling or dumping of mixed waste soon after the timeline as specified in rule 23 for setting up and operationalisation of sanitary landfill is over;

(34) Agartala Municipal Corporation shall allow only the non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive inert waste and pre-processing rejects and residues from waste processing facilities to go to sanitary landfill and the sanitary landfill sites shall meet the specifications as given in Schedule–I, however, every effort shall be made to recycle or reuse the rejects to achieve the desired objective of zero waste going to landfill;

(35) Agartala Municipal Corporation shall investigate and analyze all old open dumpsites and existing operational dumpsites for their potential of bio-mining and bio-remediation and

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wheresoever's feasible, take necessary actions to bio-mine or bio-remediate the sites. In absence of the potential of bio-mining and bio-remediation of dumpsite, it shall be scientifically capped as per landfill capping norms to prevent further damage to the environment.

II. SPECIFIC CONDITIONS:

Agartala Municipal Corporation shall have to comply the following specific conditions-

1. Specifications for Sanitary Landfills

1.1. Criteria for site selection

(i) The department in the business allocation of land assignment shall provide suitable site for setting up of the solid waste processing and treatment facilities and notify such sites.

(ii) The sanitary landfill site shall be planned, designed and developed with proper documentation of construction plan as well as a closure plan in a phased manner. In case a new landfill facility is being established adjoining an existing landfill site, the closure plan of existing landfill should form a part of the proposal of such new landfill.

(iii) The landfill sites shall be selected to make use of nearby wastes processing facilities. Otherwise, wastes processing facility shall be planned as an integral part of the landfill site.

(iv) Landfill sites shall be set up as per the guidelines of the Ministry of Urban Development, Government of India and Central Pollution Control Board.

(v) The existing landfill sites which are in use for more than five years shall be improved in accordance with the specifications given in this Schedule.

(vi) The landfill site shall be large enough to last for at least 20-25 years and shall develop 'landfill cells' in a phased manner to avoid water logging and misuse.

(vii) The landfill site shall be 100 meter away from river, 200 meter from a pond, 200 meter from Highways, Habitations, Public Parks and water supply wells and 20 km away from Airports or Airbase. However 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. The Landfill site shall not be permitted within the flood plains as recorded for the last 100 years, zone of coastal regulation, wetland, Critical habitat areas, sensitive eco-fragile areas.

(viii) The sites for landfill and processing and disposal of solid waste shall be incorporated in the Town Planning Department's land-use plans.

(ix) A buffer zone of no development shall be maintained around solid waste processing and disposal facility, exceeding five Tones 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.

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(x) The Biomedical Waste shall be disposed of in accordance with the Bio-medical Waste Management Rules, 2016, as amended from time to time. The Hazardous Waste shall be managed in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as amended from time to time. The E-Waste shall be managed in accordance with the E-Waste (Management) Rules, 2016 as amended from time to time.

(xi) Temporary storage facility for solid waste shall be established in each landfill site to accommodate the waste in case of non- operation of waste processing and during emergency or natural calamities.

1.2. Criteria for development of Facilities at the Sanitary Landfills.-

(i) Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles, to prevent entry of un-authorized persons and stray animals.

(ii) The approach and / internal roads shall be concreted or paved so as to avoid generation of dust particles due to vehicular movement and shall be so designed to ensure free movement of vehicles and other machinery.

(iii) The landfill site shall have waste inspection facility to monitor waste brought in for landfilling h, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipment. The operator of the facility shall maintain record of waste received, processed and disposed.

(iv) Provisions like weigh bridge to measure quantity of waste brought at landfill site, fire protection equipment and other facilities as may be required shall be provided.

(v) Utilities such as drinking water and sanitary facilities (preferably washing/bathing facilities for workers) and lighting arrangements for easy landfill operations during night hours shall be provided.

(vi) Safety provisions including health inspections of workers at landfill sites shall be carried out made. (vii) Provisions for parking, cleaning, washing of transport vehicles carrying solid waste shall be provided. The wastewater so generated shall be treated to meet the prescribed standards.

1.3. Criteria for specifications for land filling operations and closure on completion of land filling-

(i) Waste for land filling shall be compacted in thin layers using heavy compactors to achieve high density of the waste. In high rainfall areas where heavy compactors cannot be used, alternative measures shall be adopted.

(ii) Till the time waste processing facilities for composting or recycling or energy recovery are set up, the waste shall be sent to the sanitary landfill. The landfill cell shall be covered at the end of each working day with minimum 10 cm of soil, inert debris or construction material.

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(iii) Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage shall be constructed to divert run-off away from the active cell of the landfill.

(iv) After completion of landfill, a final cover shall be designed to minimize infiltration and erosion. The final cover shall meet the following specifications, namely :-

a) The final cover shall have a barrier soil layer comprising of 60 cm of clay or amended soil with permeability coefficient less than 1×10^{-7} cm/sec.

b) On top of the barrier soil layer, there shall be a drainage layer of 15 cm.

c) On top of the drainage layer, there shall be a vegetative layer of 45 cm to support natural plant growth and to minimize erosion.

1.4. Criteria for pollution prevention.-

In order to prevent pollution from landfill operations, the following provisions shall be made, namely:-

(i) The storm water drain shall be designed and constructed in such a way that the surface runoff water is diverted from the land filling site and leachates from solid waste locations do not get mixed with the surface runoff water. Provisions for diversion of storm water discharge drains shall be made to minimize leachate generation and prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions.

(ii) Non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes, batteries, waste oils, paint products and pesticides) shall have liner of composite barrier of 1.5 mm thick high density polyethylene (HDPE) geo-membrane or geo-synthetic liners, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than 1 x 10-7 cm/sec. The highest level of water table shall be at least two meter below the base of clay or amended soil barrier layer provided at the bottom of landfills.

(iii) Provisions for management of leachates including its collection and treatment shall be made. The treated leachate shall be recycled or utilized as permitted, otherwise shall be released into the sewerage line, after meeting the standards. In no case, leachate shall be released into open environment.

(iv) Arrangement shall be made to prevent leachate runoff from landfill area entering any drain, stream, river, lake or pond. In case of mixing of runoff water with leachate or solid waste, the entire mixed water shall be treated by the concern authority.

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1.5. Criteria for water quality monitoring.-

(i) Before establishing any landfill site, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality within 50 meter of the periphery of landfill site shall be periodically monitored covering different seasons in a year that is, summer, monsoon and post-monsoon period to ensure that the ground water is not contaminated.

(ii) Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) shall be considered only after ensuring its quality. The following specifications for drinking water quality shall apply for monitoring purpose, namely:-

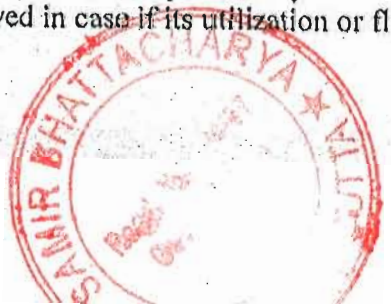
Sl.No.	Parameters	IS 10500:2012, Edition 2.2(2003-09) Desirable limit (mg/l except for pH)
1	Arsenic	0.01
2	Cadmium	0.01
3	Chromium(as Cr^{6+})	0.05
4	Copper	0.05
5	Cyanide	0.05
6	Lead	0.05
7	Mercury	0.001
8	Nickel	-
9	Nitrate as NO_3	45.0
10	pH	6.5-8.5
11	Iron	0.3
12	Total hardness (as $CaCO_3$)	300.0
13	Chlorides	250
14	Dissolved solids	500
15	Phenolic compounds (as C_6H_5OH)	0.001
17	Zinc	5.0
18	Sulphate (as SO_4)	200

1.6. Criteria for ambient air quality monitoring.

(i) Landfill gas control system including gas collection system shall be installed at landfill site to minimize odour, prevent off-site migration of gases, to protect vegetation planted on the rehabilitated landfill surface. For enhancing landfill gas recovery, use of geomembranes in cover systems along with gas collection wells should be considered.

(ii) The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).

(iii) The landfill gas from the collection facility at a landfill site shall be utilized for either direct thermal applications or power generation, as per viability. Otherwise, landfill gas shall be burnt (flared) and shall not be allowed to escape directly to the atmosphere or for illegal tapping. Passive venting shall be allowed in case if its utilization or flaring is not possible.



(iv) Ambient air quality at the landfill site and at the vicinity shall be regularly monitored. Ambient air quality shall meet the standards prescribed by the Central Pollution Control Board for Industrial area.

1.7. Criteria for plantation at landfill Site.-

A vegetative cover shall be provided over the completed site in accordance with the following specifications, namely:-

(a) Locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be planted;

(b) The selection of plants should be of such variety that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilized;

(c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;

(d) Plantation to be made in sufficient density to minimise soil erosion.

(e) Green belts shall be developed all around the boundary of the landfill in consultation with Tripura State Pollution Control Board.

1.8. Criteria for post-care of landfill site.-

(1) The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely :-

(a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(b) Monitoring leachate collection system in accordance with the requirement;

(c) Monitoring of ground water in and around landfill;

(d) Maintaining and operating the landfill gas collection system to meet the standards.

(2) Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous emission and leachate quality analysis complies with the specified standards and the soil stability is ensured.

1.9. Criteria for special provisions for hilly areas.-

Cities and towns located on hills shall have location-specific methods evolved for final disposal of solid waste by the local body with the approval of the concerned State Pollution Control Board or the Pollution Control Committee. The local body shall set up processing facilities for utilization of biodegradable organic waste. The non-biodegradable recyclable materials shall be stored and sent for recycling periodically. The inert and non-biodegradable waste shall be used for building roads or filling-up of appropriate areas on hills. In case of constraints in finding

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adequate land in hilly areas, waste not suitable for road-laying or filling up shall be disposed of in regional landfills in plain areas.

1.10. Closure and Rehabilitation of Old Dumps-

Solid waste dumps which have reached their full capacity or those which will not receive additional waste after setting up of new and properly designed landfills should be closed and rehabilitated by examining the following options:

(i) Reduction of waste by bio mining and waste processing followed by placement of residues in new landfills or capping as in (ii) below.

(ii) Capping with solid waste cover or solid waste cover enhanced with geomembrane to enable collection and flaring / utilisation of greenhouse gases.

(iii) Capping as in (ii) above with additional measures (in alluvial and other coarse grained soils) such as cut-off walls and extraction wells for pumping and treating contaminated ground water.

(iv) Any other method suitable for reducing environmental impact to acceptable level.

2. Standards of Processing and Treatment of Solid Waste

2.1. Standards for composting.-

The waste processing facilities shall include composting as one of the technologies for processing of bio degradable waste. In order to prevent pollution from compost plant, the following shall be complied with namely:-

(a) The incoming organic waste at site shall be stored properly prior to further processing. To the extent possible, the waste storage area should be covered. If, such storage is done in an open area, it shall be provided with impermeable base with facility for collection of leachate and surface water run-off into lined drains leading to a leachate treatment and disposal facility;

(b) Necessary precaution shall be taken to minimize nuisance of odour, flies, rodents, bird menace and fire hazard;

(c) In case of breakdown or maintenance of plant, waste intake shall be stopped and arrangements be worked out for diversion of waste to the temporary processing site or temporary landfill sites which will be again reprocessed when plant is in order;

(d) Pre-process and post-process rejects shall be removed from the processing facility on regular basis and shall not be allowed to pile at the site. Recyclables shall be routed through appropriate vendors. The non-recyclable high calorific fractions to be segregated and sent to waste to energy or for RDF production, co-processing in cement plants or to thermal power plants. Only rejects from all processes shall be sent for sanitary landfill site(s).

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(e) The windrow area shall be provided with impermeable base. Such a base shall be made of concrete or compacted clay of 50 cm thick having permeability coefficient less than 10^{-7} cm/sec. The base shall be provided with 1 to 2 per cent slope and circled by lined drains for collection of leachate or surface run-off;

(f) Ambient air quality monitoring shall be regularly carried out. Odour /nuisance at down-wind direction on the boundary of processing plant shall also be checked regularly.

(g) Leachate shall be re-circulated in compost plant for moisture maintenance.

(h) The end product compost shall meet the standards prescribed under Fertilizer Control Order notified from time to time.

(i) In order to ensure safe application of compost, the following specifications for compost quality shall be met, namely:-

Sl. No.	Parameters	Organic Compost (FCO 2009)	Phosphate Rich Organic Manure (FCO 2013)
1	Arsenic (mg/Kg)	10.00	10.00
2	Cadmium (mg/Kg)	5.00	5.00
3	Chromium (mg/Kg)	50.00	50.00
4	Copper (mg/Kg)	300.00	300.00
5	Lead (mg/Kg)	100.00	100.00
6	Mercury (mg/Kg)	0.15	0.15
7	Nickel (mg/Kg)	50.00	50.00
8	Zinc (mg/Kg)	1000.00	1000.00
9	C/N ratio	<20	Less than 20:1
10	pH	6.5-7.5	(1:5 solution) maximum 6.7
11	Moisture, percent by weight, maximum	15.0-25.0	25.0
12	Bulk density (g/cm^3)	<1.0	Less than 1.6
13	Total Organic Carbon, per cent by weight, minimum	12.0	7.9
14	Total Nitrogen (as N), per cent by weight, minimum	0.8	0.4
15	Total Phosphate (as P205) percent by weight, minimum	0.4	10.4
17	Total Potassium (as K20), percent by weight, minimum	0.4	-
18	Colour	Dark brown to black	-
19	Odour	Absence of foul Odor	-

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20	Particle size	Minimum 90% material should pass through 4.0 mm IS sieve	Minimum 90% material should pass through 4.0 mm IS sieve
21	Conductivity (as dsm-1), not more than	4.0	8.2

* Compost (final product) exceeding the above stated concentration limits shall not be used for food crops. However, it may be utilized for purposes other than growing food crops.

2.2. Standards for treated leachates.-

The disposal of treated leachates shall meet the following standards, namely:-

Sl. No	Parameter	Standards (Mode of Disposal)		
		Inland surface water	Public sewers	Land disposal
1.	Suspended solids, mg/l, max	100	600	200
2.	Dissolved solids (inorganic) mg/l, max.	2100	2100	2100
3	pH value	5.5 - 9.0	5.5 - 9.0	5.5- 9.0
4	Ammonical nitrogen (as N), mg/l, max.	50	50	-
5	Total Kjeldahl nitrogen (as N), mg/l, max.	100	-	-
6	Biochemical oxygen demand (3 days at 27^0 C) max.(mg/l)	30	350	100
7	Chemical oxygen demand, mg/l, max.	250	-	-
8	Arsenic (as As), mg/l, max	0.2	0.2	0.2
9	Mercury (as Hg), mg/l, max	0.01	0.01	-
10	Lead (as Pb), mg/l, max	0.1	1.0	-
11	Cadmium (as Cd), mg/l, max	2.0	1.0	-
12	Total Chromium (as Cr), mg/l, max.	2.0	2.0	-
13	Copper (as Cu), mg/l, max.	3.0	3.0	-
14	Zinc (as Zn), mg/l, max.	5.0	15	-
15	Nickel (as Ni), mg/l, max	3.0	3.0	-
16	Cyanide (as CN), mg/l, max.	0.2	2.0	0.2
17	Chloride (as Cl), mg/l, max.	1000	1000	600
18	Fluoride (as F), mg/l, max	2.0	1.5	-
19	Phenolic compounds (as C6H5OH) mg/l, max.	1.0	5.0	-

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2.3. Standards for incineration:

The Emission from incinerators /thermal technologies in Solid Waste treatment/disposal facility shall meet the following standards, namely:-

Sl. No.	Parameter	Emission Standard	
		Limit	Remarks
1	Particulates	50 mg/Nm^3	Standard refers to half hourly average value
2	HCL	50 mg/Nm^3	Standard refers to half hourly average value
3	SO_2	200 mg/Nm^3	Standard refers to half hourly average value
4	CO	100 mg/Nm^3	Standard refers to half hourly average value
		50 mg/Nm^3	Standard refers to daily average value
5	Total Organic Carbon (TOC)	20 mg/Nm^3	Standard refers to half hourly average value
6	HF	4 mg/Nm^3	Standard refers to half hourly average value
7	NO_x (NO & NO_2 expressed as NO_2)	400 mg/Nm^3	Standard refers to half hourly average value
8	Total dioxins & Furans	0.1ng TEQ/ Nm^3	Standard refers to 6-8 hourly sampling. Pl. refer to guidelines for 17 concerned congeners for toxic equivalence values to arrive at total toxic equivalence.
9	Cd+Th+their compounds	0.05 mg/Nm^3	Standard refers to sampling time anywhere between 30 minutes and 8 hours.
10	Hg & its compounds	0.05 mg/Nm^3	Standard refers to sampling time anywhere between 30 minutes and 8 hours.

Note: (a) Suitably designed pollution control devices shall be installed or retrofitted with the incinerator to achieve the above emission limits. (b) Waste to be incinerated shall not be chemically treated with any chlorinated disinfectants. (c) Incineration of chlorinated plastics shall be phased out within two years. (d) if the concentration of toxic metals in incineration ash exceeds the limits specified in the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008, as amended from time to time, the ash shall be sent to the hazardous waste treatment, storage and disposal facility. (e) Only low sulphur fuel like LDO, LSHS, Diesel, bio-mass, coal, LNG, CNG, RDF and bio-gas shall be used as fuel in the incinerator. (f) The CO2 concentration in tail gas shall not be more than 7%. (g) All the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 9500C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds. (h) Incineration plants shall be operated (combustion chambers) with such temperature, retention time and turbulence, as to achieve total Organic Carbon (TOC) content in the slag and bottom ash less than 3%, or the loss on ignition is less than 5% of the dry weight. (i) Odour from sites shall be managed as per guidelines of CPCB issued from time to time.

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2.3. Standards for incineration:

The Emission from incinerators /thermal technologies in Solid Waste treatment/disposal facility shall meet the following standards, namely:-

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2.4. The notification of Government of Tripura regarding banning of Plastic Carry Bags issued vide Notification No.F.8 (30)/DSTE/ENV /Pt-II/1679-97 Dated 10.03.2015 & No.F.8 (30)/DSTE/ENV/Pt-II/1984-2003 Dated 19.03.2015 should be strictly adhered to.

2.5. Public liability insurance coverage shall have to be provided to the workers of the unit.

2.6. A copy of the Consent Certificate should be displayed in the office of the unit.

2.7. The unit will have to follow other norms & standards issued by TSPCB from time to time.

SHANKAR BHATTACHARYA ★ NOTARY, GAUHATI ★

TRIPURA STATE POLLUTION CONTROL BOARD

(A Statutory Organisation Under Government of Tripura)
Department of Science Technology & Environment

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FORM –II
AUTHORISATION
[sec Rule 16 (1) (c) of SWM Rules, 2016]
(Authorization for setting up and operating solid waste processing/ Recycling/treatment/disposal facility)

No.F.17(10)/TSPCB/W/MSW/2020/ 1165-69 **Date:** 03/03/2025
Authorization No. TSPCB/AMC/0001

With reference to the application No. No. 333899 dated 14/02/2025, the Tripura State Pollution Control Board after examining the proposal of the **Executive Engineer, Mechanical Division**, **Agartala Municipal Corporation,** hereby authorizes Agartala Municipal Corporation having its administrative office at Paradise Chowmuhani, Agartala, Tripura West to operate waste processing/recycling /treatment/disposal facility at **Devendra Chandra Nagar, West Tripura.**

The Authorization is hereby granted to operate the facility for processing, recycling, treatment and disposal of solid waste. This authorization is valid for 5 (five) years i.e. from the date of issue.

The Authorization is subject to the terms and conditions stated at **Annexure-I** such conditions as may be otherwise specified in these rules and the standards laid down Schedules I and II under these rules.

The Tripura State Pollution Control Board may, at any time, revoke any of the conditions applicable under the authorization and shall communicate the same in writing.

Any violation of the provision of the Solid Waste Management Rules, 2016 will attract the penal provision of the Environment (Protection) Act, 1986 (29 of 1986).

This Certificate has been issued in cancellation of earlier Authorization Certificate No.F.17 (10)/TSPCB/W/MSW/2020/896-900 dated 21/02/2025.

(Amarendra Jamatia) 03/03/2025
Asst Environmental Engineer
For & on behalf of Member Secretary
Tripura State Pollution Control Board

To
The Executive Engineer(Mech.)
Mechanical Division
Agartala Municipal Corporation
Agartala, Tripura West

Copy to the:-
1. Municipal Commissioner, Agartala Municipal Corporation for kind information
2. District Magistrate & Collector, West Tripura District for kind information.
3. Director, Industries & Commerce, Department, Tripura for kind information.
4 Sub-Divisional Magistrate, Mohanpur for kind information

SAMIR BHATTACHARYA NOTARY GA

Address :
PARIVESH BHAWAN
Pandit Nehru Complex, Gorkhabasti,
PO : Kunjaban, Agartala, West Tripura - 799 006

website :
www.tspcb.tripura.gov.in / trpenvis.nic.in
e-mail :
tripuraspcb@gmail.com / hoospcb-tr@gov.in

Contact :
Chairman : 0381 - 2322462
Member Secretary : 0381 - 2325421
Head of Office : 0381 - 2322455
OCMS Help Desk : 0381 - 2328792

TERMS & CONDITIONS OF AUTHORIZATION

I. GENERAL CONDITIONS:

(1) Agartala Municipal Corporation shall prepare a solid waste management plan as per the State Policy and Strategy on Solid Waste Management.

(2) Agartala Municipal Corporation shall arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location;

(3) Agartala Municipal Corporation shall establish a system to recognise organisations of waste pickers or informal waste collectors and promote and establish a system for integration of these authorised waste-pickers and waste collectors to facilitate their participation in solid waste management including door to door collection of waste;

(4) Agartala Municipal Corporation shall facilitate formation of Self Help Groups, provide identity cards and thereafter encourage integration in solid waste management including door to door collection of waste;

(5) Agartala Municipal Corporation shall frame bye-laws incorporating the provisions of these rules within one year from the date of notification of these rules and ensure timely implementation;

(6) Agartala Municipal Corporation shall prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorized agency;

(7) Agartala Municipal Corporation shall direct waste generators not to litter i.e. throw or dispose of any waste such as paper, water bottles, liquor bottles, soft drink canes, tetra packs, fruit peel, wrappers, etc., or burn or burry waste on streets, open public spaces, drains, waste bodies and to segregate the waste at source as prescribed under these rules and hand over the segregated waste to authorized the waste pickers or waste collectors authorized by the local body;

(8) Agartala Municipal Corporation shall setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorized waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities; Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black;

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community level subject to control of odour and maintenance of hygienic conditions around the facility;

(21) Agartala Municipal Corporation shall phase out the use of chemical fertilizer in two years and use compost in all parks, gardens maintained by the local body and wherever possible in other places under its jurisdiction. Incentives may be provided to recycling initiatives by informal waste recycling sector.

(22) Agartala Municipal Corporation shall facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilization of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the Ministry of Urban Development from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralized processing to minimize transportation cost and environmental impacts such as-

a) bio-methanation, microbial composting, vermi-composting, anaerobic digestion or any other appropriate processing for bio-stabilization of biodegradable wastes;

b) waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based power plants or cement kilns;

(23) Agartala Municipal Corporation shall undertake on their own or through any other agency construction, operation and maintenance of sanitary landfill and associated infrastructure as per Schedule I for disposal of residual wastes in a manner prescribed under these rules;

(24) Agartala Municipal Corporation shall make adequate provision of funds for capital investments as well as operation and maintenance of solid waste management services in the annual budget ensuring that funds for discretionary functions of the local body have been allocated only after meeting the requirement of necessary funds for solid waste management and other obligatory functions of the local body as per these rules;

(25) Agartala Municipal Corporation shall submit application for renewal of authorization at least sixty days before the expiry of the validity of authorization;

(26) Agartala Municipal Corporation shall prepare and submit annual report in Form IV on or before the 30th April of the succeeding year to the Commissioner or Director, Municipal Administration or designated Officer;

(27) Agartala Municipal Corporation shall the annual report shall then be sent to the Secretary - in-Charge of the State Urban Development Department and to the Tripura State Pollution Control Board or Pollution Control Committee by the 31st May of every year;

(28) Agartala Municipal Corporation shall educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility;

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(iii) Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage shall be constructed to divert run-off away from the active cell of the landfill.

(iv) After completion of landfill, a final cover shall be designed to minimize infiltration and erosion. The final cover shall meet the following specifications, namely :-

a) The final cover shall have a barrier soil layer comprising of 60 cm of clay or amended soil with permeability coefficient less than 1×10^{-7} cm/sec.

b) On top of the barrier soil layer, there shall be a drainage layer of 15 cm.

c) On top of the drainage layer, there shall be a vegetative layer of 45 cm to support natural plant growth and to minimize erosion.

1.4. Criteria for pollution prevention.-

In order to prevent pollution from landfill operations, the following provisions shall be made, namely:-

(i) The storm water drain shall be designed and constructed in such a way that the surface runoff water is diverted from the land filling site and leachates from solid waste locations do not get mixed with the surface runoff water. Provisions for diversion of storm water discharge drains shall be made to minimize leachate generation and prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions.

(ii) Non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes, batteries, waste oils, paint products and pesticides) shall have liner of composite barrier of 1.5 mm thick high density polyethylene (HDPE) geo-membrane or geo-synthetic liners, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than 1 x 10-7 cm/sec. The highest level of water table shall be at least two meter below the base of clay or amended soil barrier layer provided at the bottom of landfills.

(iii) Provisions for management of leachates including its collection and treatment shall be made. The treated leachate shall be recycled or utilized as permitted, otherwise shall be released into the sewerage line, after meeting the standards. In no case, leachate shall be released into open environment.

(iv) Arrangement shall be made to prevent leachate runoff from landfill area entering any drain, stream, river, lake or pond. In case of mixing of runoff water with leachate or solid waste, the entire mixed water shall be treated by the concern authority.

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(iv) Ambient air quality at the landfill site and at the vicinity shall be regularly monitored. Ambient air quality shall meet the standards prescribed by the Central Pollution Control Board for Industrial area.

1.7. Criteria for plantation at landfill Site.-

A vegetative cover shall be provided over the completed site in accordance with the following specifications, namely:-

(a) Locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be planted;

(b) The selection of plants should be of such variety that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilized;

(c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;

(d) Plantation to be made in sufficient density to minimise soil erosion.

(e) Green belts shall be developed all around the boundary of the landfill in consultation with Tripura State Pollution Control Board.

1.8. Criteria for post-care of landfill site.-

(1) The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely :-

(a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(b) Monitoring leachate collection system in accordance with the requirement;

(c) Monitoring of ground water in and around landfill;

(d) Maintaining and operating the landfill gas collection system to meet the standards.

(2) Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous emission and leachate quality analysis complies with the specified standards and the soil stability is ensured.

1.9. Criteria for special provisions for hilly areas.-

Cities and towns located on hills shall have location-specific methods evolved for final disposal of solid waste by the local body with the approval of the concerned State Pollution Control Board or the Pollution Control Committee. The local body shall set up processing facilities for utilization of biodegradable organic waste. The non-biodegradable recyclable materials shall be stored and sent for recycling periodically. The inert and non-biodegradable waste shall be used for building roads or filling-up of appropriate areas on hills. In case of constraints in finding

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(e) The windrow area shall be provided with impermeable base. Such a base shall be made of concrete or compacted clay of 50 cm thick having permeability coefficient less than 10^{-7} cm/sec. The base shall be provided with 1 to 2 per cent slope and circled by lined drains for collection of leachate or surface run-off;

(f) Ambient air quality monitoring shall be regularly carried out. Odour /nuisance at down-wind direction on the boundary of processing plant shall also be checked regularly.

(g) Leachate shall be re-circulated in compost plant for moisture maintenance.

(h) The end product compost shall meet the standards prescribed under Fertilizer Control Order notified from time to time.

(i) In order to ensure safe application of compost, the following specifications for compost quality shall be met, namely:-

Sl. No.	Parameters	Organic Compost (FCO 2009)	Phosphate Rich Organic Manure (FCO 2013)
1	Arsenic (mg/Kg)	10.00	10.00
2	Cadmium (mg/Kg)	5.00	5.00
3	Chromium (mg/Kg)	50.00	50.00
4	Copper (mg/Kg)	300.00	300.00
5	Lead (mg/Kg)	100.00	100.00
6	Mercury (mg/Kg)	0.15	0.15
7	Nickel (mg/Kg)	50.00	50.00
8	Zinc (mg/Kg)	1000.00	1000.00
9	C/N ratio	<20	Less than 20:1
10	pH	6.5-7.5	(1:5 solution) maximum 6.7
11	Moisture, percent by weight, maximum	15.0-25.0	25.0
12	Bulk density (g/cm^3)	<1.0	Less than 1.6
13	Total Organic Carbon, per cent by weight, minimum	12.0	7.9
14	Total Nitrogen (as N), per cent by weight, minimum	0.8	0.4
15	Total Phosphate (as P205) percent by weight, minimum	0.4	10.4
17	Total Potassium (as K20), percent by weight, minimum	0.4	-
18	Colour	Dark brown to black	-
19	Odour	Absence of foul Odor	-

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2.3. Standards for incineration:

The Emission from incinerators /thermal technologies in Solid Waste treatment/disposal facility shall meet the following standards, namely:-

Sl. No.	Parameter	Emission Standard	
		Limit	Remarks
1	Particulates	50 mg/Nm^3	Standard refers to half hourly average value
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Annexure-E

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State Level Environment Impact Assessment Authority, Tripu
State Level Expert Appraisal Committee, Tripu

No.F.8(25)/TSPCB/SEAC/2019/CSWMF/ 694-99 April 20, 2021

To
Dr. Siddharth Shiv Jaiswal, IAS
Municipal Commissioner
Agartala Municipal Corporation
City Centre Complex,
Paradise Chowmuhani Agartala-799001
Phone: (0381)-2385507, 2383646, 2385149
Fax-0381-2385149
e-mail: amc.tripura@gmail.com

Sub: Environmental Clearance Certificate for the project "Devendra Chandra Nagar Waste Processing Site", for Agartala Municipal Corporation (AMC) at Devendra Chandra Nagar, Damdamia, Mohanpur (Sub-Division), West Tripura.

Ref: No. F.440/Mech.Div/AMC/2020/4008 (A)-4008(B) dated 27/08/2020 & No. F.440/Mech.Div/AMC/2020/178-182 dated 08/04/2021

Sir,

With reference to above, the proposal has been appraised as per prescribed procedure & provisions under the EIA notification issued by the Ministry of Environment & Forests vide S.O.1533(E) , dated 14.09.06 & its amendments, on the basis of the mandatory documents enclosed with the application viz., Form I, pre- feasibility report, ToR & EIA Report furnished in response observations by the State Expert Appraisal Committee (SEAC) and State Environment Impact Assessment Authority (SEIAA).

The salient features of the project "Devendra Chandra Nagar Waste Processing Site" for Agartala Municipal Corporation (AMC)" at Devendra Chandra Nagar, Damdamia, Mohanpur (Sub-Division), West Tripura are as follows:

Sl. No.	Item	Details
1	Name of the project/s	Devendra Chandra Nagar Waste Processing site for Agartala Municipal Corporation(AMC).
2	S.No.in the schedule	7(i)
3	Proposed capacity/area/length/tonnage to be handled/command area/lease area/number of wells to be drilled	56.83acres, 250MT/day to be handled daily, Land is under AMCs ownership, No wells required to be drilled.

PARIVESH BHAWAN
Pandit Nehru Complex, Gorkhabasti
P.O.- Kunjaban, Agartala, West Tripura, Pin: 799006
Phone: 9436462706(Chairman, SEIAA
6009000454(Chairman, SEAC
9436120401 (Member Secretary, SEIAA
9436169779 (Secretary, SEAC

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Sl. No.	Item	Details
4	New/Expansion/ Modernization	New
5	Existing Capacity/Areaetc.	Area: 56.83Acres
6	Category of Project i.e. 'A' or'B'	'B'
7	Does it attract the general condition? If yes,pleasespecify.	No
8	Does it attract the specific condition? If yes, please specify.	No
9	Location	Devendra Chandra Nagar
	Village	Damdamia
	Mandal	Mohanpur(Sub-Division)
	District	WestTripura
	State	Tripura
10	Nearest railway station/airport along with distance in km.	BadharghatAgt.RailStation20(KM)andM. B.BAirportisaround8KM fromthesite
11	Nearest Town, city, District Headquarters along with distance in kms.	13.5KM
12	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body	MunicipalCorporation,Agartala
13	Name of the applicant	Municipal Commissioner, Agartala Municipal Corporation

Based on the information provided by the Project Proponent, the State Level Expert Appraisal Committee (SEAC) in its **meeting held on 16/04/2020** examined the proposal noted above and recommends for issuing Environmental Clearance (EC) to the State Level Environmental Impact Assessment Authority (SEIAA). In consideration of recommendation of the SEAC, Tripura, SEIAA, Tripura has decided to accord Environmental Clearance (EC) to Municipal Commissioner, Agartala Municipal Corporation for the project "Devendra Chandra Nagar Waste Processing Site" at Devendra Chandra Nagar, Damdamia, Mohanpur (Sub-Division), West Tripura, imposing following Conditions for validity of 5 years from the date of issue of the Environmental Clearance (EC) certificate.

A. Specific Conditions:

1. Project Proponent should ensure to make arrangement for fulfillment the requirement of water in consultation with GGWA.

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2. Project Proponent should ensure proper segregation before dumping the waste on the site. No hazardous waste/bio medical waste shall be allowed to be dumped on the MSW landfill site.

3. Project Proponent should ensure periodic odour monitoring in and around the site, and adopt ecosorb spray to minimize the odour nuisance.

4. Proper road network with concrete road and parking facility should be provided for employees and vehicles being used for collection & disposal of MSW.

5. Project Proponent should ensure to develop green belt with a width of 10 m all along the boundary and thick greenbelt in the entire stretch from the village road to the proposed site and also in all open areas as proposed.

6. Waste segregation technology should be explored on the project site.

7. If Bio medical/hazardous waste is found mixed with MSW, then it should be disposed as per Hazardous/Bio Medical Waste Management Rules.

8. No Burning of waste shall be allowed at the MSW site.

9. Project Proponent should ensure installation of photovoltaic cells (solar energy) for lighting in common areas, LED light fixtures , and other energy efficient plant machineries and equipments.

10. Project Proponent should ensure harnessing of roof water through recharging pits.

11. Project Proponent should establish a lab to monitor air emissions , spot noise level recording, gas quality for landfill area, stack emissions, waste discharge, ground water quality, soil quality etc.

12. A display board should be installed at the entrance gate of the MSW site to provide daily information of the quantity of MSW received during the day and lab analysis report on air, water, noise and odour.

13. Under CSR activities PP has proposed budgetary provision for three years , the details of activities under CSR should be finalized in consultation with the District Administration .

14. The EC shall be valid for establishing an Integrated MSW Processing and Disposal Facility (250 MT/Day) at Devendra Chandra Nagar, west Tripura for efficient processing and disposal of 250 MT/Day of waste generated from Agartala city and other surrounding ULBs

PRE-CONSTRUCTION PHASE

15. During any construction/plant erection activity, curtaining of site should be carried out to protect nearby areas.

16. For dust suppression, regular sprinkling of water should be undertaken.

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17. The boundary of the entire area should be covered with 03 meters MS sheets and also due care should be taken for noise and vibration control during construction work.

18. Project Proponent will obtain other necessary clearances/NOC from respective authorities.

19. Provisions shall be made for the housing of construction/plant erection labor within the site with all necessary infrastructure and facilities such as mobile toilets. mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structure to be removed after completion of the period.

CONSTRUCTION PHASE

20. PPE's such as helmet, ear muffs etc should be provide to the workers .

21. Fire extinguishers should be provided on site during construction period.

22. Black carpet road should be provided to reduce dust suppression .

23. All vehicles carrying raw material should be covered with tarpaulin and unloading/loading activities should be stopped during windy period.

24. During construction phase, a settling tank should be provided and settled water should be reused for construction purpose.

25. Properly tuned construction machinery and good condition vehicles (low noise generating and having PUC certificate) should be used.

26. Waste construction material should be recycles as far as possible and remaining should be disposed off at a designated place in consultation with the local authority.

27. The landfill facility shall be developed as per the proposal submitted by PP with1.5 mm thick HOPE liners, Geo-textile media, Drainage media, Gas evacuation system and leachate collection system. For disposal of animal carcass, an incinerator of 05 TPD should be provided. Incinerator (for animal carcass), sanitary landfill and all other facilities shall be installed/developed as per the CPCB guidelines.

28. Peripheral plantation all around the project boundary shall be carried out using tall saplings of minimum 2 meters height of species which are fast growing with thick canopy cover preferably of perennial green nature. As proposed in the landscape plan & EMP project proponent will develop green belt. PP will also make necessary arrangements for the causality replacement and maintenance of the plants.

29. LED should be preferred instead of tube lights. Also Project Proponent should explore the possibility of providing solar street light.

4.9

30. Provision for physically challenged persons be made so that they easily excess pathway/derive way for their vehicles.

31. Waste oil generated from the DG sets should be disposed off in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 after obtaining authorization.

POST CONSTRUCTION/OPERATIONAL PHASE

32. As proposed, the sewage and waste water shall be treated in STP and treated waste water should be used in green belt.

33. The Project Proponent will establish the adequate leachate treatment facilities to achieve the Central Pollution Control Board (CPCB) discharge norms. As proposed, no effluent/leachate from the facility shall be discharged outside the premises and Zero discharge shall be maintained.

34. Treated leachate shall be sprayed on landfill for dust control, keep the windrows dry and excess leachates shall be utilized in spray drier. Regular leachate quality monitoring shall be carried out for relevant parameters and the monitored data along with the statistical analysis and interpretation should be submitted to the TSPCB.

35. Adequate numbers of ground water quality monitoring stations around the project area shall be set up. The ground water quality monitoring shall be monitored as per the CPCB norms. Sampling and trend analysis monitoring must be made on six monthly basis and report submitted to TSPCB.

36. Spraying of "Ecosorb" should be performed on regular intervals to avoid any odour nuisance.

37. Magnetic flow meters shall be provided at the inlet/outlet of water supply point and records for the same shall be maintained and submitted to TSPCB regularly.

38. The Project Proponent should comply with the provisions made in Hazardous Waste & Other Wastes (Management & Trans-boundary Movement) Rules, 2016.

39. Dedicated parking facility for unloading of materials/wastes shall be provided in the facility premises. PP shall develop and implement good traffic management system for their incoming and outgoing vehicles to avoid congestion on the public road.

40. No hazardous and biomedical waste should be stored, treated and disposed off in this facility.

41. As proposed, the project area shall be developed as green belt within plant premises with at least 10 meter wide green belt on all sides along the periphery of the project area and along road sides etc. Selection of plant species shall be as per the CPCB guidelines and in consultation with the DFO.

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42. All the commitments made in the Public Hearing shall be implemented by Project Proponent.

43. Proper fire fighting arrangements in consultation with the fire department should be provided against fire incident.

44. Fund should be exclusively earmarked for the implementation of EMP through a separate bank account.

ENTIRE LIFE OF THE PROJECT

45. As proposed, the green belt development/plantation activities should be completed within the first three years of the project and the proposed species should also be planted in consultation with the forest department.

46. Regular monitoring of Air, Noise, Waste Water, Solid Waste/Hazardous Waste, Ground Water and Soil etc. shall be carried out as per the norms prescribed by the Central Pollution Control Board.

47. The environment policy of the company should be framed as per MoEF&CC guidelines and same should be complied and monitored through monitoring cell. In case the allocated EMP budget for mitigative measures to control the pollution is not utilized fully, the reason of under utilization of budgetary provisions for EMP should be addressed in annual return.

48. PP shall be responsible for discrepancy (if any) in the submissions made by the PP to SEAC & SEIAA.

49. Necessary consents shall be obtained from TSPCB and the air/water pollution control measures have to be taken care as per the recommendation of TSPCB. All recommendations and pollution mitigative measures proposed in the EMP shall be binding for the project authorities.

50. In case of power failure, stand- by D.G. Set(s) having power generation capacity equivalent to the requirement of power to run the facility shall be installed, so that the facility shall always be operated round the clock even in case of power failure.

51. For avoiding vehicle congestion /traffic jam within facility premises or outside road proper parking space be provided. Also all internal roads shall be made pucca/bituminous top to avoid fugitive emissions.

52. Atleast two on-line continuous ambient air quality monitoring stations on suitable locations should be provided and data connectivity must be provided to the TSPCB's server for remote operations and data should also be displayed on the main entry gate of the facility. The ambient air quality shall also be monitored in and around the facility area and results shall be submitted to the TSPCB. The locations for the ambient air quality monitoring shall be fixed and reviewed in consultation with the TSPCB.

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53. The overall noise level in and around the facility area and D.G.Set shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall confirm to the standards prescribed under The Environment (Protection) Act, 1986 & Rules.

54. Pucca flooring/impervious layer shall be provided in the work areas, chemical/waste oil storage areas and chemical handling areas to minimize soil contamination.

55. Good housekeeping shall be maintained within the facility premises. All pipes, valves and drains shall be leak proof. Leakages from the pipes, pumps, shall be minimal and if occurs, shall be arrested promptly. Floor washing shall be admitted in to the effluent collection system for subsequent treatment and disposal. The storm water drains shall be kept separate and shall remain dry throughout the year except monsoon.

56. Peripheral plantation of 10 meter all around the project boundary shall be carried out using tree plants of large canopy. Green area at the site will be maintained by the project proponents, which would have an overall cooling effect on the surroundings.

57. The Project Proponent should also explore the possibility of Vermi composting within the premises.

58. The project authorities should comply with the provisions made in the Hazardous Waste (management, handling & Trans-boundary Movement) Rules 2016, Plastic Waste Management Rules 2016, e-waste (Management) Rules, 2016, Construction and Demolition Waste Management Rules, 2016 and Solid Waste Management Rules, 2016 etc.

59. In case of any, change in scope of work, technology, modernization and enhancement of capacity/ built-up area/ project area shall again require prior environmental clearance as per EIA notification, 2006.

60. The validity of the EC shall be as per the provisions of EIA Notification subject to the following: Expansion or modernization in the project, entailing capacity/ built-up area/ project area, addition with change in process and or technology and any change in product - mix in proposed mining unit shall require a fresh Environment Clearance.

61. The SEIAA, Tripura may revoke or suspended the environmental clearance, if implementation of any of the above conditions is not satisfactory.

62. The above conditions will be enforced, inter-alia under the provisions of the Water Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

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63. The SEIAA, Tripura reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

64. Consent to Establish/Operate for the project shall be obtained from the Tripura Sate Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.

20/04/2021

Member Secretary
State Level Environment Impact
Assessment Authority (SEIAA), Tripura

Copy to:

1. The Chairman, Tripura State Pollution Control Board.
2. The Chairman, SEIAA, Tripura.
3. The Chairman, SEAC, Tripura.
4. The Member Secretary, Tripura State Pollution Control Board.
5. The Secretary, SEAC, Tripura.

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ANNEXURE - F

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AGARTALA MUNICIPAL CORPORATION
MECHANICAL DIVISION, RAMNAGAR, RD NO-09, AGARTALA
Phone -0381-2330010, e-mail: mechdivision.amc@gmail.com

F.601/Mech. Div./AMC/2022/ 11 – 17 Dt. 01/04/2022

To,
Mandy Enterprise
(Lead Firm of the Consortium comprising of MS Mandy Enterprises, Earth Recyclers Pvt. Ltd. and URBO Waste Management Pvt. Ltd.)
W-8,1st Floor, West Patel Nagar
New Delhi-110008

Sub: Award of work of Item No. 1 of BOQ -"Processing of fresh waste transported by AMC daily including operation and maintenance of all allied infrastructures in the site with compliance of Solid Waste Management Rules -2016" of the e-tender ID-2021_SAMC_17513_1, 06/04/2021 published e-tender portal by vide Press Notice Inviting No. 69/RFP/Mech.Div/AMC/2021 Dated 06.04.2021 in name of "Operation & Maintenance of Devendra Chandra Nagar Waste Processing site and appropriate Treatment of Legacy Waste presently exists in the site"

Sir,

a) With reference to the above subject and PNIT, the authority of Agartala Municipal Corporation has been pleased to award you the work of Item No. 1 of BOQ "Processing of fresh waste transported by AMC daily including operation and maintenance of all allied infrastructures in the site with compliance of Solid Waste Management Rules -2016" of the e-tender ID- 2021_SAMC_17513_1, 06/04/2021 published e-tender portal by vide Press Notice Inviting No. 69/RFP/Mech.Div/AMC/2021 Dated 06.04.2021 in name of "Operation & Maintenance of Devendra Chandra Nagar Waste Processing site and appropriate Treatment of Legacy Waste presently exists in the site as per terms and condition of the agreement executed in between Agartala Municipal Corporation and Mandy Enterprises vide Agreement Certificate ref. no IN-TR132748000421536U, Dt. 16th March, 2022 signed on 30th day of March, 2022.

b) Scope of the work is as per the details mentioned in the Contract Agreement. The whole activities will be governed by the aforesaid contract agreement.

SAMIR BHATTACHARYA * CALCUTTA * Regd. No. 2/2007 Govt. of India

c) You are requested to start full-fledged operation of compost plant with all other allied infrastructure within 90 (ninety) days from the date of the issue of this work order to process the mixed solid waste to be transported at DC Nagar.

d) The overall period of O & M is 30 years. The initial year of the contract is for 10 years. On successful completion of the initial contract period further extension may be considered for 01 (next 10 years) term of same duration and may be continued in the same fashion for the next term also.

e) Contract Value is Rs. 945/-(Nine Hundred Forty Five) per MT of mixed solid waste to be transported by Agartala Muncipal Corporation. This amount is inclusive of GST and all others taxes and duties. Payment will be made as per the mechanism mentioned in the Article-IX of the contract agreement. There will be escalation of Tipping Fee @ Rs. 945/- per MT of mixed solid waste @ 10% after five years interval.

f) Contract agreement in Annexure –A is the integral part of this work order. This order is hereby issued to start and carry out the work as per Articles laid down in the agreement.

(C. Chakraborty)
Executive Engineer
Mechanical Division
Agartala Municipal Corporation

Copy to:-

1. P.S to Hon'ble Mayor, AMC for kind information.
2. Dy. Mayor, AMC for kind information.
3. The Municipal Commissioner, AMC for kind information.
4. The Dy. MC, AMC for kind information.
5. DDO, AMC for kind information.
6. Accounts Section (GL) for information.

Executive Engineer
Mechanical Division
Agartala Municipal Corporation

AGARTALA MUNICIPAL CORPORATION
Mechanical Division
Ramnagar Rd. No-9, Agartala
e-mail: mechdivision.amc @gmail.com

F. No. 458/Mech. Div/AMC/2019/P-I(Shadow) 3289-92 Dt.25/07/2022

To,
The National Environmental Engineering Research Institute
Nagpur, Maharashtra
Pin - 440020

Sub: Award for the work – Studies on Quantification and Status of the Existing Condition of Legacy Waste at Devendra Chandra Waste Processing Site of Agartala Municipal Corporation

Ref.: Project Proposal of NEERI, Dt. March 2022

Sir,

The project proposal submitted by you in respect with the letter ref. 458/Mech. Div AMC 20217506-09. Dt. 16th Feb. 2022 issued by AMC has been accepted by AMC authority.

Total work value including GST Is Rs. 29,50,000/- (Twenty Nine Lakhs Fifty Thousand) only.

Scope of the work:

A. Quantification of legacy Waste available in the site.
B. Existing status of the site and site study report for legacy waste.

Therefore you are requested to take up the work within a short period of time and complete the work as per the time line mentioned in your project proposal.

Yours faithfully
25/07/2022
(C. Chakraborty)
Executive Engineer
Mechanical Division
Agartala Municipal Corporation

Copy to :

1. P.S to Hon'ble Mayor, AMC for kind information.
2. The Municipal Commissioner, AMC for kind information.
3. DDO, AMC for information please.

26/07/2022
Executive Engineer
Mechanical Division
Agartala Municipal Corporation

BHATTACHARYA
NOTARY, CALCUTTA
Regd. No. [illegible]
Govt. of India

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Report on

Quantification of Legacy Waste at DC Nagar Waste Processing Site, Agartala

For

Agartala Municipal Corporation,

Agartala, Tripura – 799001,

INDIA

December, 2022

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Table of Contents

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1. Background of the Project

The Government of India launched the Swachha Bharat Mission (SBM) to implement Sanitation goals and objectives all over India. The Govt. of Tripura has taken initiatives to achieve sanitation and waste management amenities for all and provide cleanliness in the state. This mission had two components, SBM – Urban for urban areas and SBM – Rural for rural areas. SBM – Urban aims to make urban India clean and Open Defecation (ODF) free and achieve 100% garbage-free municipalities, to construct Individual Household Latrines and Community and Public Toilets. Under SBM – Urban, Agartala Municipal Corporation (AMC) has participated in the cleanliness initiative.

The majority of Indian urban areas did begin disposing of all this undesirable waste outside of municipal borders, along unattended roadside dumps that were located in no-man's-land. The uncontrolled and ongoing dumping of municipal solid waste (MSW) created mountains of legacy waste. Like other municipalities, AMC has also started practicing disposal of the MSW at DC Nagar Dumpsite. Due to a lack of waste handling and processing facilities, all the collected waste remained dumped in the dumpsite. As the DC Nagar dumpsite was started in 2012, now it has become like the mountain of MSW with four big heaps of waste. As the dumpsite gets old, it poses a threat to public health and damages the environment due to leachate formation, GHG emission, and landfill fires.

As there is need of remediation of the DC Nagar dumpsite, AMC is planning to do biomining/bioremediation as per directed by NGT Order in OA 519/2019 dated 17/7/2019. AMC decided to do quantification of legacy waste at DC Nagar dumpsite to take necessary action for the landfill remediation. Against this backdrop, AMC approached CSIR – NEERI to perform quantification study of legacy waste at DC Nagar dumpsite and assist in bioremediation of existing dumpsite. NEERI performed the necessary activities and collected primary and secondary data for exact quantification of legacy waste. This report presents the quantification of the legacy waste at DC Nagar dumpsite.

2. Agartala City and Solid Waste Management

The Municipal Administration in Agartala was established in 1874 AD and the city became a planned city by Maharaja Bir Bikra Manikya Bahadur in 1940s. This erstwhile Princely State

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Capital of Tripura merged with India on 15th October 1949. Agartala, the capital of the state of Tripura is located at the western portion of the West Tripura District touching international border with Bangladesh. The city extends between 23° 45'- 23° 55' N latitude and 91°15'-91°20' E longitude, covering an area of 62 km^2 in the flood plains of the Haora River. The climate of the city is tropical monsoon type. The average annual rainfall is around 220 centimetres (cm). The average no of rainy days is 100 days. The temperature varies from 4.2°c to 37.6° on average. Administratively, Agartala Municipal Corporation (AMC) comprises 35 wards. The AMC is broadly classified into four planning zones: North, East, Central, and South Zones (JNNURM, 2006).

Agartala, a rapidly growing city, generates large quantities of MSW and other waste such as BMW, IHW, etc. As such, no systematic study has been conducted regarding the amount of MSW generated in AMC. Agartala is a tier 2 (class 1) city in India, with a population of 4-5 lakh and a middle level of economic activity. The city generates MSW at the rate of 0.5 to 0.6 kg per capita per day. On an average, the city generates 225-250 Metric Tonnes (MT) of MSW per day, which increases during festivals such as Durga Puja.

As per the Tripura State Pollution Control Board (TSPCB), the state generated 332.90 MT per day of MSW in the year 2021-22. However, 222 MT per day MSW was generated by AMC. For the same year collection efficiency of AMC was 96.80% where city collected 214.9 MT. As per the compliance to Schedule I of MSW Rules 2016, Agartala city believed for a good practice. Door to door collection practice is going one in 51 wards of AMC.

3. DC Nagar Solid Waste Dumpsite

With rapid urbanization and development of Agartala city, waste generation increased due to the growing population, cultural activities, and modernization. Earlier, there was an old dumpsite where all the MSW was intensely dumped since the year 1997. The site's name was Hapania Dumping ground and located southwest border area of the city. With increasing heaps of legacy waste due to unscientific dumping and the absence of a waste treatment plant in the Hapania dumping ground had caused a serious threat to the local environment (Purkayastha and Chakrabarti, 2014). As a result, three new waste dumping sites were proposed at Debendra Chandra Nagar, Nagichara, and Paschim Noabadi.

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3.1 About the Dumpsite

The dumping management practice at Debendra Chandra Nagar (DC Nagar) (**Fig. 1**) was started successfully in 2012. Located in close proximity to one another, five ULBs—Agartala, Mohanpur, Bishalgarh, Ranirbazar, and Jirania—use the DC Nagar Processing site for the treatment and disposal of solid waste.

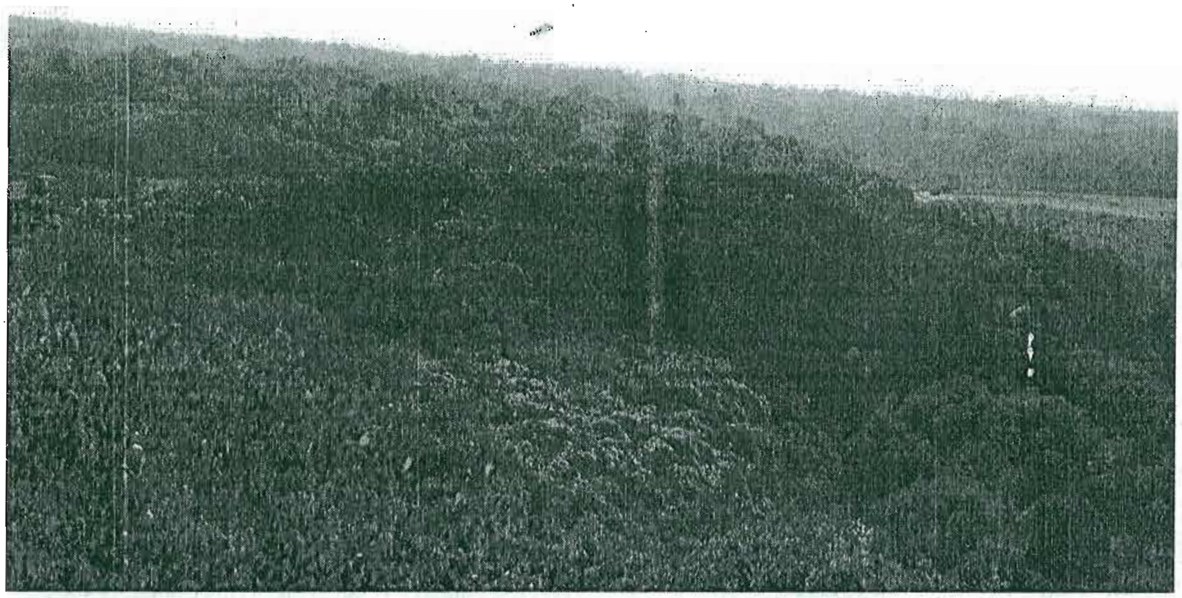

Fig. 1: Legacy waste at D. C. Nagar Dumpsite

Presently the total waste material of these five cities is dumped on this site, where a sanitary landfill site has been developed (not in operation) approximately 12 km away from Agartala city (**Fig. 2**). The dumpsite is surrounded by hilly region. Small grasses, bushes, rubber, and wind break tree plantation have surrounded to the dumping ground. The height of tilla top is about 39 m from the mean sea level (MSL). The average soil permeability is about 5cm-10m/s which is higher than the required by the MSW 2016 rules for the baseline.

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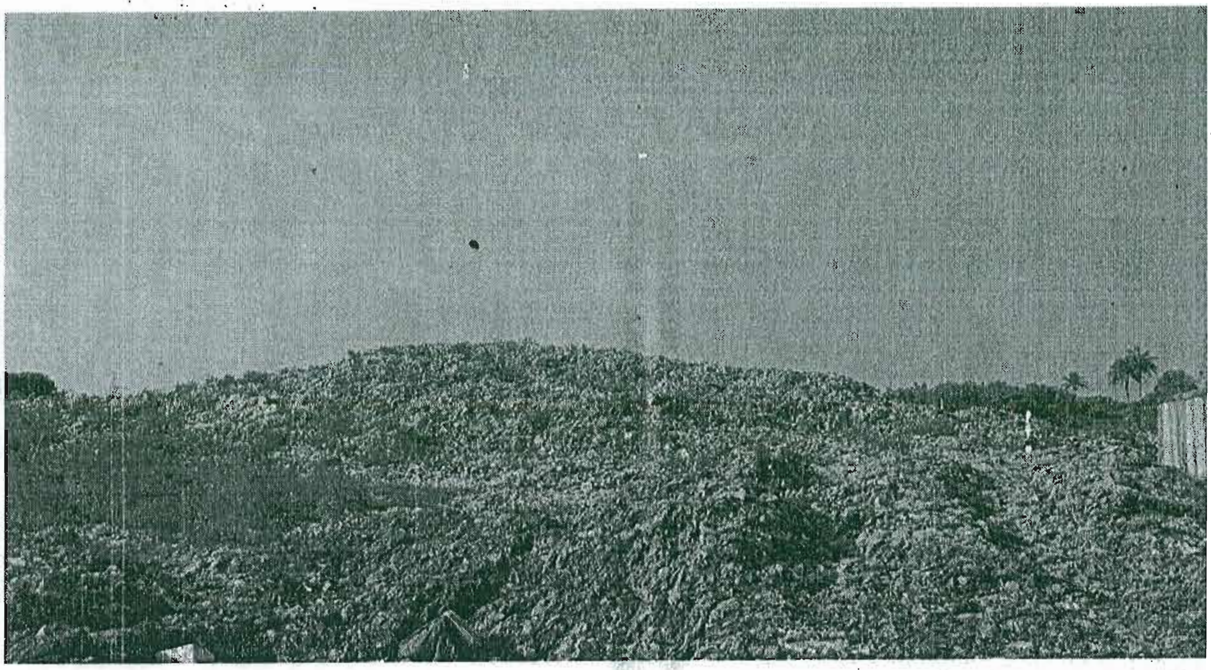
Fig. 2: Distance of the DC Nagar Dumpsite from Agartala

3.2 Existing Status

During the visit, it was observed that there is no such operation going on at DC Nagar dumping site in terms of MSW handling and processing. There is the infrastructure available for the Material Recovery Facility (MRF) but not in operation. Site also has the weighbridge facility for the estimation of incoming quantity of MSW but it is also not in working stage. However, all the collected waste uses to dump openly on the land; this resulted in the formation of four heaps. There are some gaps between the heaps so that the rainwater can pass easily. And leachate is also passes through the same gaps, highlighted in the **Fig. 3**.



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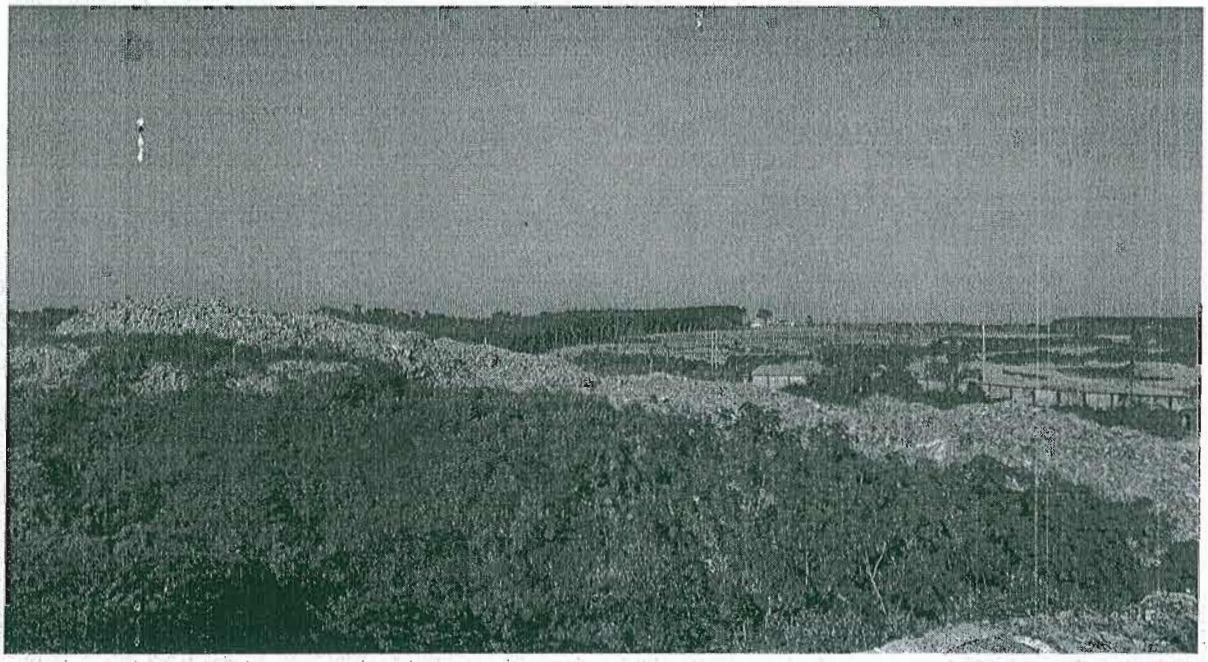

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Fig. 3: Glimpse of the DC Nagar Dumpsites

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4. Objectives and Scope of the Work

The major objective of the proposed study is to quantify the legacy waste and its characterization for appropriate processing. The study is expected to lay emphasis on:

- Mining of legacy waste
- Characterization of legacy waste
- Screening of appropriate process for bio-mining or bioremediation
- Identification of utility of the mined fractions with emphasis on the environmental impacts
- Management strategy for the legacy waste, leachate and fire control and safety

5. Methodology for Landfill Bioremediation

Bio-remediation is considered to be a suitable option for treatment and disposal of legacy MSW. There are three different types and methods are available for the remediation of dumpsite, based on the applicability any one method can be used.

a. Capping without land recovery
b. Bioremediation and reclamation of part of land by utilizing part of retrieved fractions and the leftovers heaped in suitable profile and capped appropriately
c. Reclamation with complete land recovery

For choosing any of the above method, a total station survey or drone mapping of dumpsite must be done to quantify exact quantity of legacy waste. Therefore, the 'Advisory on Landfill Reclamation' suggested ensuring a precursor study with history of the site, compositional analysis of the waste. However, before starting the project, AMC with NEERI planned to study the site environment parameters such as baseline study of heavy metals in surface and subsurface soils and water, rainfall, soil type, surface hydrology, topography, wind direction, etc. Periodic study should also to be carried out during and after completion of the bioremediation to check for any adverse effects on nearby surrounding.

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5.1 Approaches to Dumpsite Remediation

To undertake all the Dumpsite Remediation-related operations, the project will take an integrated approach. It may be detailed as follows:

- The amount of waste that has to be bio-remediated will be assessed using geotechnical surveys and area contouring
- Ensure to reach Lowest Ground Level
- To remove items like rags, plastic, rubber, and textiles, the garbage layer was often raked with a long spike harrow that operated in opposite directions.
- Rotating and horizontal screens are used to screen trash and coarse material. In the designated region, the recovered earth is dispersed. Lead or lifting of the material are not subject to an additional fee for the contractor.
- The recyclables such plastic, glass, metal, carpets, and cloth recovered from the rubbish were packed and sold, while the stone, bricks, and ceramics removed during screening and raking to be sent for land filing or to fill up of low-lying area.
- The soil recovered to be used for refilling the ground on the same site for greenery
- The recovered construction and demolition waste to be recovered and sent to C&D processing facility for producing building materials and the left-over of the waste to be sent to a secured landfill
- Valuable land to be recovered by bio-remediation process of legacy waste
- The project machines to be deployed: Trommels, Horizontal Screens, excavators, backhoe loaders, workers.
- Daily monitoring of the progress of work to be done by a team headed by an expert

5.2 Survey and Steps to Quantify Legacy Waste

The steps for dumpsite remediation are (a) planning and site preparation, (b) excavation, (c) bio stabilization of waste and (d) screening and recovery of recyclables. The planning and site preparation are detailed in the following section whereas excavation, bio stabilization of

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waste and screening and recovery of recyclables are detailed in the subsequent sections of this advisory.

Planning & Site Preparation: The first step in a dumpsite remediation project is planning & site preparation. This will start with a detailed site assessment of dumpsite and estimate the material processing method and rate. This site assessment involves different parameters such as geological features, stability of the surrounding area, and proximity of ground water, and determines the fractions of usable soil, recyclable material, combustible waste, and hazardous waste at the site etc. Future land use will be a key factor in determining the extent of remediation to occur. The various components to be considered in planning and site preparation are shown in **Fig. 4**.

The methodology for the execution and implementation of bioremediation of legacy waste is presented in the **Fig. 5**. The general workflow for Reclamation with complete Land Recovery is furnished herewith.

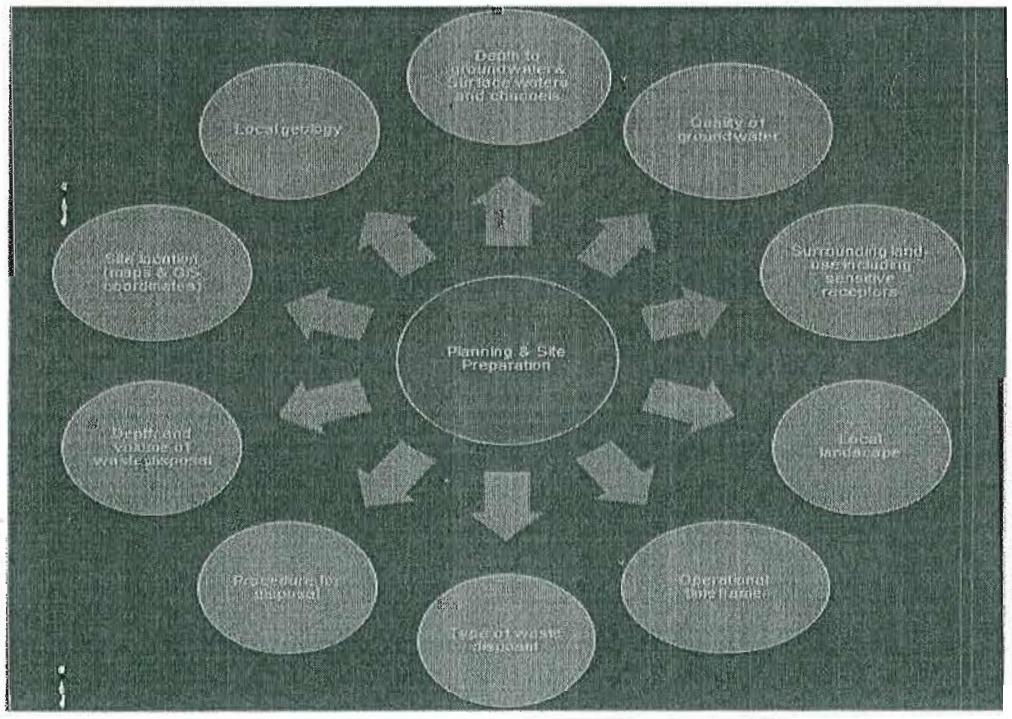

Fig. 4: Components to be considered in planning and site preparation

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Flow Chart for the Bioremediation

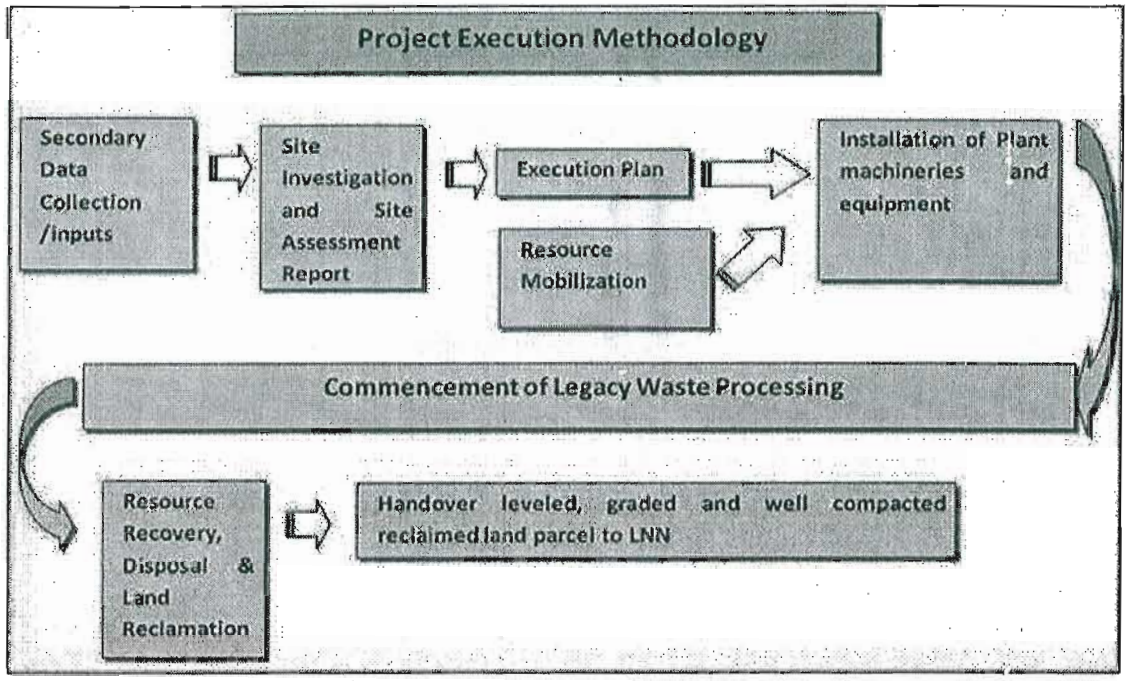

Fig. 5: Project Execution methodology for bioremediation

- Geo-technical investigations (Contour Survey, Geotechnical Investigation, Physio-chemical analysis and baseline environmental monitoring)
- Estimation of Legacy Waste Quantity
- Execution plan, drawings of Scientific Reclamation Layout and required infrastructure
- Site Assessment Report (SAR) including Environment Management Plan (EMP), Environment Monitoring Plan and its implementation Mechanism
- Resource mobilization
- Construction of processing facility and installation of weighbridge
- Excavation, resource recovery, sale and disposal of the recovered material
- Scientific disposal of the process rejects
- Reclamation of land, levelling, grading and compaction
- Storm water management system/ infrastructure
- Leachate management system/ infrastructure

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6. Results and Discussion

As per the methodology, the primary and secondary data have been collected to get an idea about the existing situation of DC Nagar Dumpsite. Also, the officials from NEERI visited the site for survey and data collection. As per the discussion with the AMC officials, it is clear that MRF facility for fresh waste is going to start from 1st December, 2022 and hence, the estimation or quantification of legacy waste is presented till the 25th November, 2022. The total station survey is conducted after the visit during 22nd – 25th November, 2022.

Secondary data, such as past waste collection record, rainfall data, baseline information, environmental monitoring report, etc were collected from AMC. Tripura State Pollution Control Board (TSPCB) also helped to get additional information about MSW, PW, and other categories of waste. Apart from this, data related top climate, rainfall were collected from TSPCB. The details about all the parameters related to bioremediation are presented in this section.

6.1 Baseline Information

During the survey, it was observed that the dumpsite is surrounded by hilly region. Small grasses, bushes, rubber, and wind break tree plantation have surrounded to the dumping ground. The height of tilla top is about 39 m from the mean sea level (MSL). However, open dumping is in practice was the plain surface. As per Google earth data, the approximate total area of dumping ground is 8.43 hectare. However, 4.43 hectare of land is occupied by the MSW waste. On the north-west side of the dumping site, there is a small bank for surface water where rainwater is passes during rainy season. **Fig. 6** represents the area of the DC Nagar dumping site with the highlighted.

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Fig. 6: Location of DC Nagar Dumping Site

6.2 Climate Information

The climate condition in the state of Tripura is Humid Sub-tropical type. However, different parts of state experience variation in the features of climate. Only two meteorological observatories, located in Tripura at Agartala and Kailasahar, have the capability to record temperature and certain other meteorological conditions. The following is a description of some of the key aspects of regional climate variance with relation to temperature, rainfall, humidity, and wind speed.

- Temperature

Agartala and Kilasahar typically experience temperatures of 25.2°C and 25.0°C, respectively. A decreasing trend in the temperature is visible from west to east. During the summer, the daily mean maximum and lowest temperatures are 30, 70 and 19, 50 degrees Celsius, respectively. The onset of the cold begins towards the end of November when both daytime and nighttimes temperatures gradually drop. The mean daily low temperature is just 8.9°C in January, while the mean daily maximum is 25.2°C (**Fig. 7**).

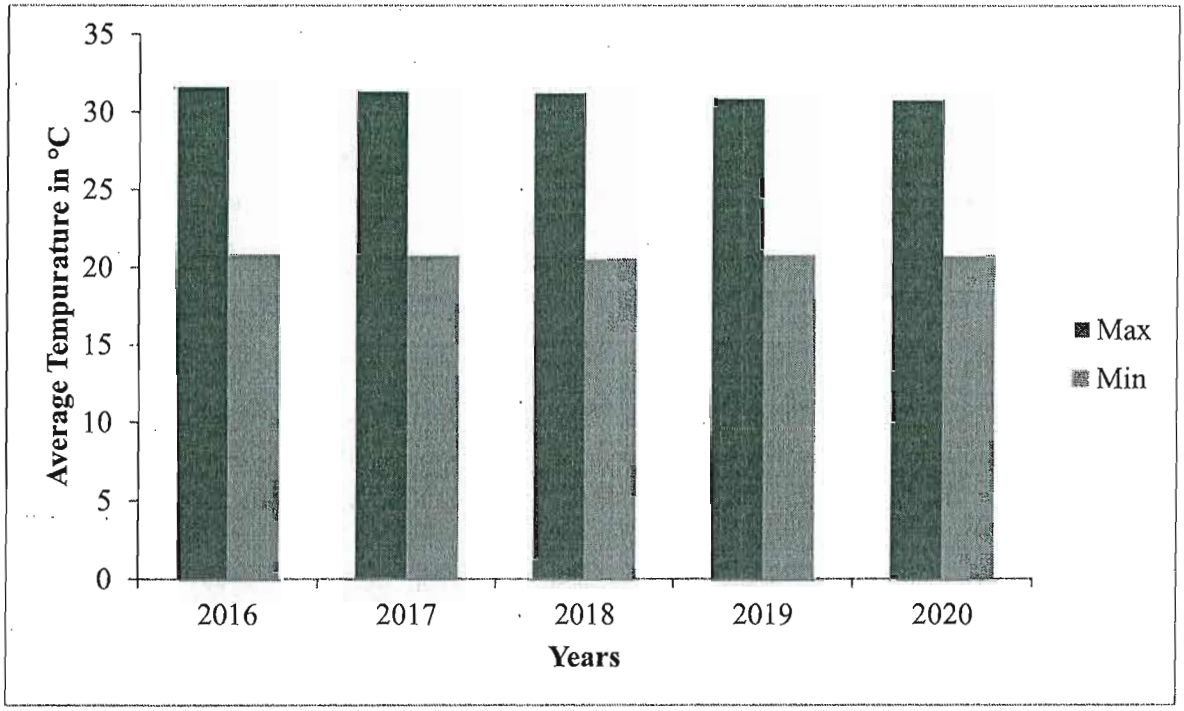

Fig. 7: Average temperature in different years (in °C)

- Rainfall

The variance in rainfall is one of the most delicate aspects of climate. It fluctuates according to the seasons as well as from one location to another and from one year to another. **Fig. 8** displays the variation in rainfall throughout the districts during a few years. Rainfall varies from 1922 mm to 2855 mm every year. In general, the amount of rain rises from the south-west to the north-east. The southern central region, which is bordered by 1500 mm isohyets, has a significant rainfall gap. The state's north-eastern region, near Dharamnagar, experiences the most rainfall. However, Agartala city experience moderate rainfall as it is located in the north-western part of the state.

The months of April-June and July-September receive the most rainfall. The main agricultural season for the whole state falls around this time, which is often referred to as the "Kharif season." The seasonal variations in wind direction and the existence of a cold upper air current over the designated regions of the state are the factors that influence rainfall. Large depressions form across one or more areas of the state during the Kharif season.

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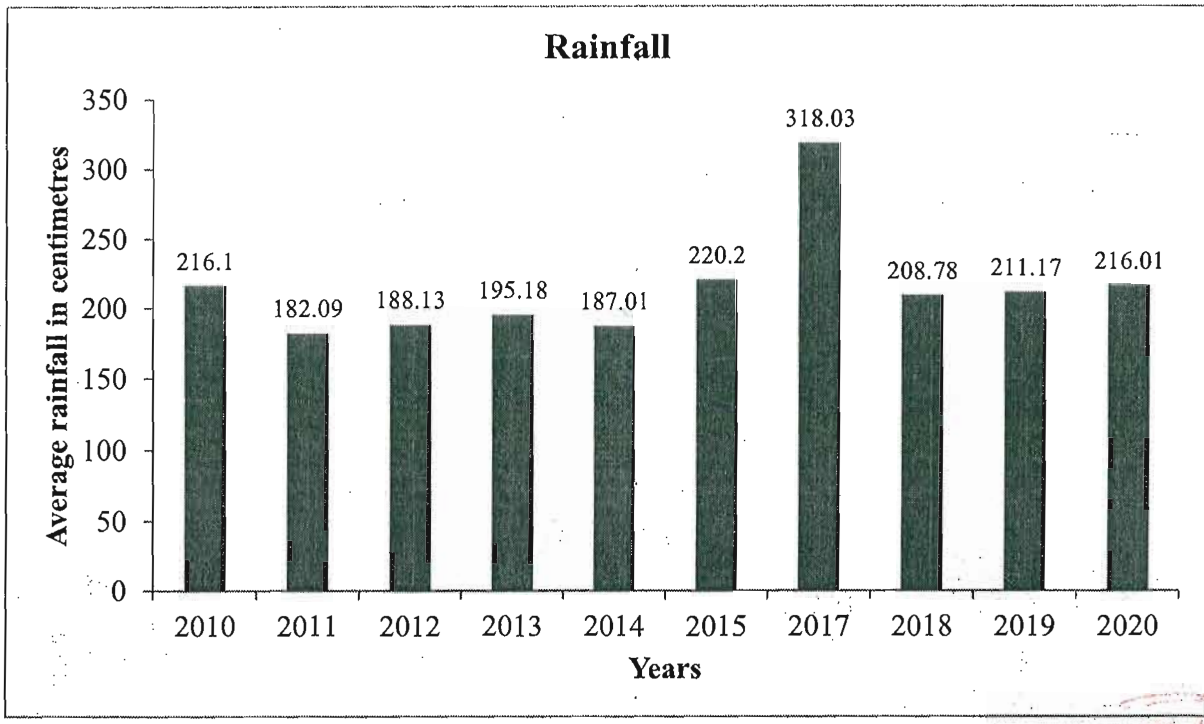

Fig. 8: Average rainfall in different years (in centimetre)
[Source: Directorate of Economics & Statistics, Govt. of Tripura]

- Humidity

Humidity is generally high throughout the year. In the summer season, the relative humidity is between 50 to 74% whereas in the rainy season, it is over 85%. The mean wind speed is 7.1 km per hour with maximum of 13.1 km per hour in May and minimum of 3 km per hour in December. The relationship between rainfall, temperature and farming is suitable to grow paddy crops in the plains, and bamboo trees and jhum cultivation on hills along with the scope for plantation of rubber, coffee, cashewnut, coconut and other evergreen and deciduous plants on the hilly and tilla land. The state represents hypothermic soil temperature regime.

6.3 Environmental Monitoring

Tripura State Pollution Control Board (TSPCB) conducted the study on the environmental monitoring parameters, such as groundwater, air, ands noise in an around the DC Nagar dumping site, Agartala. The detailed information provided by TSPCB is enclosed with this report (**Annexure 1**). However, environmental monitoring parameters related to leachate,

surface water, and the other parameters will be studied throughout the bioremediation process.

6.4 Legacy Waste Quantification

A total station survey was conducted for the entire site to assess existing situation and quantify legacy waste on site from 21st to 25th November 2022. Details of the total station survey report, along with drawings, have been enclosed in **Annexure 2**. Following is the summary of the quantification of legacy waste with respect to the survey conducted on 25th November 2022.

1) The total area under legacy waste is 4.21 hectares with the existing total quantity of legacy waste on site being **302045 cu.m.**
2) The quantity of legacy waste on the First Heap is 2235 cu.m. under an area of 0.0935 ha.
3) The quantity of legacy waste on the Second Heap is 3030 cu.m. under an area of 0.2244 ha.
4) The quantity of legacy waste on the Second Heap is 119975 cu.m. under an area of 1.9136 ha.
5) The quantity of legacy waste on the Second Heap is 176805 cu.m. under an area of 1.9786 ha.

Whereas the average bulk density of legacy waste at DC Nagar dumpsite is 1.1 tonne/Cum. Therefore, the quantity of legacy waste is around **3, 32, 249.5 tonnes** as on 25th November 2022.

7. Limitations of the Study

AMC in collaboration with CSIR – NEERI quantified the quantity of legacy waste. Also, NEERI officials visited for 4 days and surveyed the dumping site and collected the necessary data for proper planning to implement the bioremediation. Hence, based on the collected information and the quantification, proper planning and implementation of the bioremediation approach is needed. This need to be strengthened for carrying out the detailed activity. Detailed report will be submitted after detailed investigation and monitoring.

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8. Conclusion and Recommendations

Based on the site investigation and survey conducted for the quantification of the legacy waste, it can be concluded that bioremediation is needed. The estimated legacy waste in DC Nagar dumpsite is 3, 32,249.5 tonnes (302045 cu. m). Based on the estimated quantity, proper contract should be made with contractual clarity for seamless operations. Preparing and getting all stakeholders' acceptance from a thorough operational plan that includes the work process flow and schedules as per planned DPR is necessary. Dumping fresh waste must be separated from biomining and should not mix with legacy waste. Leachate drips out due to the opening up of legacy trash, and it must be appropriately collected and handled. The aeration process of legacy waste helps to reduce the leachate. Stakeholders must work on Fire Control, Safety, and environmental compliance throughout the biomining process. Stakeholders must manage issues related to odor and dust since they are hazardous to employees and adjacent residents. This is done by stabilizing the garbage and often sprinkling the waste heaps with bio-culture solutions. Recovered material must be put to use to make bioremediation economically viable. Recovered materials, such as plastic, textile, and metals can be sold. However, C&D waste can be used as filler in construction activity. Recovered bio-earth can be used to enhance land fertility or given to the farmers after proper treatment, including improving quality as per FCO standards and removing microplastics.

References

https://agartalacity.tripura.gov.in/sites/default/files/CityDevP_0.pdf

https://niua.in/csc/assets/pdf/key-documents/phase-2/Waste/SBM-Advisory-on-Landfill-Reclamation.pdf

https://tspcb.tripura.gov.in/storage/2022/08/Solid-WM-Annual-Report-2021-22.pdf

Santra, A., Debbarma, D., Sen, S. and Mitra, S., 2014. Municipal solid waste management system in Agartala City. Tripura, India."Hill Geographer, 14, pp.37-49

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Environmental Monitoring in respect of air, water, leachate and noise in an around the Debendrachandranagar dumping site, Agartala, Tripura West

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ANALYTICAL RESULTS OF GROUNDWATER SAMPLES COLLECTED IN AND AROUND THE DEBENDRACHANDRANAGAR DUMPING SITE AGARTALA, TRIPURA WEST

Sl. No	Parameters	S-1	S-2	S-3	S-4	Standards (BIS, 2012)
1.	pH	6.52	6.69	6.51	6.56	6.5-8.5
2.	Conductivity (µS/cm)	43.9	124.8	69	39.3	-
3.	TDS (mg/l)	21.9	62.4	34.5	19.6	500
4.	Turbidity (NTU)	4.68	4.27	2.47	2.63	5
5.	Chlorides (mg/l)	23.1	23.1	25.3	28.8	250
6.	Total Hardness (mg/l)	90.2	70.2	50.5	20.3	200
7.	Sulphate (mg/l)	6.52	5.86	7.08	6.24	200
8.	Chromium (as Cr^{+3})	BDL	BDL	BDL	BDL	0.05
9.	Cadmium (mg/l)	BDL	BDL	BDL	BDL	0.01
10.	Lead (mg/l)	BDL	BDL	BDL	BDL	0.05
11.	Iron (mg/l)	0.07	0.07	0.05	0.06	0.3
12.	Arsenic (mg/l)	BDL	BDL	BDL	BDL	0.01

BDL (Below Detectable Limit)

Site of collection:

S-1: North side of Debendrachandranagar dumping site, Agartala (Residence of Sri Jagadish Debbarma)

S-2: North side of Debendrachandranagar dumping site, Agartala (Residence of Sri Ranjit Kal)

S-3: North East side of Debendrachandranagar dumping site, Agartala (Residence of Sri Sarabjit Thapa)

S-4: North East side of Debendrachandranagar dumping site, Agartala (Residence of Sri Karna Bahadur Singh)

MATERIALS AND METHODOLOGY:

Four groundwater samples were collected in and around the Debendrachandranagar dumping site, Agartala on 06.08.2022 for the analysis of different physical & chemical parameters. Samples were analyzed in the laboratory of TSPCB using the standard methods given in **APHA, 2012 (*American Public Health Association*, 2012).**

OBSERVATIONS:

From the result table, it has been observed that, all the analytical parameters of collected ground water samples were within the prescribed standard of BIS (Bureau of Indian Standard, 2012).

20/08/22

(Dr. Rajib Paul)
Jr. Scientific Assistant
TSPCB, Agartala

(Ratan Debnath)
Sr. Laboratory Assistant
TSPCB, Agartala

SAMIR BHATTACHARJEE
NOTARY

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: AMBIENT AIR QUALITY DATA AT DEBENDRACHANDRANAGAR DUMPING SITE AGARTALA, TRIPURA WEST:

Date of Monitoring: 08.08.2022

Pollutants	Time weighted Average	S-1	Standards (CPCB, 2009)	Methods of Measurement
Particulate matter (PM_{10}), $\mu g/m^3$	24 Hours	21.5	100	Gravimetric
Particulate matter ($PM_{2.5}$), $\mu g/m^3$	24 Hours	14.9	60	Gravimetric
Sulphur Dioxide (SO_2), $\mu g/m^3$	24 Hours	2.15	80	Improved West and Geake
Nitrogen Dioxide (NO_2), $\mu g/m^3$	24 Hours	5.62	80	Jacob & Hochheiser

Materials and Methodology:

The air quality monitoring was conducted on **08.08.2022** for 24 hours inside the **Debendrachandranagar dumping site, Agartala, Tripura West**. The sampling procedures for measurement of PM-2.5, PM-10, NO_2 and SO_2 were made according to the internationally accepted standard technique through use of Respirable Dust Sampler (RDS) with gaseous sampling attachments and PM-2.5 Sampler manufactured by M/s Environtech Instruments PVT. LTD., New Delhi.

Observations:

From the result table it has been observed that the measured concentration of Respirable Particulate Matter (PM-10), Fine Particulate Matter (PM-2.5), SO_2 and NO_2 is well within the prescribed standard limit of CPCB (*Central Pollution Control Board, 2009*).

HARYANA NOTARY CALCUTTA

Rajib Paul
20/08/22

(Dr. Rajib Paul)
Jr. Scientific Assistant
TSPCB, Agartala

(Dr. Rajib Paul)
Junior Scientific Assistant

(Ratan Debnath)
Sr. Laboratory Assistant
TSPCB, Agartala

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NOISE LEVEL MONITORING REPORT

Monitoring Location : Debendrachandra Nagar dumping site, Agartala, Tripura (W)

Date of Monitoring : 06/08/2022

Time of Monitoring : 12.00 PM to 2.00 PM

Type of sample : Ambient Noise

Noise Meter Model No : Lutron SL-4001, Class-2

Major Construction Noise Source(s) during monitoring : Vehicular movement inside the dumping site and Household activities.

Other Noise Sources(s) during monitoring : NA

Monitoring Results

Sl. No	Sampling location	Distance from the dumping site	Leq dB(A)	Standards dB(A) Leq (Day time)
1.	Inside the Debendrachandranagar dumping site	NA	43.7	55
2.	In front of the house of Sri. Balai Munda (North West side of dumping station)	150 meter (approx)	41.8	55
3.	In front of the house of Sri. Jagadish Debbama (North side of dumping station)	800 meter (approx)	42.5	55
4.	In front of the Malabati Para high School	600 meter (approx)	38.4	55

Observations:

From the monitoring results it has been observed that, the noise level in and around the **Debendrachandra Nagar dumping site, Agartala, Tripura (W)** is within the prescribed standard limit of Ambient Air Quality standard in respect of noise (55dB) of CPCB (Rule 3(1) & 4(1)) at day time in respect of residential area.

Rajib Paul
20/08/22
(Dr. Rajib Paul)
Jr. Scientific Assistant
TSPCB, Agartala

(Ratan Debnath)
Sr. Laboratory Assistant
TSPCB, Agartala

SAMIR BHATTACHARYA NOTARY Regd. No. Govt. of India

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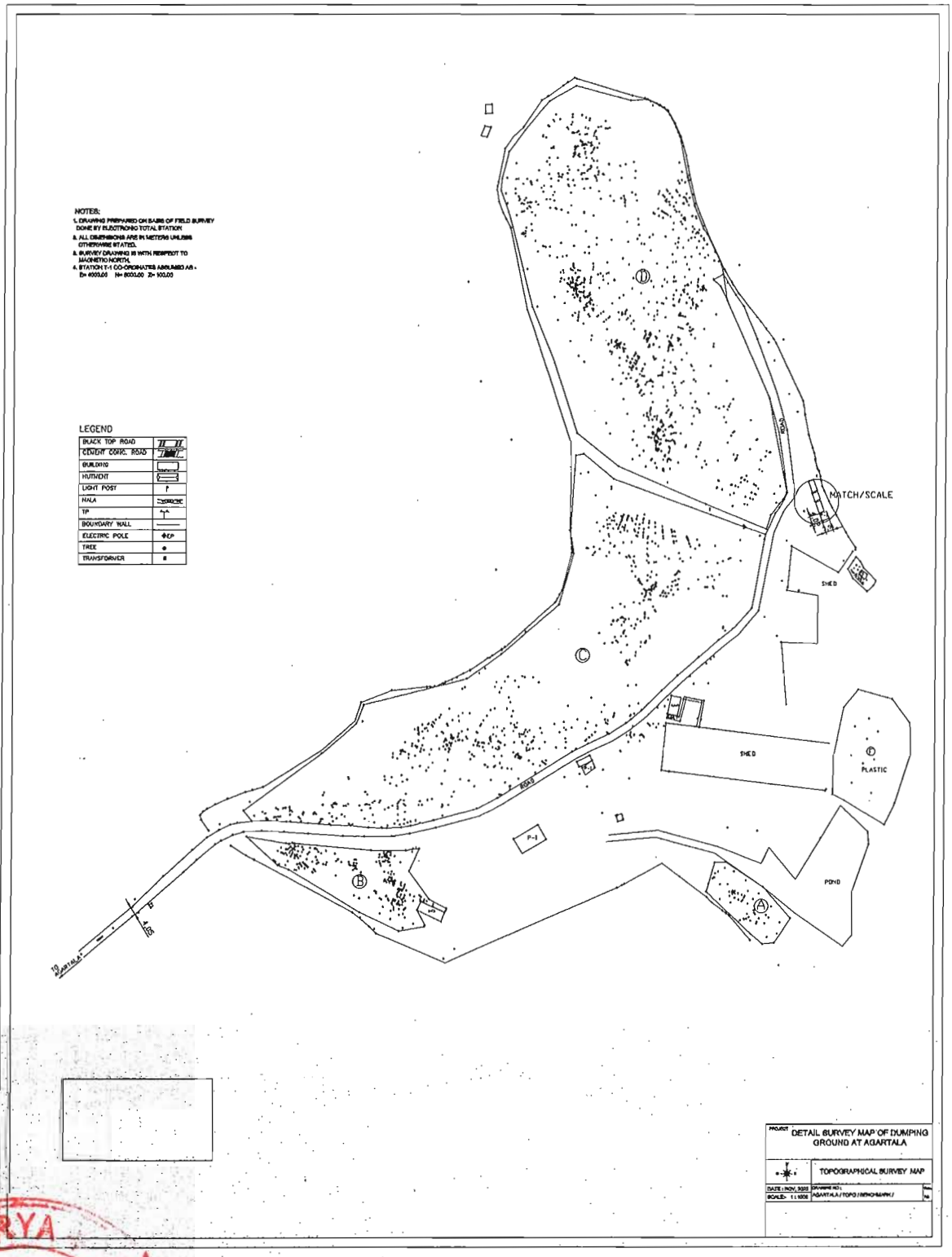

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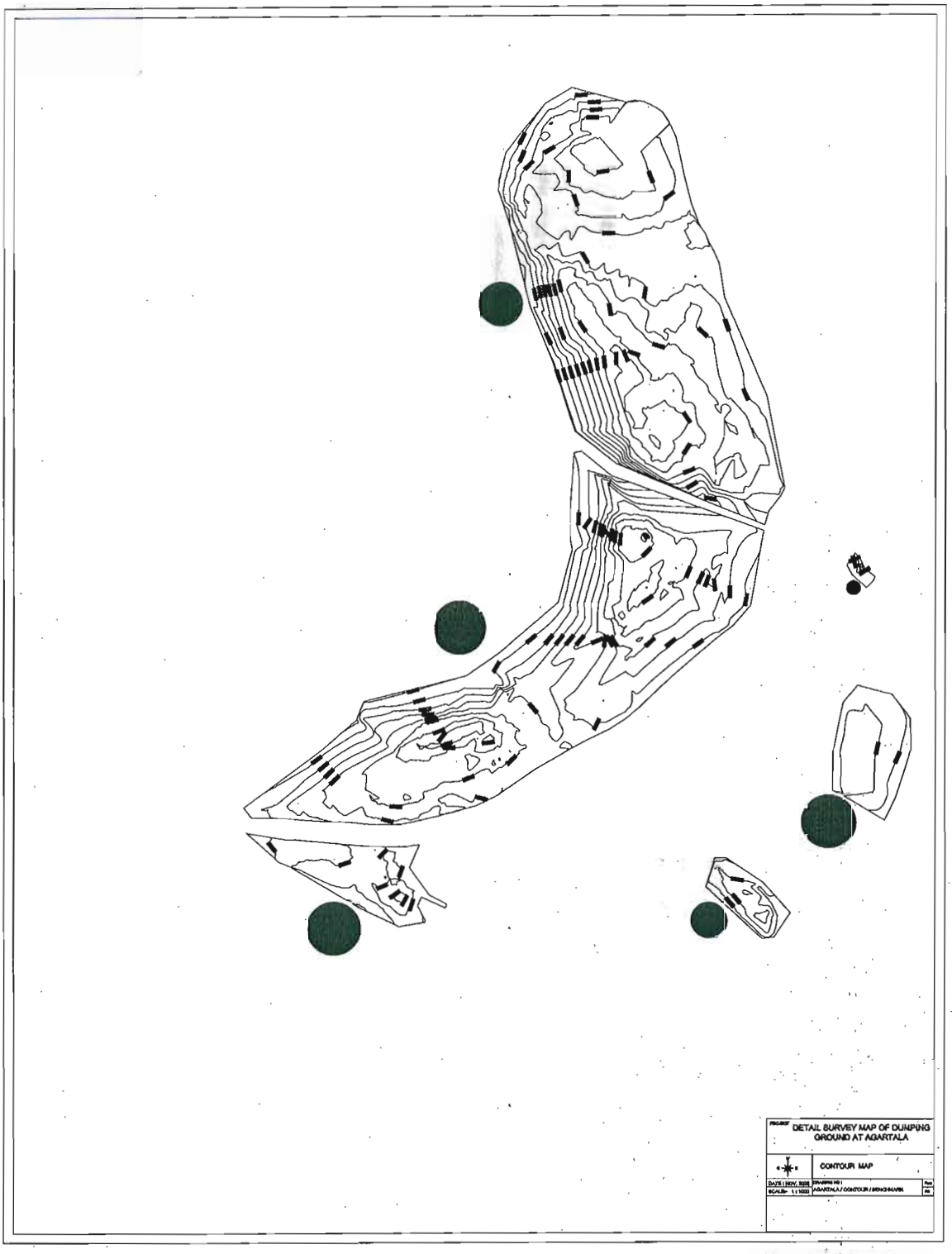

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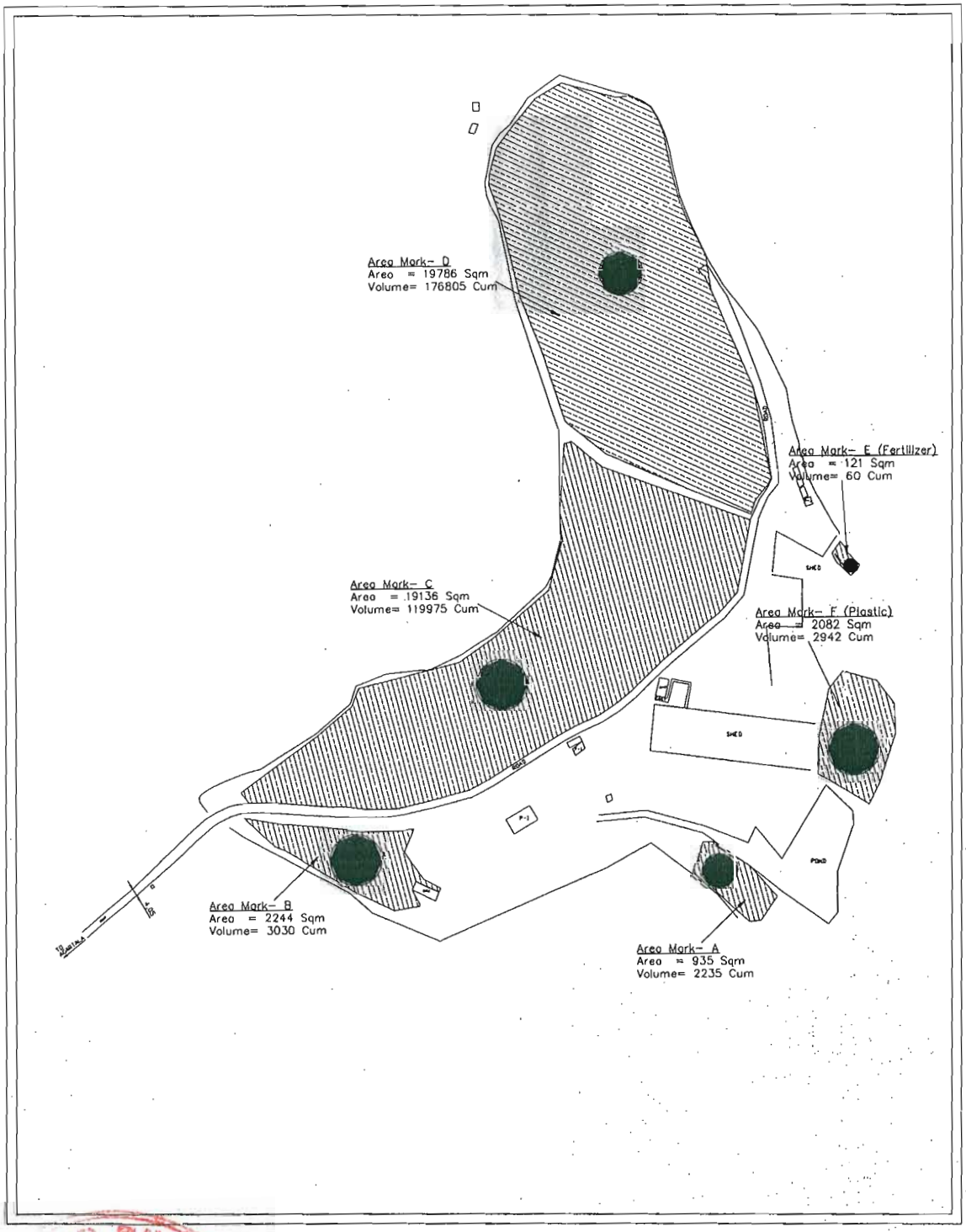

ANNEXURE - H

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AGARTALA MUNICIPAL CORPORATION
Office of the Municipal Commissioner
City Centre, Agartala, Phone/Fax -03812385646, email- amc.tripura@gmail.com

F.458/Mech. Div./AMC/2019/Part-1 / Rec'd (A) Rec'd (E) Dt. 11/01/2023

To,

Mandy Enterprise
(Lead Firm of the Consortium comprising of MS Mandy Enterprises, Earth Recyclers Pvt. Ltd. and URBO Waste Management Pvt. Ltd.)
W-8,1st Floor, West Patel Nagar
New Delhi-110008

Sub: Processing (bio mining/bio remediation)of the legacy waste at Devendra Chandra Nagar
Ref.e-tenderID&PNIT: 2021_SAMC_17513_1, 06/04/2021 and 69/RFP/Mech.Div/AMC/2021 Dated 06.04.2021 (BOQ item 2)
Ref.: Note No 45 of AMC file No. F.458/Mech. Div./AMC/2019/Part-1

Sir,

Pursuant to proposal and rate offer for Processing (bio mining/bio remediation) of the Legacy Waste at Devendra Chandra Nagar in respect with aforesaid PNIT and e-tender id, it has been decided to award you the work at the price **Rs. 873/- (Eight Hundred Seventy Three) only per Metric Tonne (Inclusive of GST, Processing, Transportation of aggregates and disposal as per CPCB rules and Hon'ble NGT guidelines)** instead of lump sum amount based on accumulated quantity. You are instructed to proceed with the execution in accordance to the RFP documents. You are also requested to initiate your activities once written intimation is given by the Mechanical Division of Agartala Municipal Corporation.

You are hereby directed to sign the contract agreement within 07 (seven) days from the date of the issue of this letter. The whole work will be governed under the contract agreement to be executed.

11/01/2023

(Dr. Shailesh Kr. Yadav, IAS)
Municipal Commissioner
Agartala Municipal Corporation

Copy to:-

1. P.S to Hon'ble Mayor, AMC for kind information.
2. Director, UDD for information please.
3. DDO, AMC for information and n/a.
4. Executive Engineer (Mech), AMC for information and n/a.

11/01/2023

Municipal Commissioner
Agartala Municipal Corporation

SAMIR BHATTACHARYA
CALCUTTA

Certificate Sl. No. 16467

TRIPURA STATE POLLUTION CONTROL BOARD

PARIVESH BHAWAN, Pandit Nehru Complex, Gorkhabasti,
Kunjaban, Agartala - 799 006, West Tripura.

No.F.17(10)/TSPCB/W/ Solid Waste/(L- Red)/ 5363/ 1160-64 Date : 03 / 03 / 2025

CERTIFICATE FOR CONSENT TO OPERATE

Under Section 25/26 of Water (Prevention and Control of Pollution) Act, 1974 and
Under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981

Reference : i) Your Application No. **333899** Dated : **14-02-2025**
ii) Our NOC Register Sl. No.**15217** For : **Extension of validity**

Capital Investment : **Rs. 16.50 Cr.** Plant Capacity: **250 MT/Day**
Type : **Common Solid Waste Processing Plant** Category : **Red**

With reference to the above Application, a provisional Consent to Operate Certificate (Extension of validity) is hereby issued in favour of **M/s. Mechanical Division, The Executive Engineer (Mech.), Devendra Chandra Nagar, AMC, Agartala, Tripura (W)** to discharge its industrial and other effluents arising out of their premises into a stream/ well/ land as per section 25/26 of Water (Prevention and Control of Pollution) Act,1974 and to make emission from the plant /unit as per Section 21 of the Air (Prevention and Control of Pollution) Act,1981situated at **Devendrachandra Nagar, AMC, Agartala, Tripura (W)** to subject to observance of other codal formalities of the Govt. of India/Govt. of Tripura/District Administration/ Agartala Municipal Corporation or concerned Municipal Council or concerned Nagar Panchayat (whichever is applicable)/ Health Department/Industries & Commerce Department and subject to observance of the following terms & conditions stated at **Annexure – I.**

The Tripura State Pollution Control Board may, at any time, add or revoke any of the conditions applicable under the Consent to Establish Certificate/ Consent to Operate Certificate and shall communicate the same in writing.

AMC shall always have to obtain valid EC from SEIAA for Operation of Solid Waste Processing facility under EIA Notification, 2006 as amended to date.

This Certificate is valid 20-02-2030. Application for extension of validity of Consent Certificate shall have to be made one month before the date of expiry of validity of this Certificate. This Certificate has been issued in cancellation of earlier Consent to Operate Certificate No.F.17(10)/TSPCB/W/ Solid Waste/(L- Red)/ 5363/891-95 Dated 21/ 02/2025.

(Amarendra Jamatia) 03/03/2025
Asst Environmental Engineer
Tripura State Pollution Control Board

To
M/s. Mechanical Division
The Executive Engineer (Mech.)
Devendrachandra Nagar, AMC, Agartala, Tripura (W)

Copy to :
1. MC, Agartala Municipal Corporation, Tripura (W)
2. DM&C. West Tripura (W).
3. DI&C, Department, Tripura (W).
4. Sub-Divisional Magistrate, Mohanpur Tripura (W)

03/03/2025
Asst Environmental Engineer
Tripura State Pollution Control Board

SAMIR BHATTACHARYA NOTARY Regd. No. [illegible] Govt. of India

rediffmail

Mailbox of rayarnabmail

Subject: Status Report-cum-Compliance Affidavit of the Tripura State Pollution Control Board in Subrata Debnath matter being OA/97/2022/EZ

From: Arnab Ray<rayarnabmail@rediffmail.com> on Tue, 11 Mar 2025 16:56:21

To: <dipankarsaha.advocate@gmail.com>,<shirshobanerjeeatwork@gmail.com>,<ashokadvhc@gmail.com>, <surendra_kr15@rediffmail.com>,<apu7law@gmail.com>,<cs-tripura@nic.in>,<bipul.mallik@gov.in>, <directorurbantripura@gmail.com>

Cc: "Tripura SPCB"<tripuraspcb@gmail.com>

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1 attachment(s) - SubrataDebnathTSPCBReport.pdf (5.77MB)

To

1. Mr. Dipankar Saha,
   Ld. Advocate,
   Room No. 105, 4th Floor,
   10, Old Post Office Street,
   Kolkata - 700001,
   Mobile - +919831050830,
   +919732877623
   E-mail: dipankarsaha.advocate@gmail.com
   - For the Applicant in the Original Application

2. Mr. Shirsho Banerjee,
   Ld. Advocate,
   5, Shyamananda Road,
   Kolkata - 700025,
   Mobile - +919836231551,
   E-mail: shirshobanerjeeatwork@gmail.com
   - For the Respondent No. 5, Municipal Commissioner, Agartala Municipal Corporation

3. Mr. Ashok Prasad,
   Ld. Advocate,
   Mobile - +919883069404,
   E-mail: ashokadvhc@gmail.com
   - For the Respondent No. 8, District Magistrate, West Tripura

4. Mr. Surendra Kumar,
   Ld. Advocate,
   Mobile - +919433361866,
   E-mail: surendra_kr15@rediffmail.com
   - For the Respondent No. 7, Central Pollution Control Board

5. Mr. Apurba Ghosh,
   Ld. Advocate,
   Mobile - +919476239442,
   E-mail: apu7law@gmail.com
   - For the Respondent No. 6, Ministry of Environment, Forest and Climate Change

6. The Chief Secretary,
   Government of Tripura,
   New Secretariat Complex,
   Agartala - 799010
   E-mail: cs-tripura@nic.in
   - For the Respondent No. 1, The State of Tripura

7. Sri Bipul Mallik,
   Deputy Director,
   Department of Science, Technology and Environment,
   Government of Tripura,
   Vigyan Prajukti O Paribesh Bhawan,
   P. N. Complex,
   Gorkhabasti,
   Agartala - 799006

E-mail: bipul.mallik@gov.in 208
- For the Respondent No. 2, The Principal Secretary,
Department of Science, Technology and Environment,
Government of Tripura

8. The Secretary,
Urban Development Department,
Government of Tripura,
U. D. Bhawan,
Sakuntala Road,
Agartala - 799001
E-mail: directorurbantripura@gmail.com
- For the Respondent No. 4, Urban Development Department,
Government of Tripura

Respected Sir(s),

In Re:

Original Application No. 97/2022/EZ

Subrata Debnath
Versus
The State of Tripura and Others

[Disposed of by the Eastern Zone Bench of the Hon'ble National Green Tribunal at Kolkata on 09.02.2023]

My Client: The Tripura State Pollution Control Board

Pursuant to the direction of the Eastern Zone Bench of the Hon'ble National Green Tribunal at Kolkata dated 09.02.2023 in the aforementioned matter please find herewith attached a scanned copy of the Status Report-cum-Compliance Affidavit of the Tripura State Pollution Control Board with scanned copies of the annexures.

This is for your kind record, please.

Thanking you.

Yours sincerely,
ARNAB RAY,
Advocate-on-Record,
For the Tripura State Pollution Control Board,
In OA No. 97/2022/EZ,
Before the Hon'ble NGT, EZB, Kolkata,
Mobiles - +919874246811,
+919123731361,
E-mails: rayarnabmail@rediffmail.com,
rayarnabmail@gmail.com

Residential address: 42/1/4, Brajonath Lahiri Lane, Howrah, Post Office - Santragachi, Police Station - Chatterjeehat, District - Howrah, State - West Bengal, PIN - 711104

Enclosure: The scanned attachment

Copy to:
The Member Secretary,
Tripura State Pollution Control Board
- For kind information and record, please