NDOH:- 05.12.2024

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Original Application No. 606/2018

IN THE MATTER OF :-

Compliance Of Municipal Solid Waste Management Rules, 2016 And Other Environmental Issues ..... Applicant(s)

Vs.

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Filed on 04.12.2024 **Filed by,**

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STANDING COUNSEL FOR STATE OF TRIPURA
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BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH

ORIGINAL APPLICATION NO. 606 OF 2018

IN THE MATTER OF: -

Compliance of Municipal Solid Waste Management Rules, 2016 and other environmental issues

AFFIDAVIT IN COMPLIANCE OF ORDER DT. 16.05.2024

ON BEHALF OF THE RESPONDENT- STATE OF TRIPURA

I, Sh. Ranjit Das TCS, aged 59 years, S/o Gopal Ch Das, Joint Resident Commissioner to the Government of Tripura, Tripura Bhawan, Kautilya Marg, Chankyapuri, New Delhi– 110 001, do hereby solemnly state and affirm as under: -

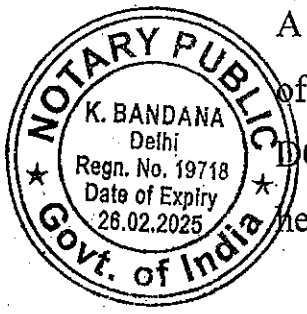
1. That the Deponent is the Joint Resident Commissioner to the Government of Tripura, Tripura Bhawan, Kautilya Marg, Chankyapuri, New Delhi– 110 001, and in course of discharge of his official duties, deponent has become conversant with the facts of the instant case and being duly authorized on this behalf by respondent-State, the deponent is fully competent to swear the present affidavit.

NOTARY PUBLIC
K. BANDANA
Delhi
Regn. No. 19718
Date of Expiry
26.02.2025
Govt. of India

2. That vide Order dated 16.05.2024, this Hon'ble Tribunal had directed the Respondent-State of Tripura to file a subsequent six-monthly Report taking into account the observations made during the examination of the previous six-monthly report filed on 14.05.2024 and presentation filed along with it.

A True Copy of the Order dated 16.05.2024 passed by this Hon'ble Tribunal in the present case is annexed herewith as **ANNEXURE-I [Page No. 4 to 7].**

3. That in compliance thereof, the present affidavit is being filed, which includes the six-monthly progress report, along with the forwarding letter from the Chief Secretary of the Respondent-State of Tripura, bearing File No. DO.No.F.13(23)/TPSCB/NGT/606 dated 02.12.2024.



A True Copy of the six-monthly progress report by the Respondent-State of Tripura along with the forwarding letter bearing File No. DO.No.F.13(23)/TPSCB/NGT/606 dated 02.12.2024 is annexed herewith as **ANNEXURE-II [Page No. 8 to 158].**

4. The Respondent – State of Tripura is making all sincere efforts to comply with directions passed by this Hon'ble Tribunal from time to time, and craves leave of this Hon'ble Tribunal to file further detailed affidavit, if required in the facts and circumstances of the present case.

3

04/12/24
DEPONENT

RANJIT DAS, TCS
Joint Resident Commissioner
Government of Tripura
Tripura Bhawan, New Delhi

Sudeep Roy
IDENTIFIED

VERIFICATION:

I, the above-named deponent, do hereby verify that the contents of the above affidavit of mine are true and correct to the best of my knowledge. No part of it is false and nothing material has been concealed therefrom.

Verified at Delhi on this _____ day of December, 2024.

04 DEC 2024

04/12/24
DEPONENT

RANJIT DAS, TCS
Joint Resident Commissioner
Government of Tripura
Tripura Bhawan, New Delhi

NOTARY PUBLIC
K. BANDANA
Delhi
Regn. No. 19718
Date of Expiry
26.02.2025
Govt. of India

ATTESTED
NOTARY PUBLIC DELHI
Govt. of India
Mob.: 9654768498

ANNEXURE-I

Item No. 10 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 606/2018
(IA No. 163/2021)

(**In respect of State of Tripura**)

Compliance of Municipal Solid Waste Management Rules, 2016 and other environmental issues.

Date of hearing: 16.05.2024

CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Respondent: Shri Jitendra Kumar Sinha, Chief Secretary, Tripura
Shri Abhishek Singh, Secretary, Urban Development Department, Tripura
Dr. K. Sasikumar, Secretary, Department of Science, Technology & Environment, Tripura
Shailesh Kumar Yadav, Municipal Commissioner, Agartala Municipal Corporation
Shri Rajat Pant, Director, Urban Development Department, Tripura
Dr. Bishu Karmakar, Member Secretary, Tripura State Pollution Control Board
Sri Dipak R Pal, Junior Scientist, Tripura State Pollution Control Board.

ORDER

1. In this original application, the Tribunal is monitoring the compliance by the States/Union Territories in respect of solid as well as liquid waste management in terms of order of the Hon'ble Supreme Court dated 02.09.2014 in Writ Petition No. 888/1996, *Almitra H. Patel vs. Union of India & Ors.*,(with regard to solid waste management) and order dated 22.02.2017 in W.P. No. 375/2012, reported in (2017) 5 SCC 326, *Paryavaran Suraksha vs. Union of India,* with regard to liquid waste management (sewage).

2. Today, the matter has been taken up in respect of compliance by the **State of Tripura**.

3. The six-monthly report has been filed by the State of Tripura on 14.05.2024 and the presentation has also been filed on the same date.

4. The Chief Secretary, Tripura along with Secretary, Urban Development Department, Tripura, Secretary, Department of Science, Technology & Environment, Tripura, Municipal Commissioner, Agartala Municipal Corporation, Director, Urban Development Department, Tripura, Member Secretary, Tripura State Pollution Control Board Junior Scientist, TSPCB have appeared personally in the matter and appraised the situation in the State of Tripura in respect of compliance of directions/rules relating to solid as well as liquid waste management in the State of Tripura. After hearing the Chief Secretary and other officers present in person and on examining of the six-monthly report and the presentation, we find as under:

[A] Ring fenced Account

(i) As per the order of Tribunal dated 13.04.2023, the State was required to ring fence an amount of Rs. 282.5 crores + Rs. 100 crores for urban solid and sewage management, but, there is no clarity about the amount actually credited in the dedicated account. It is also not disclosed as to why full directed amount could not be ring fenced instead of mentioning separate funding sources from various Agencies.

[B] Solid waste management

(i) It has been disclosed that 350.2 TPD waste generated by 20 urban local bodies (ULBs) is processed and existing designed facilities are for 446.0 TPD. When asked on adequacy of facilities to process daily incoming waste for composting, proper justification could not be provided.

(ii) It has been disclosed that there are 19 existing MRF Centres with segregation centres but, reconciliation of

data with respect to each ULB on waste generation, existing waste Processing facilities (in the form of MRF), actually utilised capacity and utilisation of compost and rejects management has not been provided.

(iii) It is disclosed that Hapania legacy waste site at Agartala has been remediated and closed. Closure of site has to be done in accordance with the MSW Rules. It is further observed that 13 ULBs are yet to remediate their sites. It is mentioned that eight sites are remediated but it is not clear as to what work is remaining and whether legacy waste still exists in these 8 sites. In respect of quantities mentioned as bio-mined material like good soil, inerts, C&D waste and RDF, it has not been disclosed that how these fractions have been disposed.

[C] Sewage management

(i) We also find that out of 82.4 MLD of sewage generated by 20 ULBs, 61.0 MLD is generated by Agartala. In case of other ULBs, sewage generation is estimated between 1.0 to 3.0 MLD each and accordingly, sewage management facilities are to be designed and executed without further delay. For such ULBs, packages/modular decentralised plants may be considered.

(ii) We also find that in Agartala, 8 MLD STP is existing but, only 5 MLD of sewage is being treated due to non connectivity of household to sewer system. Agartala MC and other ULBs should ensure that STPs should not remain underutilized and simultaneously household connections is secured.

(iii) While pointing out performance of underutilized STP, results on Fecal Coliform have not been provided. This may be done and filed with the next report. We also do not find performance results of in-situ bio-remediation. Such options are intermediary solution unless they indicate compliance with the standards.

5. Thus, we require the State of Tripura to file the next six-monthly report keeping in view the observations made above by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

6. List the matter on 05.12.2024 for consideration of report in respect of State of Tripura.

7. For State of Punjab and UT of Chandigarh, the matter be listed on 30.05.2024, as per earlier direction.

Prakash Shrivastava, CP

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

May 16, 2024
Original Application No. 606/2018
(IA No. 163/2021)
DV

Jitendra Kumar Sinha, IAS
Chief Secretary

GOVERNMENT OF TRIPURA
Secretariat, New Capital Complex
Agartala - 799010, Tripura

DO.No.F.13 (23)/TSPCB/NGT/606/
Dated, 02nd December, 2024

Dear Madam,

I would like to draw your kind attention to the Order dated 16.05.2024 passed by the Hon'ble National Green Tribunal, Principal Bench, New Delhi in OA No.606/2018 on the subject of "Compliance of Municipal Solid Waste Management Rules, 2016 and other Environmental Issues".

2. In compliance with the direction of the Hon'ble Tribunal, the State has taken sincere efforts to mitigate the gap in Solid Waste Management and Sewage Management and accordingly, a Six-Monthly Progress Report for the State of Tripura is prepared and enclosed herewith for kind consideration of the Hon'ble Tribunal.

3. Further, I also would like to inform the Hon'ble Tribunal that despite the unprecedented flood experienced by the State during the recent monsoon period which has resulted in heavy loss of human life & enormous damage to infrastructure & properties, the State has achieved significant progress in Solid Waste Management & Sewage Management during the past six months.

With kind regards,

Yours sincerely,

2.12.24

(Jitendra Kumar Sinha)

To
Ms. S. Vineeta
Registrar General
National Green Tribunal
Principal Bench, Faridkot House
Copernicus Marg, Near India Gate
New Delhi-110001

Phone : 0381 - 241 3200 / 4392, Fax : 0381 - 241 4013, e-mail : cs-tripura@nic.in, cstripura@gmail.com

SIX MONTHLY PROGRESS REPORT FOR THE STATE OF TRIPURA

[Compliance of the Directions of Hon'ble National Green Tribunal in Order dated 16.05.2024 in OA No. 606 of 2018 in connection with implementation Solid Waste Management Rules and Sewage Management]

Submitted by:

GOVERNMENT OF TRIPURA

ACTION TAKEN BY THE STATE IN COMPLIANCE WITH THE DIRECTION OF THE HON'BLE NATIONAL GREEN TRIBUNAL PRINCIPAL BENCH, NEW DELHI DATED 16.05.2024 IN THE MATTER OF OA NO. 606/2018

(I) <u>ACTIONABLE POINT</u>:

[A] Ring fenced Account

(i) As per the order of Tribunal dated 13.04.2023, the State was required to ring fence an amount of Rs. 282.5 crores + Rs. 100 crores for urban solid and sewage management, but there is no clarity about the amount actually credited in the dedicated account. It is also not disclosed as to why full directed amount could not be ring fenced instead of mentioning separate funding sources from various Agencies.

<u>ACTION TAKEN BY THE STATE SINCE LAST HEARING i.e. 16.05.2024</u>:

Actionable Point	**Action taken by the state since last hearing i.e. 16.05.2024**			
	Ring Fenced A/C details of Rs 282.58 Cr	**Total expenditure from Ring Fenced Fund till date**	**Expenditure since last hearing i.e. 16-05-2024**	**Present Ring-Fenced A/C balance**
As per the order of Tribunal dated 13.04.2023, the State was required to ring fence an amount of Rs. 282.5 crores + Rs. 100 crores for urban solid and sewage management, but there is no clarity about the amount actually credited in the dedicated account. It is also not disclosed as to why full directed amount could not be ring fenced instead of mentioning separate funding sources from various Agencies.	The ring-fenced fund has been transferred to a separate bank account in Tripura Gramin Bank- i) **Bank A/C Name:** Ring Fenced Account for Waste Management Tripura. ii) **Bank A/C No.** – 8004010016746. iii) **Fund credited by Finance Department to Ring Fenced Account = Rs. 282.58 cr**. (It includes Rs 50 cr. released by Finance department for the same before opening of the new account as Ring fenced account)	Total expenditure = **Rs.184.95 Cr** **<u>Year wise expenditure break up-</u>** i) **Rs. 50 Cr** in FY 23-24 ii) **Rs. 134.95 Cr** in FY 24-25	**Rs.134.95 Cr** **(a) <u>Break up of Rs. 134.95 Cr</u>**. **i) Rs. 40 Cr. -** Agartala Smart City (STPs in different location). **ii) Rs. 15.16 Cr.** – Agartala Municipal Corporation (Solid Waste Management) **iii) Rs. 35 Cr**.– Tripura Urban Development Authority (For STP in 11 ULBs) **iv) Rs. 44.79 Cr. -** Agartala Smart City (For 31.5 MLD STP)	**Rs. 99.11 Cr**

The State Government has acted upon the issues relating to Solid Waste Management & Sewage Management on priority basis. In this regard, the State has already Ring Fenced an amount of Rs. 282.58 Crores vide States Council of Ministers Memorandum No.F.1(14)-GA(CAB)/2005 Dated 13-01-2023 (Rs. 147.58 Cr) and Memorandum No. F.1(2)-GA(CAB)/2016 Dated 19-04-2023. (Rs.

135 Cr). The fund involvement of all the new/ proposed projects taken to address the gap in urban solid and sewage management is estimated to be covered within Rs. 282.58 Crore. Copies of the said Memorandums are enclosed herewith as **Annexure – 1.**

(Present balance of Ring-Fenced Account for Waste Management Tripura is enclosed at **Annexure-2)**

Additional 100 Cr fund provision

Regarding the additional amount of Rs. 100 crores to be set aside under the ring-fenced account, the attention is drawn to the Hon'ble Court's order dated 13.04.2023 wherein Para No. 29, following was mentioned: -

"*The Chief Secretary, Tripura has fairly agreed that an amount of Rs. 282.5 crores will be shifted to a separate ring-fenced account for remedial measures……*

Since the PPT shows that there are adequate committed funds available, it is ***open to the State*** *to divert further sum of Rs. 100 crores out of the said funds or otherwise….*

In this regard, the state has already earmarked funds from various sources which is being spent for the purpose of Solid and Sewage Management as submitted by the Chief Secretary, Tripura previously…."

Details of additional Rs.100 Crore fund

The state as submitted by Chief Secretary, Tripura had earmarked an initial amount of Rs. 124.85 Cr. from various central scheme funds, grants and loans, specifically for the purpose of solid and sewage management in the urban areas. Out of the total, a sum of Rs. 105.59 Cr. has already been spent by the state till 2023-24.

The brief detail of the same is mentioned herein below:

Sl. No.	Fund source & its utilisation	FY	Amount (Rs. in Cr.)	Expenditure made till 30.11.2024
1	15th FC (Tied grant for Solid Waste Management spent by ULBs)	2020-21	23	23
		2021-22	21	21
		2022-23	21.6	21
		2023-24	22.8	14
2	NABARD fund for construction of Solid Waste Management Plants for ULBs other than Agartala	2022-23	13.02	13.02
3	SBM-U fund for Solid Waste Management	2021-22	5.25	4.77
4	SBM U for used water management	2021-22	0.44	0.4
		2023-24	8.65	8.4
Grand Total			**124.85**	**105.59**

Subsequently, under SBM (Urban), 15th Finance Commission, UIDF & Special Assistance to States for Capital Investment in 2024-25, an additional fund of Rs. 57.98 Cr has also been sanctioned for solid and sewage waste management in urban areas.

Sl. No.	Fund source	FY	Amount (Rs. in Cr.)	Expenditure made till 30.11.2024
1	15th FC (Tied grant for Solid Waste Management)	2024-25	24.3 (fund received on 15th Nov, 2024)	0
2	Augmentation of Solid Waste Processing under Urban Infrastructure Development Fund (UIDF) for Agartala	2024-25	13.84	13.84
3	Special Assistance to States for Capital Investment- augmentation of Solid Waste Management plants in 4 ULBs	2024-25	4	2
4	SBM- U additional allocation for Solid Waste Management for Legacy Waste	2024-25	15.84	-
Grand Total			**57.98**	**15.84**

It can be seen from the above two tables that a total amount of Rs. 182.83 Cr. has been allocated from various sources. Out of the allocated amount, a total of Rs. 121.43 Cr. has already been spent till date. The remaining amount will be spent on completion of ongoing solid and sewage management works in various ULBs.

(II) <u>ACTIONABLE POINT</u>:

[B] Solid waste management

(i) ***It has been disclosed that 350.2 TPD waste generated by 20 urban local bodies (ULBs) is processed and existing designed facilities are for 446.0 TPD. When asked on adequacy of facilities to process daily incoming waste for composting, proper justification could not be provided.***

(ii) ***It has been disclosed that there are 19 existing MRF Centers with segregation centers but, reconciliation of data with respect to each ULB on waste generation, existing waste Processing facilities (in the form of MRF), actually utilized capacity and utilization of compost and rejects management has not been provided.***

<u>ACTION TAKEN BY THE STATE SINCE LAST HEARING i.e. 16.05.2024:</u>

Since previous hearing dated 16.05.2024, a fresh assessment of solid waste generation has been carried out based on the population of ULBs for F.Y. 2024-25. The Solid Waste generated in 20 ULBs is **352.75 TPD.** Out of the total solid waste generated**, 194.01 TPD** approx. is wet waste and **123.46 TPD** is dry waste and remaining **35.28 TPD** is mostly inert waste. The waste generated is collected & transported to the waste processing facilities.

For processing the generated waste, there are 19 Solid Waste Processing Facility (MRF centers) with separate inbuilt infrastructure for processing wet and dry waste. The combined total capacity of these 19 Solid Waste Processing facility (MRF centers) is **446 TPD,** refer **Table-1** below. In addition to this, there are 85 segregation sheds for basic segregation and dry waste storage. Further to ensure local treatment of wet waste near the source of generation, the ULBs have already constructed total **132 compost pits** (3m x 1.5m x 1m) of **7.6 TPD** approx. at ward or market level for decentralized wet waste processing. An additional **190 such compost pits** of **10.9 TPD** are under construction which will be completed by April, 2025, refer **Table-2** below.

It is pertinent to mention that at the household level in most ULBs, the household wet waste (organic kitchen waste) is fed to cattle owned by families, which is estimated to be **32.49 TPD** approx., details enclosed at **Annexure- 3.**

Table-1: Solid Waste Generation and Capacity of 19 Existing Waste Processing Facility (MRF center)

SL	Name of ULB	Population (2024-25)	Solid Waste Generation (2024-25) (In TPD)	No. of Processing Facility	Existing Processing capacity (In TPD)	Processing capacity of this Facility/MRF Centre (In TPD)		Number of Pits for composting inside this Facility	Availability of Windrow Platform for composting in this facility	Capacity Utilization of this Facility/MRF Centre (In TPD)		Waste Processing Method
						WET	DRY			WET	DRY	
1	Agartala MC	581698	248.07	2	275 (250+25)	150.0	125.0	0	Yes	123.82	113.39	a. 250 TPD Waste to Compost Plant using Windrow Method + Recycling Facility. b. 25 TPD Recyclable Processing Facility
2	Dharmanagar MC	49722	14.36	1	15	6.0	9.0	40	Yes	6.00	6.46	Waste to Compost using both Windrow and Pit Composting Method + Recyclable Processing
3	Panisagar NP	11371	2.6	1	10	3.5	6.5	40	Yes	0.53	1.17	
4	Kailashahar MC	24940	7	1	10	3.5	6.5	30	Yes	1.90	3.15	
5	Kumarghat MC	15223	4.5	1	10	3.5	6.5	30	Yes	1.35	2.03	
6	Kamalpur MC	13276	3.83	1	6	2.5	3.5	0	Yes	1.61	1.72	Waste to Compost using Windrow Method + Recyclable Processing
7	Mohanpur MC	20145	5.63	1	10	2.5	7.5	40	-	1.82	2.53	Waste to Compost using Pit Composting Method + Recyclable Processing
8	Ranibazar MC	17705	5.11	1	10	3.0	7.0	40	-	2.81	4.06	
9	Udaipur MC	39088	9.4	1	10	4.5	5.5	60	-	3.26	4.23	
10	Amarpur NP	12302	3.6	1	10	2.5	7.5	40	-	0.88	1.62	
11	Khowai MC	23563	6.91	1	10	2.5	7.5	40	-	2.19	3.11	
12	Teliamura MC	25134	7.5	1	10	3.0	7.0	40	-	2.16	3.38	
13	Melagarh MC	20089	5.71	1	10	3.5	6.5	60	-	2.12	2.57	
14	Sonamura NP	13166	3.1	1	10	2.5	7.5	40	-	0.20	1.40	
15	Santirbazar MC	16185	3.28	1	10	2.5	7.5	40	-	0.52	1.48	
16	Belonia MC	21444	4.9	1	10	3.0	7.0	40	-	1.05	2.21	
17	Sabroom NP	6954	2	1	10	3.0	7.0	60	-	0.32	0.90	
18	Ambassa MC	16127	4.52	1	10	2.5	7.5	40	-	1.25	2.03	
19	Bishalgarh MC	23191	6.8	0	0	-	-	0	-	-	-	Using Plant of Agartala
20	Jirania NP	13768	3.92	0	0	-	-	0	-	-	-	Using Plant of Ranirbazar
Total		**965091**	**352.75**	**19**	**446**	**204.0**	**242.0**	**680**	**-**	**153.79**	**157.43**	

Description of 19 Waste Processing Facility (MRF center)

The **Waste Processing Facility (MRF center)** in each ULB of Tripura have provision to cater to both wet and dry waste, separately. Each facility is fully covered to make it rainproof and equipped with the following infrastructure and machineries –

1. **Common Area** includes- tipping area with a weighing scale, sorting and segregating area with a trommel attached to a conveyor belt system with in-built magnetic, air and vibrating screen separator, office room, workers rest rooms, toilet and an equipment storage room.

2. **Dry waste processing area** includes- compartmentalized storage space, washing, cleaning area, sorting area, separate storage space for bailed items, room for machines like shredder and bailer, etc.

3. **Wet waste processing area** includes- area of composting pits, windrow platforms with arrangement for leachate management, compost drying and storage space, a room for equipment like organic shredder, sieving machine, weighing machine and a compost packaging machine.

Workflow of processing at Waste Processing Facility (MRF center)

The waste is sorted, segregated using both belt conveyor system and manual taskforce into wet and dry waste. While the dry waste is further segregated, cleaned, shredded, bailed and stored for further selling to waste recyclers, the wet waste is shredded and transferred to a compost pit or a windrow platform for composting. The detailed process involved in windrow and pit composting is mentioned in the later part of this report.

The waste processing facilities constructed are adequate for the quantity of waste generated presently and have extra capacity to cater for future population increase. The ULB wise Solid Waste Generation and existing Waste Processing Facility (MRF center) data is given below:

Mechanism of waste collection and processing at the Waste Processing Plant:

1. Door to door collection of segregated solid waste (Wet/Dry) with user charges is being implemented for households and other commercial establishments.

2. Door to Door waste collection is mostly done by engaging Women Self Help Group (WSHG) in pushcarts or tricycles. At some places it is collected using hoppers/e-tippers having separate compartments for dry & wet waste. Each SHG covers waste collection from 100-200 households per day. The collected solid waste is further segregated by SHGs into Wet and Dry categories. ULB wise waste collection involving women SHG data is enclosed at **Annexure-4**.

a) The Dry waste upon collection is transported by the women SHGs using their vehicle (battery operated E-Rickshaw/Tricycles/Push Carts) to the **Segregation Sheds** where they further segregate the waste and sort it into various categories. The categorised dry waste is stored at the segregation sheds and sold by women SHG to local recyclers or transported to MRF centre of that ULB. ULBs have empanelled recyclers to provide pick up facility from these segregation sheds and waste processing facilities with fixed rates for different type of items.

b) The Wet waste after collection is transferred to linked auto hoppers which in turn transfers the waste to tippers and compactors. These compactors transport the waste to the solid Waste Processing Facility (MRF center) of the ULB.

3. The waste arriving at the waste processing facility is unloaded on the tipping floor of the plant.

4. In the next step, the incoming waste is sorted and segregated from the tipping floor using a combination of a belt conveyor system and manual labor. The waste is categorized into wet and dry waste, with the help of a trommel attached to the conveyor belt system, which includes built-in magnetic, air, and vibrating screen separators.

5. For bio-degradable waste (wet waste):

a) In the **Windrow based composting** plants- The bio-degradable waste (Wet Waste) coming out from the conveyor belt is laid in windrow formation along with spraying of inoculum/bacterial mixers and stored for 5-7 weeks for decomposition depending upon moisture content and weather condition. Windrow formation is made for proper aeration and process control. Leachate generation is minimum and the formed leachate is arrested and drained to the leachate tank constructed adjacent to it. For controlling the moisture, the waste is turned by the use of a grab bucket/manual turning, for minimization of heap (< 2 mtr.). Leachate water is spread over the turned heap one in a week or ten days. Then the waste is passed through trommels of decreasing sizes to extract compost & other output components from the waste. The plants have sufficient storage space for windrows up to 5-7 weeks.

b) Similarly for **pit composting**, the bio-degradable waste coming out from the conveyor belt is placed in pits along with spraying of inoculum/bacterial mixers and stored for 5-7 weeks in the compost pits for decomposition depending upon moisture content and weather condition. The pits have sufficient space for composting storage of 5-7 weeks waste generated in respective ULB.

c) Both facilities are covered and rain proof and the entire process of composting due to loss of moisture content, the compost yield is around 12-18%.

6. For non-biodegradable (dry) waste:

Upon initial segregation/sorting the non-biodegradable waste collected from the conveyor belt is further segregated, cleaned, sorted, shredded and bailed in various categories viz Plastics, RDF, Metals, Glass, Textiles & fabrics, Rubber etc., stored and sold at agreed upon rates to the empanelled local recyclers.

In addition to the 19 integrated Solid Waste Processing Facility (MRF Centres) in ULBs, there is a system of decentralized composting pits for treating the wet waste locally and converting it into compost. The ULB wise details of such compost pits is listed below.

Table-2: Details of ULB Wise Decentralized Composting Pits at Ward/Market Level

Sl No	Name of ULB	Existing Number of Decentralised Pits at Ward/Market Level		Under construction Number of Decentralised Pits at Ward/Market Level	
		Count	Capacity (in TPD)	Count	Capacity (in TPD)
1	Agartala MC	0	0.00	0	0.00
2	Mohanpur	4	0.23	11	0.64
3	Ranibazar MC	6	0.35	7	0.41
4	Jirania NP	3	0.17	8	0.46
5	Santirbazar MC	9	0.52	6	0.35
6	Belonia MC	10	0.58	7	0.41
7	Sabroom NP	2	0.12	3	0.17
8	Dharmanagar MC	10	0.58	15	0.87
9	Panisagar NP	5	0.29	8	0.46
10	Kailashahar MC	9	0.52	8	0.46
11	Kumarghat MC	5	0.29	10	0.58
12	Udaipur MC	13	0.75	10	0.58
13	Amarpur NP	5	0.29	8	0.46
14	Khowai MC	9	0.52	6	0.35
15	Teliamura MC	7	0.41	8	0.46
16	Bishalgarh MC	10	0.58	50	2.89
17	Melagarh MC	5	0.29	5	0.29
18	Sonamura NP	8	0.46	5	0.29
19	Ambassa MC	10	0.58	5	0.29
20	Kamalpur MC	2	0.12	10	0.58
Total		**132**	**7.64**	**190**	**10.99**

For plastic waste management at local level, there exists a network of total 85 (eighty-five) numbers of Segregation Sheds constructed to segregate recyclables collected from households into different components which are sold to empaneled waste recyclers by the ULBs or transported to the MRF center of that ULB.

ULB wise number of segregation sheds are tabulated below:

Facility	Name of facility	Name of the ULB	Number	Present Status
De-centralized Secondary Segregation Centres	Segregation Sheds (Only segregation of dry waste into various categories is done by Women SHGs)	Agartala MC	16	All are functional
		Bishalgarh MC	2	
		Kamalpur NP	3	
		Dharmanagar MC	3	
		Panisagar NP	3	
		Kailashahar MC	3	
		Kumarghat MC	4	
		Ambassa MC	4	
		Khowai MC	6	
		Teliamura MC	6	
		Ranirbazar MC	3	
		Jirania NP	3	
		Santirbazar MC	3	
		Mohanpur MC	5	
		Sabroom NP	5	
		Melaghar MC	3	
		Sonamura NP	3	
		Udaipur MC	3	
		Amarpur NP	3	
		Belonia MC	4	
Total			**85 nos.**	

Utilization and Disposal of Solid Waste Processing Outputs:

1. **Compost:** The compost produced by Municipal Solid waste through compost and windrow method are sieved and packed in various sizes and stored in the storage space of the Waste Processing Facility (MRF center). Laboratory testing of the **quality of compost** is also done by the ULBs. Details of Lab test report is enclosed at **Annexure-5.** The compost is sold locally to local nurseries and forest department, it is also utilized by the Municipalities for their parks and gardens.

2. **Recyclables:** The recyclables such as plastic, glass, metal, rubber, cardboards etc. are segregated, cleaned, sorted and stored at the facility. Separate storage of various categories of such item are being done as per market demands of local recyclers and recyclers based at Guwahati and elsewhere. Upon filling up of storage space it is sold to local recyclers as per agreed upon rate of individual recyclable item. ULBs have already engaged empaneled recyclers. Photographs evidence of segregated waste storage at facility and sale to recyclers is enclosed at **Annexure-6.**

3. **Refuse Derive Fuel (RDF):** These items are packaged, transported, and sold to cement plants as fuel through recyclers engaged by ULBs.

4. **Inerts/Rejects:** The State Government has adopted a zero landfill 3-tier solid waste management model (Tier 1- waste collection, Tier 2- transportation, segregation and sorting and Tier 3- waste processing and storage at Waste Processing Facility (MRF center)) which has in-turn reduced the quantity of inert/reject. The inert that are left out after processing of solid waste are utilized for filling up of low-lying areas within the ULB and also used for preparation of sub grade of roads or used as a soling material for preparation of roads.

5. Mass balancing of solid waste is tabulated below-

Mass Balancing Table- Solid waste generation and its various outputs (in TPD)												
SL	**Name of ULB**	**Population (2024-25) (In TPD)**	**Solid Waste Generation (2024-25) (In TPD)**	**Total Wet Waste (in MT)**	**Total Dry Waste (in MT)**						**Total Inert & Others (in MT)**	**Compost (in MT)**
				Kitchen waste inclusive of fish, meat poultry and vegetables, etc.	**Paper, Cardboard etc.**	**Various kind of plastic**	**Various kind of Glass**	**Rags, textile materials**	**Metal**	**Other recyclables**		
1	Agartala MC	581698	248.07	136.4	19.8	22.3	2.5	5.0	1.2	36.0	24.8	27.3
2	Dharmanagar MC	49722	14.36	7.9	1.1	1.3	0.1	0.3	0.1	2.1	1.4	1.6
3	Panisagar NP	11371	2.60	1.4	0.2	0.2	0.0	0.1	0.0	0.4	0.3	0.3
4	Kailashahar MC	24940	7.00	3.9	0.6	0.6	0.1	0.1	0.0	1.0	0.7	0.8
5	Kumarghat MC	15223	4.50	2.5	0.4	0.4	0.0	0.1	0.0	0.7	0.5	0.5
6	Kamalpur MC	13276	3.83	2.1	0.3	0.3	0.0	0.1	0.0	0.6	0.4	0.4
7	Mohanpur MC	20145	5.63	3.1	0.5	0.5	0.1	0.1	0.0	0.8	0.6	0.6
8	Ranibazar MC	17705	5.11	2.8	0.4	0.5	0.1	0.1	0.0	0.7	0.5	0.6
9	Udaipur MC	39088	9.40	5.2	0.8	0.8	0.1	0.2	0.0	1.4	0.9	1.0
10	Amarpur NP	12302	3.60	2.0	0.3	0.3	0.0	0.1	0.0	0.5	0.4	0.4
11	Khowai MC	23563	6.91	3.8	0.6	0.6	0.1	0.1	0.0	1.0	0.7	0.8
12	Teliamura MC	25134	7.50	4.1	0.6	0.7	0.1	0.2	0.0	1.1	0.8	0.8
13	Melagarh MC	20089	5.71	3.1	0.5	0.5	0.1	0.1	0.0	0.8	0.6	0.6
14	Sonamura NP	13166	3.10	1.7	0.2	0.3	0.0	0.1	0.0	0.4	0.3	0.3
15	Santirbazar MC	16185	3.28	1.8	0.3	0.3	0.0	0.1	0.0	0.5	0.3	0.4
16	Belonia MC	21444	4.90	2.7	0.4	0.4	0.0	0.1	0.0	0.7	0.5	0.5
17	Sabroom NP	6954	2.00	1.1	0.2	0.2	0.0	0.0	0.0	0.3	0.2	0.2
18	Ambassa MC	16127	4.52	2.5	0.4	0.4	0.0	0.1	0.0	0.7	0.5	0.5
19	Bishalgarh MC	23191	6.80	3.7	0.5	0.6	0.1	0.1	0.0	1.0	0.7	0.7
20	Jirania NP	13768	3.92	2.2	0.3	0.4	0.0	0.1	0.0	0.6	0.4	0.4
Total		**965091**	**352.75**	**194.0**	**28.2**	**31.7**	**3.5**	**7.1**	**1.8**	**51.1**	**35.3**	**38.8**

(III) ACTIONABLE POINT:

[B] Solid waste management

(iii)It is disclosed that Hapania legacy waste site at Agartala has been remediated and closed. Closure of site has to be done in accordance with the MSW Rules. It is further observed that 13 ULBs are yet to remediate their sites. It is mentioned that eight sites are remediated but it is not clear as to what work is remaining and whether legacy waste still exists in these 8 sites. In respect of quantities mentioned as bio-mined material like good soil, inerts, C&D waste and RDF, it has not been disclosed that how these fractions have been disposed.

(a) As on today, out of 13 ULBs where remediation work using bio-mining method was going on, in 12 ULBs it has been completed (as per the table enclosed). One ULB, namely, Kailashahar Municipal Council, the work is still going on, which is expected to be completed by 31.12.2024.

ACTION TAKEN BY THE STATE SINCE LAST HEARING i.e. 16.05.2024:

Since the last hearing of the Hon'ble NGT, the state has remediated legacy waste sites in 4 more ULBs namely Dharmanagar MC, Amarpur NP, Sonamura NP, Santirbazar MC. The details of all the sites are listed below.

ULB wise status of legacy waste remediation

SL No	Name of ULB	Estimated Qty. (in tons)	Area (In acres)	Land Recovered (acres)	Status of Work
1	Panisagar NP	3083	0.2	0.2	100% Remediated
2	Belonia MC	19706	4	4	100% Remediated
3	Sabroom NP	9367	0.688	0.688	100% Remediated
4	Kumarghat MC	5248	0.45	0.45	100% Remediated
5	Udaipur MC	25660	1.48	1.48	100% Remediated
6	Khowai MC	9340	1	1	100% Remediated
7	Melagarh MC	8143	0.65	0.65	100% Remediated
8	Ambassa MC	5399	0.8	0.8	100% Remediated
9	Sonamura NP	17971	0.4	0.4	100% Remediated

10	Amarpur NP	15530	2.37	2.37	100% Remediated
11	Santirbazar MC	8571	0.88	0.88	100% Remediated
12	Dharmanagar MC	74598	1.5	1.5	100% Remediated
13	Kailashahar MC	36510	1	0.8	Target completion date 31-12-2024
TOTAL		**2,39,126**	**15.418**	**15.218**	

Note: The entire remediation work using the Bio-Mining method has been completed at 12 legacy waste sites across 12 ULBs, resulting in the full recovery of the occupied land.

ULB WISE DETAILS OF LEGACY WASTE REMEDIATION												
S. N.	**Name of ULBs for remediation**	**Estimated qty.**	**Area**	**Status of work**	**Remediation process adopted**	**OUTPUT**						
						Quantity of good/bio soil recovered	**Quantity of inerts**	**Quantity of C&D**	**Quantity of Glass/Metal/Rubber/Plastic etc recovered and recycled.**	**Quantity of RDF**	**Total (Column 7+8+9+10+11)**	**Total land recovered**
		(in tons)	**(In acres)**			**(in tons)**						**(in acres)**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1	Belonia MC	19706	4	Remediated	Bio-mining	9655.9	5320.6	2364.7	294.1	1774.0	19409.3	4.000
2	Sabroom NP	9367	0.688	Remediated	Bio-mining	2154.0	5058.2	843.0	248.0	749.4	9052.6	0.688
3	Panisagar NP	3083	0.2	Remediated.	Bio-mining	1298.0	699.0	0.0	0.0	7.0	2004.0	0.200
4	Kumarghat MC	5248	0.45	Remediated.	Bio-mining	1863.3	328.8	0.0	303.6	118.2	2614.0	0.450
5	Udaipur MC	25660	1.48	Remediated.	Bio-mining	14510.9	8120.9	0.0	254.1	15.4	22901.4	1.480
6	Khowai MC	9340	1	Remediated.	Bio-mining	1027.4	6351.2	934.0	186.8	840.6	9340.0	1.000
7	Melagarh MC	8143	0.65	Remediated.	Bio-mining	814.3	4804.4	0.0	0.0	1140.0	6758.7	0.650
8	Ambassa MC	5399	0.8	Remediated.	Bio-mining	3995.0	843.6	180.5	320.9	59.0	5399.0	0.800
9	Sonamura NP	17971	0.4	Remediated	Bio-mining	5031.9	7188.4	0.0	500.0	1656.3	14376.6	0.400
10	Amarpur NP	15530	2.37	Remediated	Bio-mining	6318.5	1616.7	0.0	195.6	6851.4	14982.2	2.370
11	Santibazar MC	8571	0.88	Remediated	Bio-mining	5326.4	891.4	192.0	326.4	120.7	6856.8	0.880
12	Dharmanagar MC	74598	1.5	Remediated	Bio-mining	46358.2	7758.2	1671.0	2840.7	1050.3	59678.4	1.500
13	Kailashahar MC	36510	1	Ongoing	Bio-mining	17016.6	2847.8	613.4	1042.7	385.5	21906.0	0.800
Total		**239126**	**15.418**			**115370.4**	**51829.1**	**6798.6**	**6513.1**	**14767.9**	**195279.0**	**15.218**

(b) In respect of bio-mining materials that are, good soil, inerts, C&D wastes and RDF, these have been disposed of in following manners as per the CPHEEO guidelines in this regard.

Final disposal of various fractions of Legacy Waste Remediation are as follows:

1. Good Earth/Bio Soil recovered: The recovered Good Earth/Bio Soil is employed in the construction of road embankments and for low land filling.

2. Inerts/ Construction & Demolition waste(C&D): The recovered inerts/C&D waste is primarily used to level the landfill site, fill low-lying areas within the ULB jurisdiction, or as soling material in road construction.

3. Glass/Metal/Rubber/Plastic/other Recyclables: These items are shredded, bailed &sold to recyclers.

4. Refuse Derive Fuel (RDF): These items are packaged, transported, and sold to cement plants as fuel.

(ULB wise final disposal of various fractions of Legacy Waste Remediation is enclosed at **Annexure-7)**

[C] Sewage management

(i) We also find that out of 82.4 MLD of sewage generated by 20 ULBs, 61.0 MLD is generated by Agartala. In case of other ULBs, sewage generation is estimated between 1.0 to 3.0 MLD each and accordingly, sewage management facilities are to be designed and executed without further delay. For such ULBs, packages/modular decentralised plants may be considered.

ACTION TAKEN BY THE STATE SINCE LAST HEARING i.e. 16.05.2024:

Sewage generation	**82.4 MLD**
Total Treatment Facility Operationalized	**17.4 MLD**
Existing Gap	82.4 – 17.4 = **65 MLD**
Ongoing Projects: To mitigate the gap of **65 MLD** the State has taken up the following projects of **71 MLD**	**New Projects (ongoing construction): 71 MLD**

The total sewage generation in the state is 82.4 million liters per (MLD), while the existing treatment facilities currently have a capacity of 17.4 MLD. This results in a gap of 65 MLD between the sewage generated and the available treatment capacity. To address this gap, the state has initiated several ongoing projects with a combined capacity of 71 MLD. The state has earmarked a ring-fenced fund alongwith other central government grant for completing various projects to bridge the existing shortfall and enhance the overall sewage treatment capacity.

Since previous hearing an 8 MLD STP at Akhaura, ICP, Agartala has been commissioned and OCEMS installed. Latest Photographs of the STP is enclosed at **Annexure- 8.** Consent to operate issued by TSPCB enclosed as **Annexure -9**. To address the gap in sewage treatment capacity, ongoing works are being carried out across all 20 ULBs, as detailed below:

Sl. No.	ULB Name	Population	Sewage Generation @ 103 LPCD for Agartala * and @ 56 LPCD for Other towns **with 10% infiltration. (In MLD)	Existing/Operationalised STP & In-situ Nalla Treatment (In MLD)	Ongoing STP (In MLD)	Ongoing In-Situ Nalla Treatment (In MLD)	Ongoing Oxidization Pond (In MLD)
1	Agartala MC	539839	**61.0**	**Total Capacity- 17.4 MLD** (8 MLD STP at Chandanimura. + 8 MLD STP commissioned after previous hearing i.e.16.05.2024 at Akhaura, ICP + 1.4 MLD In-Situ Nalla Treatment of drains flowing to river Howrah)	**39.5 MLD** (a. 5 MLD STP at Kalapania Khal b. 10 MLD STP at Ranjit Nagar c. 15 MLD STP at Abhaynagar Bridge d. 1.5 MLD STP at Astabal Bridge e. 8 MLD over Howrah River bank)	NA	NA
2	Dharmanagar MC	47988	**3.0**	-	3	-	-
3	Panisagar NP	11371	**1.0**	-	-	1	-
4	Kailashahar MC	24011	**1.0**	-	1.3	-	-
5	Kumarghat MC	15223	**1.0**	-	1.1	-	-
6	Ambassa MC	16127	**1.0**	-	1.3	-	-
7	Kamalpur NP	12116	**1.0**	-	-	1.3	3
8	Khowai MC	21823	**1.0**	-	1.3	-	-
9	Teliamura MC	23501	**1.0**	-	1.1	-	-
10	Ranirbazar MC	16819	**1.0**	-	1.1	-	-
11	Jirania NP	13568	**1.0**	-	-	1.1	-
12	Mohanpur MC	20013	**1.0**	-	1.1	-	-
13	Bishalgarh MC	22236	**1.0**	-	-	2	2
14	Melaghar MC	20064	**1.0**	-	1.1	-	-
15	Sonamura NP	13117	**1.0**	-	-	1.1	-
16	Udaipur MC	39088	**2.0**	-	3	-	-
17	Amarpur NP	12102	**1.0**	-	-	1.1	-
18	Belonia MC	21433	**1.0**	-	1.1	-	-
19	Santirbazar MC	15285	**1.0**	-	-	1.1	-
20	Sabroom NP	6936	**0.4**	-	-	1.3	-
Total		**912660**	**82.4**	**17.4**	**56**	**10**	**5**

NB: A large number of households in Agartala are using septic tanks with soak pits, which caters to the gap in sewage generation and its treatment capacity.

*Water Supply for Agartala MC is @ 128 Liters/per capita/per day (80% of 128L PCD =103 LPCD)

**Water Supply for remaining ULBs is @ 70 Liters/per capita/per day (80% of 70 LPCD= 56 LPCD)

Sewage generation is 80% of water supply

LPCD = Liters/per capita/per day

Detailed status of ongoing projects:

I. 31.5 MLD at Katakhal & Kalapania Khal in Agartala MC:

a. 05 MLD STP at Kalapania Khal
b. 10 MLD STP at Katakhal near Ranjit Nagar
c. 15 MLD STP at Katakhal near Abhaynagar Bridge
d. 1.5 MLD STP at Katakhal near Astabal Bridge

Construction work of 4 (Four) STPs of total 31.5 MLD capacity is going on at Katakhal & Kalapania Khal in Agartala MC. Agency is M/s Swapan Ch. De, Central Road Extension, Town Pratapgarh, Agartala, West Tripura vide LoA No.4 (131)/2022/ 8831-41 dated 22-06-2023 has started work and is in various stages of construction progress. **Target completion date – 31st July, 2025.** A copy of work order along with construction progress Photographs site wise is enclosed at **Annexure-10.**

II. 16.5 MLD STP in 11 ULBs:

Sl. No.	ULB Name	Sewage Generation (In MLD)	Under construction STP Capacity (In MLD)
1	Dharmanagar MC	3	3
2	Kailashahar MC	1	1.3
3	Kumarghat MC	1	1.1
4	Ambassa MC	1	1.3
5	Khowai MC	1	1.3
6	Teliamura MC	1	1.1
7	Ranirbazar MC	1	1.1
8	Mohanpur MC	1	1.1
9	Melaghar MC	1	1.1
10	Udaipur MC	2	3
11	Belonia MC	1	1.1
Total		**14**	**16.5**

For smaller ULBs where sewage generation is approximately 1 MLD, the sewage is being managed using septic tanks with soak pits. But for efficient and scientific management of sewage the state has opted for STP. The reasons for constructing STPs are listed below-

- STP are being constructed with view to connect every household to sewerage networks or through a network of interception and diversion of closed drains.
- STPs are designed for higher treatment requirements that may come up in future, hence keeping provisions for an STP provides opportunity for future expansion based on increased sewage load.
- The design, drawing and requirement of 11 STP along with their network of drains through interception and diversion has been approved by CPHEEO and MoHUA.

Total works are divided into 4 cluster wise packages. Work-orders have been issued to agencies and simultaneously works have started. Date of completion of the project is **31st July, 2025**. A copy of work order along with construction progress photographs is enclosed at **Annexure-11.**

III. 10 MLD in 8 ULBs (In-situ Nalla Treatment and 5 MLD Oxidization Pond):

Sl. No.	ULB Name	Sewage Generation (In MLD)	Under construction In-situ Nalla Capacity (In MLD)	Target Completion date	Under construction Oxidization Pond Capacity (In MLD)	Target Completion date
1	Panisagar NP	1	1	**31-05-2025**	-	
2	Kamalpur NP	1	1.3	**31-12-2024**	3	**31-03-2025**
3	Jirania NP	1	1.1	**31-05-2025**	-	
4	Bishalgarh MC	1	2	**31-12-2024**	2	**31-03-2025**
5	Sonamura NP	1	1.1	**31-05-2025**	-	
6	Amarpur NP	1	1.1	**31-07-2025**	-	
7	Santirbazar MC	1	1.1	**31-05-2025**	-	
8	Sabroom NP	0.4	1.3	**31-05-2025**	-	
Total		**7.4**	**10**		**5**	

About the in-situ Nallah Technology

In-situ Nallah treatment technology being implemented in 8 ULBs is primarily based on the bioremediation process which involves the use of microbial agents (microbial remediation) and plants (phytoremediation) for treatment of wastewater. The technology includes different components to ensure the complete removal of floating waste, suspended waste, organic and nutrient pollution and fecal pathogens along with enhancement of dissolved oxygen levels in the water bodies. The details of structure, components of in-situ nalla treatment is enclosed in **Annexure- 12A**.

The state has opted for in-situ nalla treatment of drains in 8 ULBs namely Bishalgarh, Kamalpur, Sonamura, Santir Bazar, Panisagar, Sabroom, Amarpur and Jirania due to their specific geographical,

infrastructural, socio-economic and local area considerations. Detailed reasons for selecting In-situ Nallah treatment technology are enclosed at **Annexure- 12B**.

In-situ Nalla in 8 ULBs - works started by the agency and are in various stage of construction. A copy of work order along with construction progress Photographs is enclosed at **Annexure-13.**

[C] Sewage management

(ii) We also find that in Agartala, 8 MLD STP is existing but, only 5 MLD of sewage is being treated due to non-connectivity of household to sewer system. Agartala MC and other ULBs should ensure that STPs should not remain underutilized and simultaneously household connections is secured.

ACTION TAKEN BY THE STATE SINCE LAST HEARING i.e. 16.05.2024:

The existing STP of 8 MLD was underutilized due to the following reasons:

1. Limited sewerage network and drains connected to the STP.
2. The capacity of drains connected through I & D network was less due to their small size.
3. The undulating topology of the city restricted gravity flow of the sewage to this STP.

Therefore, to overcome the above obstacle and increase the utilization of STP to its optimal capacity through Interception and Diversion of drains, the augmentation work of installing additional 5 MLD sewage pumping station is going on and shall be completed by **January, 2025**. A copy of work order along with construction progress Photographs is enclosed at **Annexure- 14.** On completion the existing STP will utilize its full capacity of 08 MLD.

[C] Sewage management

(iii) While pointing out performance of underutilized STP, results on Fecal Coliform have not been provided. This may be done and filed with the next report. We also do not find performance results of in-situ bio-remediation. Such options are intermediary solution unless they indicate compliance with the standards.

ACTION TAKEN BY THE STATE SINCE LAST HEARING i.e. 16.05.2024:

In compliance with the order dated 16.05.2024, analysis of Fecal Coliform for treated waste water of existing 8 MLD STP at Chandinamura, Agartala have been conducted alongwith other specified parameters. A copy of the test result is enclosed at **Annexure-15.**

The performance test of existing In-situ Bio-remediation of 5 drains flowing to river Howrah with total capacity of 1.4 MLD has been conducted. A copy of the test result is enclosed at **Annexure-16.**

Monitoring Mechanism for compliance of the orders of Hon'ble National Green Tribunal:

In compliance of the directions of the Hon'ble National Green Tribunal contained in Order dated 16.01.2019 in OA No. 606/2018, the Government of Tripura has already constituted a State Level Committee under the Chairmanship of Chief Secretary, Government of Tripura vide Memorandum dated 05.02.2019. Meeting of the State Level Committee is being conducted under the Chairmanship of the Chief Secretary, Tripura every month to ensure close monitoring.

Further, District-Level Special Task Force has been constituted in all the Districts of Tripura. The District-level Special Task Force in all the Districts is functioning. DMs have been directed to ensure that these Task Forces are meeting at least once a month. Accordingly, the meetings of District- Level Special Task Force for each district have been conducted on regular basis.

In addition, inter departmental review meetings are being conducted by the concerned Secretaries on regular basis.

Annexure-30

Copy No.

GOVERNMENT OF TRIPURA
URBAN DEVELOPMENT DEPARTMENT

NO.F.7(55)-UDD/DUD/NGT/2021/ Dated, Agartala, The 3rd January, 2023.

MEMORANDUM FOR THE COUNCIL OF MINISTERS.

Sub : Proposal for allocation of required fund for execution of Sewage Treatment Plant (STP)/ Fecal Sludge Treatment Plant(FSTP)/ In-Situ Nala Treatment Plant etc for 20 Urban Local Bodies in state- approval thereof.

Background :

Swachh Bharat Mission Urban 2.0 (SBM-U) has mandated waste water treatment in all Urban Local Bodies. Additionally, Hon'ble NGT in O.A 606/2018 has mandated personal appearance of the Chief Secretary of every state regarding compliance of Hon'ble NGT O.A 606/2018 on solid, liquid and others waste management in the State. The upcoming personal appearance of the Chief Secretary, Tripura is tentatively scheduled on April,2023. It has been observed that huge penalty is being imposed on State by Hon'ble NGT for noncompliance of its order. The status of Liquid Waste Management in our State is not up to the standard in comparison with its generation (82.4 MLD in 20 ULBs) and treatment (8 MLD STP operational. 8 MLD STP & 1 MLD In-Situ Nala Treatment under construction within Agartala Municipal Corporation). To mitigate the balance/gap of 65.40 MLD huge funds are required. As per SBM-2.0 Guidelines fund allocation is only Rs.48.40 Cr for the waste water management which is insufficient to cope up the present requirement of fund.

A State Level High Power Committee (SHPC) meeting of SBM-U 2.O under the chairmanship of the Chief Secretary, Tripura was held on 26-12-2022 and it was decided that for compliance of Hon'ble NGT Order, proposal as prepared by Urban Development Department for waste water and solid waste management may be considered and state finance department would ring-fence the additional fund required for execution of works from time to time in addition of SBM 2.0 allocation.

Urban Development Department has prepared an action plan amounting to Rs. 220.00 Cr (approx) for 20 ULBs of which Rs. 72.15 Cr as central assistance under SBM 2.0 and Rs. 147.58 Cr as State Share which was approved by State Level High Power Committee (SHPC) - **Annexure-A**.

2. **Proposal :**

This is a proposal for ring-fencing of **Rs.147.58Crore** (approx) from State Finances to implement the decision of State Level High Power Committee (SHPC) for implementation of treatment facilities of 66 MLD Sewage Treatment Plant & In-Situ Nala Treatment in Agartala and other 19 ULBs. This is required to meet the order of the Hon'ble NGT in O.A 606/2018.

Contd...

3. **Justification :**

Due to non availability of sufficient fund under SBM-2.0 allocation, it is hardly possible by Urban Development Department to comply with the order of Hon'ble NGT. Urban Development Department requires Rs.147.58 Cr approximately from time to time to execute the proposed action plan regarding waste water and solid waste management for 20 ULBs in time bound manner. Therefore, ring-fencing of Rs.147.58Cr as state share by Finance Department is essential & will be required during execution of works in field from time to time.

4. **Finance Department:**

Vide U.O No.12397/FIN(B)/2022 dated-26.12.2022, Finance Department has " in principle " agreed for providing requisite fund as and when required by the Urban Development Department. Different projects under proposed facilities will be considered under different schemes as per type of the projects and fund requirement. Finance Department has requested the Urban Development Department to place the matter before the Cabinet **(copy enclosed at Annexure-B).**

5. **Approval Sought:**

The Council of Ministers may kindly approve the proposal as per **Para 2** of this note. This will ensure requisite fund as and when required by Urban Development Department for waste water and solid waste management in 20 ULBs of the State.

6. The Hon'ble Chief Minster has kindly consented to place the matter before the Council of Ministers.

(Brijesh Pandey, IAS) 03/01/22
Secretary to the
Government of Tripura

To
The Additional Secretary to the
Govt. of Tripura.
GA(Confidential & Cabinet) Department.
Agartala, Tripura.
(alongwith 20[twenty] spare copies.

3/1/23
SBN

RECEIVED
Date.....

MOST IMMEDIATE
CABINET MEETING

GOVERNMENT OF TRIPURA
GENERAL ADMINISTRATION (CONFIDENTIAL & CABINET) DEPARTMENT

No. F.1 (14) –GA(CAB)/2005 January 13, 2023

MEMORANDUM

Subject: - Record of decision of the meeting of the Council of Ministers held on 3rd January, 2023.

A copy of the record of decision of the meeting of the Council of Ministers held on 3rd January, 2023 as approved by the Chief Minister is forwarded under Rule 20 (2) of the Rules of Executive Business.

13/1/23

(Saurav Das)
Under Secretary
Government of Tripura

To
The Secretary
Urban Development Department

Copy with the enclosures forwarded to the Secretary to the Governor of Tripura, Raj Bhavan, Agartala for information of the Governor.

(Saurav Das)
Under Secretary
Government of Tripura

RECORD OF DECISION OF THE MEETING OF THE COUNCIL OF MINISTERS HELD ON 3RD JANUARY, 2023 AT 4-00 PM IN THE CABINET ROOM, SECRETARIAT

The following were present:

1. Prof. (Dr.) Manik Saha, Chief Minister.
2. Shri Jishnu Dev Varma, Deputy Chief Minister.
3. Shri Ratan Lal Nath, Cabinet Minister.
4. Shri Pranajit Singha Roy, Cabinet Minister.
5. Shri Manoj Kanti Deb, Cabinet Minister.
6. Smt.Santana Chakma, Cabinet Minister.
7. Shri Ram Prasad Paul, Cabinet Minister.
8. Shri Bhagaban Chandra Das, Cabinet Minister.
9. Shri Sushanta Chowdhury, Cabinet Minister.
10. Shri Rampada Jamatia, Cabinet Minister.
11. Shri J. K. Sinha, Chief Secretary & Secretary to the Council of Ministers.

In attendance: -

1. Shri K.S. Sethi, Principal Secretary, Forest, Science, Tech. & Env. Deptts.
2. Shri T. K. Chakma, Secretary, GA (SA) Department.
3. Shri Debasish Basu, Secretary, Health & FW Department.
4. Shri B. Pandey, Secretary, Finance, PWD & Power Departments.
5. Shri Kiran Gitte, Secretary, Election Department.
6. Shri Apurba Roy, Secretary, GA(P&T),Agriculture& Home (Fire & ES) Departments.
7. Shri S. Choudhury, Secretary, Education (Higher), Home & Labour Deptts.
8. Dr. P. K. Chakraborty, Secretary, GA (C & C), Education (YAS) Deptt.
9. Shri Tapas Ray, Secretary, Cooperation, Education (SW & SE), Home (Jail) etc. Department.
10. Shri L.T. Darlong, Secretary, T.W. Department.
11. Shri Biswajit Palit, Secretary, Law Department.
12. Shri Abhishek Chandra, Spl. Secretary, SC Welfare Department.
13. Dr. Sandeep R. Rathod, Spl. Secretary, Food, CS & CA, RD (Panchayat) Departments.

Item No.39 Proposal for allocation of required fund for execution of Sewage Treatment Plant (STP)/Fecal Sludge Treatment Plant (FSTP)/In-Situ Nala Treatment Plant etc. for 20 Urban Local Bodies in state – approval thereof under Urban Development Department. (U.D. Deptt. File No.F.7(55)-UDD/DUD/NGT/2021/10994 dated 03.01.2023)

The Council of Ministers approved the proposal of the Department at para – 5 of the Cabinet Memorandum.

13/1/23

Under Secretary to the
Government of Tripura.

Dir UDD / Cabinet file

RECEIVED 2051 Date 20/4/23

354 RECEIVED Date 24/04/2

MOST IMMEDIATE
CABINET MEETING

GOVERNMENT OF TRIPURA
GENERAL ADMINISTRATION (CONFIDENTIAL & CABINET) DEPARTMENT

No. F.1 (2) –GA(CAB)/2016 April 19 , 2023

MEMORANDUM

Subject: - Record of decision of the meeting of the Council of Ministers held on 18th April, 2023.

A copy of the record of decision of the meeting of the Council of Ministers held on 18th April, 2023 as approved by the Chief Minister is forwarded under Rule 20 (2) of the Rules of Executive Business.

19/4/23
(Saurav Das)
Under Secretary
Government of Tripura

To
The Secretary
Urban Development Department

Copy with the enclosures forwarded to the Secretary to the Governor of Tripura, Raj Bhavan, Agartala for information of the Governor.

(Saurav Das)
Under Secretary
Government of Tripura

RECORD OF DECISION OF THE MEETING OF THE COUNCIL OF MINISTERS HELD ON 18TH APRIL, 2023 AT 11-30 AM IN THE CABINET ROOM, SECRETARIAT

The following were present:

1. Prof. (Dr.) Manik Saha, Chief Minister.
2. Shri Ratan Lal Nath, Cabinet Minister.
3. Shri Pranajit Singha Roy, Cabinet Minister.
4. Smt. Santana Chakma, Cabinet Minister.
5. Shri Tinku Roy, Cabinet Minister.
6. Shri Bikash Debbarma, Cabinet Minister.
7. Shri Sudhangshu Das, Cabinet Minister.
8. Shri Sukla Charan Noatia, Cabinet Minister.
9. Shri J. K. Sinha, Chief Secretary & Secretary to the Council of Ministers.

In attendance: -

1. Shri T. K. Chakma, Secretary, GA(SA) Department.
2. Shri Debasish Basu, Secretary, Health & FW Department.
3. Shri Abhishek Singh, Secretary, PWD/UDD/Labour Deptt.
4. Shri Apurba Roy, Secretary, GA (P&T)/Home (Fire & ES)/Planning Department.
5. Shri S. Choudhury, Secretary, Home Department.
6. Shri U.K. Chakma, Secretary, GA (Ptg. &Sty.) Department.
7. Shri Biswajit Palit, Secretary, Law Department.

Item No. 6 Proposal for allocation of additional fund for execution of Sewage Treatment Plant (STP)/Fecal Sludge Treatment Plant (FSTP)/In-Situ Nala Treatment Plant for 20 Urban Local Bodies and 50 Km extension of existing Barjala STP pipeline to comply with order of Hon'ble NGT in O.A 606/2018 – approval thereof under Urban Development Department. (U.D. Deptt. File No.F.7(55)-UDD/DUD/NGT/2021/745 dated 17.04.2023)

The Council of Ministers approved the proposal of the Department at para – 5 of the Cabinet Memorandum.

Under Secretary to the
Government of Tripura.

Copy No.

GOVERNMENT OF TRIPURA
URBAN DEVELOPMENT DEPARTMENT

NO.F.7(55)-UDD/DUD/NGT/2021/ 745 Dated, Agartala, The 17 April, 2023.

MEMORANDUM FOR THE COUNCIL OF MINISTERS.

Sub : Proposal for allocation of additional fund for execution of Sewage Treatment Plant (STP)/ Fecal Sludge Treatment Plant(FSTP)/ In-Situ Nala Treatment Plant for 20 Urban Local Bodies and 50 Km extension of existing Barjala STP pipeline to comply with order of Hon'ble NGT in O.A 606/2018 - approval thereof.

Background :

Hon'ble NGT in O.A 606/2018 has mandated that states shall take all necessary measures to ensure Solid, Liquid & other Waste management in the State & called for personal appearance of the Chief Secretary of every state regarding compliance of same. The upcoming personal appearance of the Chief Secretary, Tripura is tentatively scheduled on 13th April, 2023. It has been observed that for other states huge penalty is being imposed by Hon'ble NGT for non compliance of its order in letter and spirit. There is gap in capacity between generation of liquid wastage (82.4 MLD in 20 ULBs) and its treatment (8 MLD STP operational. 8 MLD STP & 1 MLD In-Situ Nala Treatment under construction within Agartala Municipal Corporation from Smart City) in the State. To mitigate the balance/gap of 65.4 MLD huge funds is required.

A State Level High Power Committee (SHPC) meeting under the Chairmanship of the Chief Secretary, Tripura was held on 26-12-2022 and it was decided that for compliance of Hon'ble NGT Order, proposal of Urban Development Department for waste water management may be considered and state finance department may be requested to ensure placement of fund required for execution of works from time to time in addition of SBM 2.0 allocations.

Earlier, the Council of Ministers in its meeting held on 3.1.2023 has ring fenced an amount of Rs.147.58 Cr as per proposal of Urban Development Department for construction of STPs and In Situ Nalla treatment plants. Now, as per tender value and additional requirement of extension of 50 Km sewage pipe line of Barjala STP as per Hon'ble NGT order, total of Rs.282.58Cr will be required, out of which Rs.147.58 has already been ring fenced. Now, balance amount of Rs.135.00 Cr is needed to be ring fenced to avoid any penalty of Hon'ble NGT. It may be mentioned that in case few components of these works/ projects are sanctioned in any of the schemes of Central Government etc then the entire amount as ring fenced wouldn't be required and accordingly it would be reduced by that much amount.

Contd...

2. **Proposal :**

This is a proposal for additional ring-fencing of Rs.135.00 Cr (approximately) as State Share by Finance Department to comply with the order of Hon'ble NGT in O.A 606/2018 through execution of the decision of State Level High Power Committee (SHPC) for implementation of treatment facilities of 66 MLD Sewage Treatment Plant, In-Situ Nala Treatment in 20 ULBs and inclusion of new proposal for extension of 50 Km pipe line in Barjala STP, Agartala.

3. **Justification :**

Due to non availability of sufficient fund under SBM-2.0 allocation, it is hardly possible by Urban Development Department to comply with the order of Hon'ble NGT for solid and liquid wastage management in Tripura. Urban Development Department requires additional Rs.135.00 Cr (approximately) from time to time to execute the proposed action plan regarding waste water in 20 ULBs and extension of 50 Km sewage pipeline in time bound manner of Hon'ble NGT. Therefore, ring-fencing of additional Rs.135.00 Cr as state share by Finance Department is essential & will be required during execution of works in field from time to time.

4. **Finance Department:**

Vide U.O No.14/FIN(EXPDT-I)2023 dated-10.04.2023, Finance Department concurs with the proposal of the Urban Development Department of meet the statutory requirement as per National Green Tribunals Order. **(copy enclosed at Annexure-B).**

5. **Approval Sought:**

The Council of Ministers may kindly approve the proposal as per Para 2 of this note. This will ensure requisite fund as and when required by Urban Development for waste water treatment facilities in 20 ULBs along with sewage pipe line extension for existing Barjala STP in AMC.

The Hon'ble Chief Minster has kindly consented to place the matter before the Council of Ministers.

17/04/2023

(Abhisek Singh)
Secretary to the
Government of Tripura

To
The Additional Secretary to the
Govt. of Tripura.
GA(Confidential & Cabinet) Department.
Agartala, Tripura.
(alongwith 20[twenty] spare copies.

G.O. No. 17 FIN (EXPDT-I) 2023
Dated 10-04-2023

Note No.50

Ref: Note –49 (ante)

Finance Department concurs with the proposal of the Department to meet the statutory requirement as per National Green Tribunals Order.

10/04/2023

(B. Debbarma)
Under Secretary
Finance Department

Secretary,
Urban Development Department.

10/04/2023

Annexure-2

Bank Statement of Ring Fenced Account for Waste Management Tripura

Transaction Inquiry

Finacle

Universal Banking Solution from Infosys

Menu | Show Memo Pad | Background Menu | CCY Converter

15 November, 2024 | User 01284SSD | 8004 | Menu Shortcut: Go

Transaction Inquiry

Help

A/c. ID	8004010016746	CCY/SOL ID	INR/8004
A/c. Name	RING FENCED ACCOUNT FOR WASTE MANAGEMENT TRIPURA		
General Ledger Subhead Code	05100	Balance	99,11,71,375.00 Cr
Opening Balance	1,02,91,05,735.00 Cr	Closing Balance	99,11,71,375.00 Cr
Float Balance	0.00 Cr	Funds In Clearing	0.00 Cr
Available Amt.	99,11,71,375.00 Cr	Effective Available Amt.	99,11,71,375.00 Cr
Customer Status	999 OTHERS	A/c. Opening Date	07-05-2024
A/c. Status	A Active	A/c. Status Date	07-05-2024
Purge Date	06-05-2024		
Address	URBAN DEVELOPMENT DEPARTMENT AGARTALA		
City	100 AGARTALA	State	TP TRIPURA
Country	IN INDIA	Postal Code	799001
Phone Type	CELLPH	Telex No.	
Phone No.	+918787839148		
Email ID Type			
Email ID			

General Ledger Date	Value Date	Instrument No.	Withdrawal Amt.	Deposit Amt.	Balance	Narrative
15-11-2024	15-11-2024			21,66,000.00 Cr	99,11,71,375.00 Cr	NEFTIn/RBI3212436434021/AGARTALA TREASURY - 1, TRI
15-11-2024	15-11-2024			35,63,000.00 Cr	98,90,05,375.00 Cr	NEFTIn/RBI3212436434017/AGARTALA TREASURY - 1, TRI
15-11-2024	15-11-2024			12,58,000.00 Cr	98,54,42,375.00 Cr	NEFTIn/RBI3212436434022/AGARTALA TREASURY - 1, TRI
15-11-2024	15-11-2024			12,49,35,000.00 Cr	98,41,84,375.00 Cr	NEFTIn/RBI3212436434019/AGARTALA TREASURY - 1, TRI
15-11-2024	15-11-2024			20,55,35,000.00 Cr	85,92,49,375.00 Cr	NEFTIn/RBI3212436434020/AGARTALA TREASURY - 1, TRI
15-11-2024	15-11-2024			7,25,43,000.00 Cr	65,37,14,375.00 Cr	NEFTIn/RBI3212436434018/AGARTALA TREASURY - 1, TRI
15-11-2024	15-11-2024	068932	44,79,34,360.00 Dr		58,11,71,375.00 Cr	RTGS TO: AGARTALA SMART CITY LTD STP PUNBR52024111

त्रिपुरा ग्रामीण बैंक

2106391

त्रिपुरा ग्रामीण व्याङ्क

TRIPURA GRAMIN BANK

पासपोर्ट साइज़ फोटो

Passport Size Photo

ABBREVIATIONS

1. Cash	:	Cash	6. Int.	:	Interest
2. Clg.	:	Clearing	7. Com.	:	Commission
3. Tfr.	:	Transfer	8. P&T	:	Postage & Telegraph
4. Dft.	:	Draft	9. DC	:	Bankers Cheque
5. D.W.	:	Divident Warrent	10. Chgs	:	Other Charges

TRIPURA GRAMIN BANK

BRANCH NAME: ABHOYNAGAR
BR. ADDRESS: P.O:- ABHOYNAGAR
DIST:- WEST TRIPURA
799005
BR. EMAIL :
CUSTOMER ID: C06178105
ACCOUNT NO.: 8004010016746
PAN NUMBER :
MOBILE NO. :
OPENED ON : 07-05-2024
ISSUE DATE : 07-05-2024
OPERATED BY: BOTH OF THEM JOINTLY
NOMINEE :

IFSC CODE: PUNB0RRBTGB (8004)

MICR CODE: 799802501

ACC. HOLDER : M/S RING FENCED ACCOUNT FOR WASTE MAN
JOINT HOLDER:
CUST ADD. URBAN DEVELOPMENT DEPARTMENT
AGARTALA
AGARTALA
TRIPURA,INDIA PIN-799001

BANK TRIPURA Abhoynagar Branch 8004

0.00 07-05-2024

Page no. : 2

Date	Particulars	Cheque No.	Debit	Credit	Balance
13-05-2024	NEFTIn/RBI13524710By (8100)			54,69,02,000.00	54,69,02,000.00 14-05-2024
13-05-2024	NEFTIn/RBI13524710By (8100)			29,99,14,000.00	84,68,16,000.00 14-05-2024
13-05-2024	NEFTIn/RBI13524710By (8100)			2,57,72,000.00	87,25,88,000.00 14-05-2024
13-05-2024	NEFTIn/RBI13524710By (8100)			4,69,96,000.00	91,95,84,000.00 14-05-2024
13-05-2024	NEFTIn/RBI13524710By (8100)			91,73,84,000.00	1,83,69,68,000.00 14-05-2024
13-05-2024	NEFTIn/RBI13524710By (8100)			7,88,32,000.00	1,91,58,00,000.00 14-05-2024
28-05-2024	To RTGS TO: MUNICIPAL COMMISSIONE	15,16,00,000.00		17642,00,000.00	06-06-2024
08-06-2024	Interest By			30,52,205.00	17675,52,205.00 16-11-2024
08-09-2024	Interest By			1,15,53,530.00	17791,05,735.00 16-11-2024
28-10-2024	To RTGS TO: CHIEF EXECUTIVE OFFIC	40,00,00,000.00		13791,05,735.00	16-11-2024
14-11-2024	To RING FENCED ACCOUNT FOR LIQUID	35,00,00,000.00		10291,05,735.00	16-11-2024
15-11-2024	To RTGS TO: AGARTALA SMART CITY L	44,79,34,360.00		58,11,71,375.00	16-11-2024
15-11-2024	NEFTIn/RBI32124364By (8100)			2,25,43,000.00	65,37,14,375.00 16-11-2024
15-11-2024	NEFTIn/RBI32124364By (8100)			20,55,35,000.00	85,92,49,375.00 16-11-2024
15-11-2024	NEFTIn/RBI32124364By (8100)			12,49,35,000.00	98,41,84,375.00 16-11-2024
15-11-2024	NEFTIn/RBI32124364By (8100)			12,58,000.00	98,54,42,375.00 16-11-2024
15-11-2024	NEFTIn/RBI32124364By (8100)			35,63,000.00	98,90,05,375.00 16-11-2024
15-11-2024	NEFTIn/RBI32124364By (8100)			21,66,000.00	99,11,71,375.00 16-11-2024

Annexure- 3

Solid Waste Generation and Cattle Feeding

SL	Name of ULB	Population (2024-25) (In TPD)	Number of HH	Solid Waste Generation (2024-25) (In TPD)	Total Wet Waste @ 55% (In TPD)	Number of cattle ULB wise	Organic Waste consumed by Cattles (Considering each Cattle consumes 2Kg per Day)
1	Agartala MC	581698	145712	248.07	136	7286	14.57
2	Mohanpur MC	20145	5231	5.63	3	523	1.05
3	Ranibazar MC	17705	4908	5.11	3	491	0.98
4	Jirania NP	13768	3478	3.92	2	348	0.70
5	Santirbazar MC	16185	3468	3.28	2	381	0.76
6	Belonia MC	21444	6695	4.90	3	536	1.07
7	Sabroom NP	6954	2213	2.00	1	332	0.66
8	Dharmanagar MC	49722	8710	14.36	8	610	1.22
9	Panisagar NP	11371	2033	2.60	1	305	0.61
10	Kailashahar MC	24940	7164	7.00	4	716	1.43
11	Kumarghat MC	15223	4180	4.50	2	418	0.84
12	Udaipur MC	39088	11608	9.40	5	580	1.16
13	Amarpur NP	12302	3667	3.60	2	403	0.81
14	Khowai MC	23563	5465	6.91	4	547	1.09
15	Teliamura MC	25134	6506	7.50	4	781	1.56
16	Bishalgarh MC	23191	6473	6.80	4	583	1.17
17	Melagarh MC	20089	5238	5.71	3	367	0.73
18	Sonamura NP	13166	3471	3.10	2	521	1.04
19	Ambasa MC	16127	4688	4.52	2	328	0.66
20	Kamalpur MC	13276	3841	3.83	2	192	0.38
Total		**965091**	**244749**	**352.75**	**194**	**16246**	**32.49**

ANNEXURE-4

Details of Women SHG across 20 ULBs				
Sl No.	**Name of the ULB**	**No of Women Self help Group Working in ULBs (in Nos)**	**Total count of SHG members (in Nos)**	**Rate of User charges collected from each household (HH) for door to door waste collection (In Rs.)**
1	Agartala Municipal Corporation	45	431	60
2	Kumarghat Municipal Council	2	16	50
3	Ambassa Municipal Council	13	56	60
4	Santirbazar Municipal Council	2	18	50
5	Belonia Municipal Council	6	60	50
6	Mohanpur Municipal Council	2	29	60
7	Kailashahar Municipal Council	6	56	60
8	Khowai Municipal Council	8	83	50
9	Bishalghar Municipal Council	6	60	60
10	Udaipur Municipal Council	11	118	50
11	Teliamura Municipal Council	4	47	30
12	Dharmanagar Municipal Council	7	51	60
13	Ranirbazar Municipal Council	2	26	40
14	Melaghar Municipal Council	2	28	50
15	Jirania Nagar Panchayat	3	18	30-50
16	Sabroom Nagar Panchayat	10	29	50
17	Amarpur Nagar Panchayat	2	28	50
18	Kamalpur Nagar Panchayat	4	44	30
19	Panisagar Nagar Panchayat	2	20	40
20	Sonamura Nagar Panchayat	11	119	50
Total		**148**	**1337**	

ANNEXURE-5

Lab Test Certificate of Compost from Municipal Solid waste in the brand name of "Nirjyas" is being manufactured by Kamalpur Nagar Panchayat

OFFICE OF THE
KAMALPUR NAGAR PANCHAYAT
DHALAI TRIPURA.

No. 17/Misc/NP/KMP/2012/3710. Dated, Kamalpur the 07/03/2022

Memorandum

In connection with the quality of the "Organic Compost" produced at the Dumping Ground of Kamalpur Nagar Panchayat, sample was forwarded for testing to the Regional Centre of Organic Farming (HQ), Ghaziabad, Govt. of India. Vide reference No. F. 17/MISC/NP/KMP/2012/320-32, Dated 11/01/2022.

After testing the sample, the authority has given the testing report vide No. 11-2/2021/RCOF(HQ)/OF/115 Dated 16/02/2022. In the said report the product is certified as "According to Specifications" and it is now certified for use.

Hence, the concerned sectors are requested to use the product @Rs. 10/- per Kg. for better productivity in accordance with the ideal of "green farming".

The copy of certificate of testing report is enclosed.

7/03/22

Executive Officer
Kamalpur Nagar Panchayat
Dhalai Tripura.

Copy to:-

1. The Chairperson, Kamalpur Nagar Panchayat for information please.
2. All Concern .....

.....

7/03/22

Executive Officer
Kamalpur Nagar Panchayat
Dhalai Tripura.

वेबसाईट :http://rcof.dacnet.nic.in
ईमेल: rcofhq.gzb-agri@gov.in

0120-2764906, 2764907
फैक्स: 0120-2764901

RECEIVED NO. 1455 DATE 21/02/22

भारत सरकार / Government of India
कृषि एवं किसान कल्याण मंत्रालय / Ministry of Agriculture & Farmers Welfare
कृषि एवं किसान कल्याण विभाग / Department of Agriculture and Farmers Welfare
क्षेत्रीय जैविक खेती केन्द्र / REGIONAL CENTRE OF ORGANIC FARMING (HQ)
हापुड़ रोड, कमला नेहरू नगर, गाजियाबाद–201002 / Hapur Road, Kamla Nehru Nagar, Ghaziabad-201002

Ref. No.: 11-2/2021/RCOF(HQ)/OF/ 115 Dated: 16.02.2022

To

The Executive Officer
Kamalpur Nagar Panchayat
Kamalpur, Dhalai
Tripura- 799285

Sir,

The analysis report of Organic fertilizer sample forwarded vide your reference letter No. F.17/ **MISC/NP/KMP/2012/3230-32 dated 11.01.2022** is as per details given below:

FORM L-1

1	Name of the Organic fertilizer		City Compost	
2	Date of sampling		10-01-2022	
3	Code No of the sample as indicated by the Inspector		NP (K)	
4	Date of receipt of the sample in laboratory		20.01.2022	
5	Laboratory sample no.		RCOF-HQ/OF/78/2021-22	
6	Date of analysis of sample		1st Week to 3rd week of Feb 2022	
7.	Analysis of Organic fertilizer (on fresh weight basis)			
Sl No	Specification as per FCO	Composition as per analysis	Variation	Permissible tolerance (in)
A	**Physical Characteristics**			
	i) Moisture content (Maximum 25%)	25.0	Nil	
	ii) Particle size of carrier based (90 % should pass through 4.0 mm IS sieve)	Yes	Nil	
	iii) Bulk density (g/cm^3) less than 1.2	0.8	Nil	
B	**Chemical Characteristics**			
	i) pH (6.0-8.0)	8.0	Nil	
	ii) Total organic carbon (Minimum 12 % by weight)	13.67	Nil	
	iii) Total of NPK nutrients (Total N, P_2O_5 and K_2O should not be less than 1.2%)	1.78	Nil	
	iv) C:N ratio (less than 20.0)	19.52	Nil	
	v) Conductivity (as dSm^{-1}) (not more than 6.0)	3.36	Nil	
C	Heavy metal (as mg /kg) maximum			
	i) Arsenic (as As_2O_3) 10.0	N.D	-	
	ii) Cadmium (as Cd) 5.0	1.7	Nil	
	iii) Chromium (as Cr) 50.0	24.6	Nil	
	iv) Copper (as Cu) 300.0	67.9	Nil	
	v) Mercury (as Hg) 0.15	N.D	-	
	vi) Nickel (as Ni) 50.0	9.8	Nil	
	vii) Lead (as Pb) 100.0	36.4	Nil	
	viii) Zinc (as Zn) 1000.0	94.5	Nil	

Remarks: The sample is according to specification.

Analyst

Laboratory Incharge

Copy to: Director of Agriculture, Govt. of Tripura for information


নির্যাস
এক উন্নত মানের জৈব সার
Net weight - 5 kg
(When packed)
Rate - Rs.50 (Fifty)
Kamalpur Nagar Panchayet
নির্যাস
এক উন্নত মানের জৈব সার
Net weight - 5 kg
(When packed)
Rate - Rs.50 (Fifty)
নির্যাস
Net weight - 5 kg
(When packed)
Rate - Rs.50 (Fifty)
Kamalpur Nagar Panchayet
নির্যাস
এক উন্নত মানের জৈব সার
Net weight - 5 kg
(When packed)

Lab Test Certificate of Compost from Municipal Solid waste in the brand name of "Feni" is being manufactured by Sabroom Nagar Panchayat

R. V. BRIGGS & CO. PRIVATE LTD.
ANALYTICAL CONSULTING & TECHNICAL CHEMISTS
(AN ISO 9001:2015 & ISO 45001: 2018 CERTIFIED COMPANY)
TAHER MANSION, 1ST FLOOR
9, BENTINCK STREET, KOLKATA - 700 001
Phone : (033) 4044-3380/3381/3382 / 3383, Fax : 33 2248-0447
E-mail : rvbriggs.kolkata@gmail.com, Website : www.rvbriggs.com
CIN : U51109WB1931PTC007007

TEST REPORT

No. F/22-23/54 **Date: 26 December 2022** **Page 1 of 1**

Issued to	:	BITAN INSTITUTE FOR TRAINING, AWARENESS AND NETWORKING 3/3/1, D. A. Chowdhury Road (2nd Floor) Budge Budge, Kolkata - 700137
Your Ref. No.	:	BITAN/WO/FIN/22-23/275 dtd. 09.12.2022
Description of sample	:	Manure
Mark on sample	:	Sabroom Nagar Panchayat, South Tripura
Sample Submitted by the party on:		19.12.2022
Analysis completed on	:	26.12.2022

TEST FINDINGS

Sl. No.	Test Parameters	Unit	Results
1.	pH (5% aqueous Solution)	..	7.1
2.	Conductivity	ds/m	2.8
3.	Bulk Density	gm/cc	0.57
4.	Moisture Content	%	24.8
5.	Total Organic Carbon	%	15.83
6.	Total Nitrogen as N	%	2.52
7.	Total Phosphate as P_2O_5	%	0.45
8.	Total Potash as K_2O	%	0.74
9.	C : N Ratio	..	9.09 : 1
10.	Particle Size : Passes through 4.0 mm IS Size	%	99.66
11.	Cadmium as Cd	mg/kg	< 0.5
12.	Chromium as Cr	mg/kg	4.12
13.	Nickel as Ni	mg/kg	< 0.5
14.	Arsenic as As	mg/kg	< 0.5
15.	Copper as Cu	mg/kg	12.84
16.	Mercury as Hg	mg/kg	< 0.01
17.	Zinc as Zn	mg/kg	71.21
18.	Lead as Pb	mg/kg	< 1.0

(T. NANDI)
Technical Manager
Authorised Signatory


FINI
Bio Organic Manure

Lab Test Certificate of Compost from Municipal Solid waste of Agartala Municipal Corporation

Qualissure Laboratory Services

361, Prantick Pally,
45/361, Bose Pukur Road,
Kolkata - 700107
Email : qualissure@gmail.com
Mob. No. : 9831287086
9830093976

DOC NO : QLS/SAMP/08-D/00

TEST REPORT

Name & Address Of the Customer :	Report No.	: QLS/P-69/S/23-24/C/01
M/s. Mandy Enterprises,	Date	: 21.06.2023
	Sample No.	: QLS/P-69/S/23-24/01
Site and Study Area:	Sample Description	: Compost
Agartala, Tripura	Sample Location & Mark	: Agartala Dumping Site
	Sample Receiving Date	: 02.06.2023
	Dates of Performance	: 03.06.2023-18.06.2023
	Ref No. Date	: Verbal Confirmation

Analysis Result

Sl.No.	Test Parameter	Test Method	Specification of City Compost as per FCO	Result
1.	Particle Size(pass through 4.0mm IS Sieve) in % by mass	**As Per FCO norms (1985)**	90% Pass through 4.0mm IS Sieve	84
2.	pH at 25°C	**As Per FCO norms (1985)**	6.5-7.5	7.42
3.	Colour	**As Per FCO norms (1985)**	Dark Brown to Black	Dark Brown
4.	Odour	**As Per FCO norms (1985)**	Absence of Foul Odour	Foul Odour Absent
5.	Conductivity in mmhos/cm	**As Per FCO norms (1985)**	4.0(Max)	2.08
6.	Bulk density in g/cc	**As Per FCO norms (1985)**	<1	0.97
7.	Moisture Content in %	**As Per FCO norms (1985)**	15-25	14.6
8.	Total Phosphorus (as P_2O_5,% by weight)	**As Per FCO norms (1985)**	0.4(Min)	0.14
9.	Total Potassium (as K_2O,% by weight)	**As Per FCO norms (1985)**	0.4(Min)	0.51
10.	TOC % by weight	**As Per FCO norms (1985)**	12.0(Min)	4.2
11.	Total Nitrogen (as N)% by weight	**As Per FCO norms (1985)**	0.8(Min)	0.82
12.	C:N Ratio	**As Per FCO norms (1985)**	<20.0	5.0
13.	Copper (as Cu), mg/kg	**As Per FCO norms (1985)**	300.0(Max)	29.7
14.	Zinc (as Zn), mg/kg	**As Per FCO norms (1985)**	1000.0(Max)	211.4
15.	Mercury (as Hg), mg/kg	**As Per FCO norms (1985)**	0.15(Max)	<0.1
16.	Cadmium (as Cd), mg/kg	**As Per FCO norms (1985)**	5.0(Max)	0.32
17.	Nickel (as Ni), mg/kg	**As Per FCO norms (1985)**	50.0(Max)	11.9
18.	Chromium (as Cr), mg/kg	**As Per FCO norms (1985)**	50.0(Max)	37.4
19.	Lead (as Pb), mg/kg	**As Per FCO norms (1985)**	100.0(Max)	28.3
20.	Arsenic (as As_2O_3), mg/kg	**As Per FCO norms (1985)**	10.0(Max)	<0.25
21.	Pathogenicity Test	**IS 16556-2016(RA- 2021)**	Absent	The sample Fails the test

Report Prepared By:

for **Qualissure Laboratory Services**
Reviewed & Authorized By

Bishnupriya Banerjee, Chemist
(Authorized Signatory)

-------End of Report--------

- *The results relate only to the item(s) tested.*
- *This Test Report shall not be reproduced without the permission of Qualissure Laboratory Services.*
- *The reserved part of sample(s), except perishable sample(s), shall be retained for 30 days from the date of issue of the Test Report.*

Annexure-6

Segregated storage of non-biodegradable waste and sale to Recyclers


SOFT SINGLE
COLOUR
PLASTICS


MEDICINE BOTTLES
DISPOSABLE GLASSES
WASTE PAPERS


TETRA PACKS OF MILK
TETRA PACKS OF JUICE


TIN CANS


ALUMINIUM
CANS
TIN CANS


GLASS
BOTTLES OF
BEER


GLASS
BOTTLES


S450
cat


Ladies
Dressing
Room

Annexure-7

ULB WISE DETAILS OF LEGACY WASTE REMEDIATION						OUTPUT											
S. N.	**Name of ULBs for remediation**	**Estimated qty.**	**Area**	**Status of work**	**Remediation process adopted**	**Quantity of good/bio soil recovered**	**Final destination of the components w.r.t column no 7**	**Quantity of inerts**	**Final destination of the components w.r.t column no 9**	**Quantity of C&D**	**Final destination of the components w.r.t column no 11**	**Quantity of Glass/ Metal/ Rubber /Plastic etc recovered and recycled.**	**Final destination of the components w.r.t column no 13**	**Quantity of RDF**	**Final destination of the components w.r.t column no 15**	**Total land recovered**	**Total (Column 7+9+11+ 13+15)**
		(In tons)	**(In acres)**			**(In tons)**										**(In acres)**	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
1	Belonia MC	19706	4	Remediated	Bio-mining	9655.9	Used for surface land area filling at waste processing center, Lat-23.224001 & Long-91.494999	5320.6	Used for land filling of waste processing center, Lat-23.224001 & Long-91.494999	2364.7	used for land filling and levelling of Dumping station, Lat-23.219547 & Long-91.41988	294.12	Stored at Tertiary Waste Processing Center	1774	Temporarily stored near Dumping yard and further collaboration with agency is ongoing to transfer RDF to cement plants.	4	19409.3
2	Sabroom NP	9367	0.688	Remediated	Bio-mining	2154.04	Land Filling at Waste Processing Site, Lat - 23.023102 & Long - 91.70975	5058.2	Land Filling at Waste Processing Site, Lat - 23.023102 & Long - 91.70975	843.03	Land Filling at Waste Processing Site, Lat - 23.023102 & Long - 91.70975	248.01	Sold to Recyclers	749.36	Waiting for dispose, Lat - 23.023102 & Long - 91.70975	0.688	9052.6

Annexure-7

ULB WISE DETAILS OF LEGACY WASTE REMEDIATION						OUTPUT											
S. N.	Name of ULBs for remediation	Estimated qty.	Area	Status of work	Remediation process adopted	Quantity of good/bio soil recovered	Final destination of the components w.r.t column no 7	Quantity of inerts	Final destination of the components w.r.t column no 9	Quantity of C&D	Final destination of the components w.r.t column no 11	Quantity of Glass/ Metal/ Rubber /Plastic etc recovered and recycled.	Final destination of the components w.r.t column no 13	Quantity of RDF	Final destination of the components w.r.t column no 15	Total land recovered	Total (Column 7+9+11+ 13+15)
		(In tons)	(In acres)			(In tons)										(In acres)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
3	Panisagar NP	3083	0.2	Remediated.	Bio - Mining	1298	Land Filling at Waste processing Site Lat - 24.274249° Long - 92.124312°	699	Land Filling at Waste processing Site Lat - 24.274249° Long - 92.124312°	0	-	0		7	Sent to Dalmia Cement Plant for coprocessing	0.2	2004
4	Kumargh at MC	5248	0.45	Remediated.	Bio - Mining	1863.33	Used for land filling at Remediated Site (24°13'01"N 92°02'52"E)	328.82	Used for land filling at Remediated Site (24°13'01"N 92°02'52"E)	0	-	303.6	Stored at Tertiary Waste Processing Center (24°16'32"N 92°02'14"E)	118.23	Transported to Cement Factory for incinerators	0.45	2614

Annexure-7

ULB WISE DETAILS OF LEGACY WASTE REMEDIATION						OUTPUT											
S. N.	**Name of ULBs for remediation**	**Estimated qty.**	**Area**	**Status of work**	**Remediation process adopted**	**Quantity of good/bio soil recovered**	**Final destination of the components w.r.t column no 7**	**Quantity of inerts**	**Final destination of the components w.r.t column no 9**	**Quantity of C&D**	**Final destination of the components w.r.t column no 11**	**Quantity of Glass/ Metal/ Rubber /Plastic etc recovered and recycled.**	**Final destination of the components w.r.t column no 13**	**Quantity of RDF**	**Final destination of the components w.r.t column no 15**	**Total land recovered**	**Total (Column 7+9+11+ 13+15)**
		(In tons)	**(In acres)**			**(In tons)**										**(In acres)**	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
5	Udaipur MC	25660	1.48	Remediated.	Bio-mining	14510.9	Land Filling at Waste processing Site Geo-tagg :- Lat 24.069554, Long :- 91.635389	8120.9	Land Filling at Waste processing Site Geo-tagg :- Lat 24.069554, Long :- 91.635389	0	Land Filling at Waste processing Site Geo-tagg :- Lat 24.069554, Long :- 91.635389	254.14	recycble is send to Tertiary Waste Treatment Centre & sold to recycler	15.41	Sent to Dalmia Cement Plant for co-processing	1.48	22901.4
6	Khowai MC	9340	1	Remediated.	Bio-minin	1027.4	Land Filling at Waste processing Site Geo-tagg :- Lat 24.069554, Long :- 91.635389	6351.2	Land Filling at Waste processing Site Geo-tagg :- Lat 24.069554, Long :- 91.635389	934	Used for land filling and levelling of Dumping station Geo-tagg :- Lat 24.069554, Long :- 91.635389	186.8	Stored in Tertiary Waste Processing Centre	840.6	Waiting for dispose by the Vendor Geo-tagg :- Lat 24.069554, Long :- 91.635389	1	9340

Annexure-7

ULB WISE DETAILS OF LEGACY WASTE REMEDIATION						OUTPUT											
S. N.	**Name of ULBs for remediation**	**Estimated qty.**	**Area**	**Status of work**	**Remediation process adopted**	**Quantity of good/bio soil recovered**	**Final destination of the components w.r.t column no 7**	**Quantity of inerts**	**Final destination of the components w.r.t column no 9**	**Quantity of C&D**	**Final destination of the components w.r.t column no 11**	**Quantity of Glass/ Metal/ Rubber /Plastic etc recovered and recycled.**	**Final destination of the components w.r.t column no 13**	**Quantity of RDF**	**Final destination of the components w.r.t column no 15**	**Total land recovered**	**Total (Column 7+9+11+ 13+15)**
		(In tons)	**(In acres)**			**(In tons)**										**(In acres)**	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
7	Melagarh MC	8143	0.65	Remediated.	Bio-mining	814.3	Land filling of dumping ground of Melaghar MC (more than 60% washed out due to flood) (23.50948948 91.32967827)	4804.4	30% used for deep land filling of dumping ground 70% has been stored near dumping ground of Melaghar MC (23.5090998 91.32986036)	0	-	0	-	1140	Waiting for dispose (23.508809, 91.329340)	0.65	6758.7
8	Ambassa MC	5399	0.8	Remediated.	Bio-minin	3995	Land filling at waste processing site Geo-tagg :- Lat 23.911314, Long :-	843.6	construction and demolation waste used for approch road repairing	180.5	construction and demolation waste used for approch road	320.9	Sold to Recyclers	59 Ton	chanelized toDalmia Cement Plant	0.8	5399

Annexure-7

ULB WISE DETAILS OF LEGACY WASTE REMEDIATION						OUTPUT											
S. N.	Name of ULBs for remediation	Estimated qty.	Area	Status of work	Remediation process adopted	Quantity of good/bio soil recovered	Final destination of the components w.r.t column no 7	Quantity of inerts	Final destination of the components w.r.t column no 9	Quantity of C&D	Final destination of the components w.r.t column no 11	Quantity of Glass/ Metal/ Rubber /Plastic etc recovered and recycled.	Final destination of the components w.r.t column no 13	Quantity of RDF	Final destination of the components w.r.t column no 15	Total land recovered	Total (Column 7+9+11+ 13+15)
		(In tons)	(In acres)			(In tons)										(In acres)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
9	Sonamura NP	17971	0.4	Remediated	Bio-mining	5031.88	Store in motor stand Sonamura Geo-tagg :- Lat 23.476043, Long :- 91.266189	7188.4	Land Filling at Waste processing Site, Khedabari 23.521126, 91.280563	0	0	500	store in Khedabari, Sonamura 23.521126, 91.280563	1656.3	store in Khedabari, Sonamura 23.521126, 91.280563	0.4	14376.6
10	Amarpur NP	15530	2.37	Remediated	Bio-mining	6318.5	Used for land filllling of dumping site, Geo-tagg :- Lat 23.499873, Long :- 91.625232	1616.7	Used for land filllling of dumping site	Nil	Nil	195.64	Sold to Recyclers	6851.4	Sent to Dalmia Cement Plant	2.37	14982.2

Annexure-7

ULB WISE DETAILS OF LEGACY WASTE REMEDIATION						OUTPUT											
S. N.	Name of ULBs for remediation	Estimated qty.	Area	Status of work	Remediation process adopted	Quantity of good/bio soil recovered	Final destination of the components w.r.t column no 7	Quantity of inerts	Final destination of the components w.r.t column no 9	Quantity of C&D	Final destination of the components w.r.t column no 11	Quantity of Glass/ Metal/ Rubber /Plastic etc recovered and recycled.	Final destination of the components w.r.t column no 13	Quantity of RDF	Final destination of the components w.r.t column no 15	Total land recovered	Total (Column 7+9+11+13+15)
		(In tons)	(In acres)			(In tons)										(In acres)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
11	Santibazar MC	8571	0.88	Remediated	Bio-minin	5326.4	Land Filling at Waste processing Site Geo-tagg :- Lat 23.326371, Long :- 91.569791	891.4	Used for Land Filling at Waste processing centre Geo-tagg :- Lat 23.326371, Long :- 91.569791	192	construction and demolation waste used for approch road	326.4	Store at Tertiary Centre Geo-tagg :- Lat 23.326371, Long :- 91.569791	120.7	Waiting for dispose Geo-tagg :- Lat 23.326371, Long :- 91.569791	0.88	6856.9
12	Dharmanagar MC	74598	1.5	Ongoing Target completion date 30th November,2024	Bio-mining	46358.2	Low area land filling , levelling of ground at dumping site, plantation pit filling Lat - 24.392787° Long- 92.1414°	7758.2	As per the demand of local area combustible wastes were collected by local pepole	1671	The C/D wastes were used for road repairing purposes.	2840.7	Stored in Tertiary Waste Processing Centre and then being sol to vender. Lat- 24.387991° Long- 92.140574°	1050.3	Stored near Tertiary Centre for disposed to cement klin (Megalaya)	1.5	59678.4

Annexure-7

ULB WISE DETAILS OF LEGACY WASTE REMEDIATION						OUTPUT											
S. N.	**Name of ULBs for remediation**	**Estimated qty.**	**Area**	**Status of work**	**Remediation process adopted**	**Quantity of good/bio soil recovered**	**Final destination of the components w.r.t column no 7**	**Quantity of inerts**	**Final destination of the components w.r.t column no 9**	**Quantity of C&D**	**Final destination of the components w.r.t column no 11**	**Quantity of Glass/ Metal/ Rubber /Plastic etc recovered and recycled.**	**Final destination of the components w.r.t column no 13**	**Quantity of RDF**	**Final destination of the components w.r.t column no 15**	**Total land recovered**	**Total (Column 7+9+11+ 13+15)**
		(In tons)	**(In acres)**			**(In tons)**										**(In acres)**	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
13	Kailashahar MC	36510	1	Ongoing Target completion date 31st December,2024	Bio-mining	17016.6	Used for land fillling of dumping site and most part distribution to the farmers free of cost	2847.8	land filling at waste processing site and Tertiary site	613.4	The C/D wastes were used for road repairing purposes.	1042.7	Laying in the disposed off in Tertiary centre	385.5	Sent and disposed off in cement klin	0.8	21906
Total		**239126**	**15.42**			**115370**		**51829**		**6798.6**		**6513**		**14709**		**15.218**	**195279**

ANNEXURE-8

8 MLD STP at Akhaura, ICP


GRIT
MECHANISM
realme Shot on realme 8s 5G
2024 11 14 09:49

TATA

TCE.10918F- TCE>>> ASCL-2373 Date: 10-08-2022

The Chief Executive Officer
Agartala Smart City Limited
1st Floor, U.D. Bhaban, Sakuntala Road
Agartala, West Tripura - 799001

Ref:1. LOA No. F.4(18)/ASCL/ 2018-19 (P-3)/ 746-758 Dated 11.02.2020

Project Name: Design, Supply, Construction, installation, Testing and Commissioning including O&M of One Year for Sewage Treatment Plant of Capacity 8 MLD at Akhaura Channel near ICP.

Ref: 1) MPPL-D2187-ASCL/NGP/CN-146 dated: 28th July 2022

Sub: - Submission of BEP Documents for Approval.

Dear Sir,

Reference to the details submitted by the contractor cited under 1st reference above, attached and sending herewith are the drawings with status "Approved as Noted".

Forwarded for your necessary action.

Assuring our best services at all time.
Thanking You,

Yours faithfully,
For Tata Consulting Engineers Limited,

TATA CONSULTING ENGINEERS LIMITED TATA AGARTALA

(Diptendu Das)
Team Leader and Procurement & Contract Specialist
Project Management Consultant
Agartala Smart City Limited,
TCEL & PwC Consortium

Encl: As stated

AGARTALA SMART CITY LIMITED 10 AUG 2022 RECEIVED

8 MLD SEWAGE TREATMENT PLANT AGARTALA SMART CITY LIMITED., AGARTALA, WEST TRIPURA	
Owner :	**AGARTALA SMART CITY LIMITED, AGARTALA**
Owner's Consultant:	**TATA CONSULTING ENGINEERS LIMITED.**
Package Details :-	**Design, Supply, Construction, installation, Testing and Commissioning including O&M of One Year for of Sewage Treatment Plant of Capacity 8 MLD at Akhaura Channel near ICP.**
EPC Contractor:-	**MECGALE PNEUMATICS PVT. LTD., N-65, MIDC, HINGNA ROAD, NAGPUR (MH) 440016 INDIA**
Drawing / Document Title :-	**PROCESS DESIGN CALCULATIONS OF SEWAGE TREATMENT PLANT (STP)**
Mecgale Doc. No. :-	**MPPL-D2187/PDC-012 (REV – 2)**
Vendor Doc. No. :-	**NA**
Reference Document No:-	*NA*

TATA CONSULTING ENGINEERS LIMITED
TATA VENDOR DRAWING REVIEW STATUS

- A. Drawing approved as submitted, proceed with fabrication / construction. ✓
- B. Drawing approved subject to comments noted, proceed with fabrication/construction considering our comments.
- C. Our comments are noted on this marked up print.
- D. ~~See attached memo to the forwarding transmittal~~ letter No. ..... Dt. .....
- E. Correct Original of this drawing to reflect our comments and resubmit for approval.
- F. Correct Original of this drawing to reflect our comments and resubmit for records.
- G. ~~Drawings of this category are for information and not~~ approval, information furnished on the drawing is noted.
- H. Drawing reviewed only against our previous comments.
- I. Drawings returned without review.
- Reviewed by ..... Date 08-08-2022

Approval conveyed herein neither relieves Vendor / Contractor of his contractual obligations and his responsibilities for correctness of dimensions, materials of construction, weights, quantities, design details, assembly fits, system/performance requirements and conformity of supply with Indian Statutory Laws as may be applicable, nor does it limit the Purchaser's rights under the contract.

REV No	Date	Reason for Issue	Prepared By	Checked By
2	22/10/2020	For APPROVAL	PW	CN
1	18/09/2020	For APPROVAL	PW	CN
0	28/07/2020	For APPROVAL	PW	CN

MECGALE	PROJECT	TITLE OF DOCUMENT	MECGALE Doc No.:
	8.0 MLD SEWAGE TREATMENT PLANT (USING SEQUENTIAL BATCH REACTOR (C-TECH) PROCESS) AGARTALA SMART CITY LTD. AGARTALA	PROCESS DESIGN CALCULATIONS OF SEWAGE TREATMENT PLANT (STP)	MPPL-D2187/PDC-012 (REV - 2)

INDEX

1.0 DESIGN INLET & OUTLET CHARACTERISTICS

1.1 *General*

The inlet and outlet characteristics considered for the design of 8.0 MLD STP at Agartala, Tripura are extracted from the tender documents and listed below.

1.2 *Design Inlet Parameters*

Average Flow: 8.0 MLD

Peak Factor: 2.25

Peak Flow: 18.0 MLD

SR. NO.	PARAMETER	UNIT	RAW SEWAGE VALUE
1	pH	-	6.5–8.5
2	Sewage temperature		
	Minimum Temperature	°C	15
	Maximum Temperarure	°C	35
3	Total Suspended Solids	mg/l	350
4	BOD_5 at 20^o C	mg/l	250
5	COD	mg/l	400
6	Oil and grease	mg/l	20
7	Faecal Coliform Count	MPN / 100 ml	10^7
8	Total Kjeldahl Nitrogen (TKN)	mg/l	50
9	Total Phosphorus (as P)	mg/l	7

1.3 *Design Parameters After Mass Balance*

Average Flow: 8.0MLD

Centrate Flow for 8.0 MLD 249 m^3/day

Average Design Flow: 8.0 MLD + Centrate Flow (0.25 MLD) = 8.25 MLD

Peak Factor: 2.25

Peak Flow: 18.0 MLD + Centrate Flow (0.25MLD) = 18.25 MLD

SR. NO.	PARAMETER	UNIT	RAW SEWAGE VALUE
1	pH	-	6.5–8.5
2	Total Suspended Solids	mg/l	365.2
3	BOD_5 at 20^o C	mg/l	257.5
4	COD	mg/l	400
5	Faecal Coliform Count	MPN / 100 ml	10^7
6	Oil and grease	mg/l	20
7	Total Kjeldahl Nitrogen (TKN)	mg/l	50
8	Total Phosphorus (as p)	mg/l	7

1.4 *Outlet Parameters*

SR. NO.	PARAMETER	UNIT	DESIGN VALUE
1	pH	-	6.5 – 8.5
2	Total Suspended Solids	mg/l	< 10
3	BOD_5 at 20^o C	mg/l	< 10
4	COD	mg/l	<50
5	Faecal Coliform	MPN / 100 ml	<100
6	Total Nitrogen	mg/l	< 10
7	Total Phosphorus (as P)	mg/l	<1
8	Total Residual Chlorine	mg/l	1

R1

TATA CONSULTING ENGINEERS LIMITED
TATA VENDOR DRAWING REVIEW STATUS

- ✓ A Drawing approved as submitted, proceed with fabrication / construction.
- B Drawing approved subject to comments noted, proceed with fabrication/construction considering our comments.
- C Our comments are noted on this marked up print.
- D See attached memo to the forwarding transmittal letter No. ..... Dt. .....
- E Correct Original of this drawing to reflect our comments and resubmit for approval.
- F Correct Original of this drawing to reflect our comments and resubmit for records.
- G Drawings of this category are for information and not approval, information furnished on the drawing is noted.
- H Drawing reviewed only against our previous comments.
- I Drawings returned without review.
- Reviewed by ..... Date 08.08.2022

Approval conveyed herein neither relieves Vendor / Contractor of his contractual obligations and his responsibilities for correctness of dimensions, materials of construction, weights, quantities, design details, assembly fits system/performance requirements and conformity of supplies with Indian Statutory Laws as may be applicable, nor does it limit the Purchaser's rights under the contract.

Certificate Sl. No. 16176

TRIPURA STATE POLLUTION CONTROL BOARD

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

Annexure-9

No.F.17(10)/TSPCB/W/STP/(L-Red)/8081/17495-500 Date : 18 / 11 / 2024

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.**304875** Dated : **24-10-2024**
ii) Our NOC Register Sl. No.**14926** For : **Extension of validity**

Capital Investment : **Rs. 2521.00 Lakhs** Production Capacity : **8 MLD**
Type :**STP** Category : **Red**

With reference to the above Application, a provisional Consent to Operate Certificate is hereby issued in favour of **M/s. Agartala Smart City Limited, Dr. Sailesh Kumar Yadav, Chief Executive Officer, Agartala Smart City Limited, Near Akhaura Check Post, Indo-bangla Border, 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 **Agartala Smart City Limited, Near Akhaura Check Post, Indo-bangla Border, Agartala, Tripura (W)** subject to observance of other codal formalities of the Govt. of India/Govt. of Tripura/District Administration/ Agartala Municipal Corporation or concerned Nagar Panchayat or concerned Panchayat (whichever is applicable)/ Health Department/Industries & Commerce Department and subject to observance of the following terms & conditions:

a. The following criteria shall have to be maintained for the DG set:

I. The DG set should be provided with integral acoustic enclosure at the manufacturing stage itself.

II. The user shall make efforts to bring down the noise level due to the DG Set, outside the premises within the ambient noise requirements by proper siting & control measures.

III. Installation of DG Set must be strictly in compliance with the recommendations of the DG Set manufacturer.

IV. A proper routine and preventive maintenance procedure for the DG Set should be set and followed in consultation with the DG set manufacturer which would help to prevent noise levels of the DG set from deteriorating with use.

V. The emission standard of the DG set should be maintained as under

Parameter	Emission Limits (g/kw-hr)
NO_X	9.2
HC	1.3
CO	3.5
PM	0.3

VI. Due care and maintenance of the DG sets should be taken in the following manner so that Pollution level can be minimised:

(i)The pre cleaner should be inspected for dirt/dust accumulation and it should be cleaned once in a week.

(ii)The vacuum indicator should be cheeked for red band and the outer element should be cleaned only by compressed air, with pressure not more than 60 psi, if required.

(iii)The water and sediment from water separator and fuel tank should be drained before starting.

(iv) Coolant condition should be maintained as per specifications.

(v)Lube oil pressure should be checked every morning before starting.

(vi)Engine log book of previous shift should be checked and then reset, if required.

Contd...p/2

(vii) The engine should be cleaned externally every day.
(viii)Leakage of engine oil, coolant and fuel should be checked before start up and engine oil should be topped, if required.
(ix)The engine should be primed before starting.
(x)The battery condition and electrical connection should be cheeked before starting as per O & M Manual.
(xi)The engine should be started and operated without load/idle for 2-3 minutes for any leakage or abnormal sound. Corrections should be made if necessary.
(xii)The engine should be started on electrical mode and proper functioning of safety control should be checked.
(xiii) The engine should be idled for three minutes before shut off.
(xiv) Recommended schedule maintenance checks should be carried out.
(xv) Only genuine parts should be used while replacing them during break down or preventive maintenanced.

b. Safe disposal of the waste should be ensured.

c. The unit should take necessary measures to maintain the Noise Level mentioned as under:

Noise level not to exceed	
Day Time (6.00 am to 10.00 pm)	Night Time (10.00 pm to 6.00 am)
55dB	45dB

Under any circumstances the noise level should not exceed the standard.

d. Solid waste generated in the unit shall be disposed of as per the provisions of the Solid Waste Management Rules, 2016

e. Plastic waste generated in the unit shall be disposed of scientifically as per the provisions of the plastic Waste Management Rules, 2016.

f. The unit shall comply with the provisions of the E-Waste (Management) Rules, 2022.

g. The unit shall strictly comply with the provisions under the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989.

h. The unit shall have to install OCEMS within 6 months of issuance of the Certificate.

i. The unit shall have to inform the TSPCB after functioning for collection of treated wastewater.

j. Banning order regarding identified plastic carry bags & other single use plastic item issued vide Notification No.F.8 (30)/DSTE/ENV/pt-v/5612-30 dated 03.08.2022 should be strictly adhered to.

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

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

m. Compliance report may be submitted to the TSPCB once in a year.

n. Violation of any of the above conditions will lead to withdrawal of the certificate and/ or levying Environmental compensation as per the Rules.

This Certificate is valid upto 17.11.2029. 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.

Amarendra Jamatia 18/11/2024

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

To
Dr. Sailesh Kumar Yadav, Chief Executive Officer
Agartala Smart City Limited
M/s. Agartala Smart City Limited
Near Akhaura Check Post
Indo-bangla Border, Agartala, Tripura(W)

Copy to :
1) District Magistrate, Tripura (W)
2) Director, Industries &Commerce,Tripura.
3) SDM, Sadar, Tripura (W).
4) Municipal Commissioner, Agartala Municipal Corporation, Tripura (W).
5) District Scientific Officer, DST&E, Tripura (West)

Amarendra Jamatia 18/11/2024

Asst Environmental Engineer
Tripura State Pollution Control Board

ANNEXURE-10

31.5 MLD at Katakhal & Kalapania Khal in Agartala MC

AGARTALA SMART CITY LIMITED
(CIN: U74999TR2016SGC013499)
SHAKUNTALA ROAD, U. D. BHABAN, 1ST FLOOR,
AGARTALA, WEST TRIPURA- 799 001

No. F.4 (131)/ ASCL/2022 / 8831–3841 **Dated 22.06.2023**

Letter of Award

To
M/s. Swapan Chandra De
Central Road Extension, Town Pratapgarh
Agartala – 799 001, West Tripura
Ph. +91 94361 25549
E-mail: swapande_54@yahoo.com

Kind Attn.: Mr. Swapan Chandra De

Sub: Letter of Award for the work of Design, Supply, Transportation, Construction, Installation, Testing and Commissioning of Sewage Treatment Plant of Capacities of 1.5 MLD, 5 MLD, 10 MLD and 15 MLD at Various Locations of Agartala City with Sewage Pumping Station Consisting of Nallah Interceptor and Diversion Works with All Contingent Civil, Electrical, Mechanical, Piping and Instrumentation Works and Post Completion Operation & Maintenance of Entire System for 01 (One) Year Including (01) One Year Defects Liability Period.

Ref: Tender Id No. 2023_CEO_36694_1 & NIe-T No. ASCL /RFP/2023/54

Sir,

With reference to the above, Agartala Smart City Limited is pleased to inform that the rates offered by you, i.e., **Rs. 107,64,00,000.00** (Rupees One Hundred Seven Crore Sixty-Four Lakh only) exclusive of applicable taxes and duties, till the completion of the project for the above-mentioned work has been accepted by this office.

You are requested to start the work at once and kindly note that the date of commencement of work will be reckoned after 07 (seven) days from the date of issue of this Letter of Award.

Further, you are requested to attend this office along with **Rs. 500/- stamp paper** to execute the agreement on or before 15 (fifteen) days from the date of issue of this Letter of Award.

Yours faithfully,

22/06/23

(Dr. Shailesh Kr. Yadav, IAS)
Mission Director & Chief Executive Officer
Agartala Smart City Limited

Copy to:

1. P.S to Secretary, UD Department for kind information of The Secretary (Chairman, Agartala Smart City Limited).
2. The Municipal Commissioner, Agartala Municipal Corporation for kind information.
3. The Superintending Engineer, Agartala Municipal Corporation for information.

15 MLD STP at Abhoynagar, Agartala

15 MLD STP at Abhoynagar, Agartala

10 MLD STP at Ranjitnagar, Agartala

ANNEXURE-11

Cluster Wise Work Order Of 16.5 MLD STP In 11 ULBs

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

F.No.3-(70) TUDA/PROJECT/2023/ 2760-2776 **Dated. 15/03/2024**

"Letter for Commencement of Work"

To
M/S SAINATH ENVIROTECH
305 C Sevanthakulam Road
Tuticorin - 628003
Email: knamashivaayan@gmail.com

Name of Contract: Design-Build-Operate (DBO) of Sewage Treatment Plants (STP) along with Co-treatment of used water and septage with 5 years of Operation and Maintenance in two towns-Ranirbazar & Mohanpur of Tripura.

Reference:

i. DNIeT No: **18/EE/TUDA/2023-24 Dated 12.07.2023**
ii. E-Tender ID: **2023_TUDA_40178_1**
iii. Performance Bank Guarantee submitted by you for the above mentioned work vide No. **a) D06IBGP240600002 dated. 29.02.2024 for an amount of Rs. 1,24,74,900.00**
b) D06IBGP240730002 dated.13.03.2024 for an amount of Rs. 15,56,175.00
c) D06IBGP240730001 dated. 13.03.2024 for an amount of Rs. 15,30,675.00
iv. This office Letter of Intent (LOI) of your tender no. **F.No.3(70)TUDA/PROJECT/2023/2025-39 dated. 06/02/2024.**

Dear Sir,

You tender for the above mentioned work has been accepted on behalf of Governor of Tripura for an amount of **Rs. 15, 56, 17,500.00** (Rupees Fifteen Crore Fifty Six Lakhs Seventeen Thousand Five Hundred) only including 5 years operation and maintenance cost.

You are requested to start the work immediately in consultation with the **Assistant Engineer, Tripura Urban Planning and Development Authority (TUDA)** for taking possession of work site and starting the work at once, so that the work can be completed within the stipulated period.

You are also requested to attend this office within 7(seven) days from the date of issue of this Letter for Commencement of work for signing formal agreement.

Please note that time for completion of the work **730 days excluding O & M** which shall be reckoned from the **15th day** after the issuance of this Letter of Commencement of the work.

Yours faithfully,

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA
For and on behalf of Governor of Tripura

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
[Directorate of Urban Development]
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

Copy to:

1. PS to the Secretary, UDD for kind information of the Secretary, UDD.
2. The Director, Urban Development Dept. for kind information.
3. The Commissioner, TUDA for kind information.
4. The Chief Engineer, Urban Development Dept. for kind information.
5. The Chief Planner, TUDA for kind information.
6. The Accountant General (A&E), Agartala, Tripura for kind information.
7. The Chief Executive Officer, Ranirbazar Municipal Council, West Tripura, Tripura for information.
8. The Chief Executive Officer, Mohanpur Municipal Council, West Tripura, Tripura for information.
9. The Assistant Commissioner of Taxes, P.N. Complex, Agartala for information
10. The Assistant Commissioner, Central Excise & Service Tax, Agartala Division, Kiran Medical Hall Building, Old R.M.S Chowmuhani, Agartala, Tripura for information.
11. The Labour Commissioner, Agartala Tripura for information.
12. The Income Tax Officer, Netaji Chowmuhani, Agartala for information
13. Treasury officer, Treasury -1, Agartala for your information.
14. Er. S. Debbarma, Assistant Engineer, TUDA for information & necessary action.
15. Er. R. Debbarma, Junior Engineer, TUDA for information & necessary action.
16. Work order file.
17. Agreement copy.

15/03/24

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA
For and on behalf of Governor of Tripura

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

F.No.3-(68)-TUDA/PROJECT/2023/ 2745-2763 **Dated. 31/08/2024**

"Letter of Commencement of Work"

To
M/S Ace Alliance (P) Limited & M/s S R Paryavaran Engineers Pvt. Ltd. JV
Guwahati, Assam-781005
Email: info@aceally.com

Name of Contract: Design-Build-Operate (DBO) of Sewage Treatment Plants (STP) along with Co-treatment of used water and Septage with 5 years of Operation and Maintenance in three Towns – Dharmanagar, Kailashahar and Kumarghat of Tripura **(2nd call).**

Reference:

i. DNIeT No: **16/EE/TUDA/2023-24 Dated 30.06.2023**
ii. E-Tender ID: **2023_TUDA_44620_1**
iii. Performance Bank Guarantee submitted by you for the above mentioned work vide below BG No.
   a) **19070ILG002024 dated. 31.07.2024 for an amount of Rs.2,26,67,625.00**
   b) **19070ILG002124 dated. 31.07.2024 for an amount of Rs.25,18,625.00**
iv. This office Letter of Acceptance (LOA) of your tender no. **F.No.3(69)-TUDA/PROJECT/2023/1577-1591 dated. 01/07/2024.**

Dear Sir,

You tender for the above mentioned work has been accepted on behalf of Governor of Tripura for an amount of **Rs.25,18,62,500.00** (Rupees Twenty Five Crore Eighteen Lakh Sixty Two Thousand Five Hundred) only including 5 years operation and maintenance cost.

You are requested to start the work immediately in consultation with the **Assistant Engineer**, **Tripura Urban Planning and Development Authority (TUDA)** for taking possession of work site and starting the work at once, so that the work can be completed within the stipulated period.

You are also requested to attend this office within 7(seven) days from the date of issue of this Letter for Commencement of work for signing of formal agreement.

Please note that time for completion of the work **730 days excluding O & M** which shall be reckoned from the **15th day** after the issuance of this Letter of Commencement of the work.

Yours faithfully,

30/08/24

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA
For and on behalf of Governor of Tripura

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

Copy to:

1. PS to the Secretary, UDD for kind information of the Secretary, UDD.
2. The Director, Urban Development Dept. for kind information.
3. The Commissioner, TUDA for kind information.
4. The Chief Engineer, Urban Development Dept. for kind information.
5. The Chief Planner, TUDA for kind information.
6. The Accountant General (A&E), Agartala, Tripura for kind information.
7. The Chief Executive Officer, Dharmanagar Municipal Council, West Tripura, Tripura for information.
8. The Chief Executive Officer, Kailashahar Municipal Council, West Tripura, Tripura for information.
9. The Chief Executive Officer, Kumarghat Municipal Council, West Tripura, Tripura for information.
10. The Assistant Commissioner of Taxes, P.N. Complex, Agartala for information
11. The Assistant Commissioner, Central Excise & Service Tax, Agartala Division, Kiran Medical Hall Building, Old R.M.S Chowmuhani, Agartala, Tripura for information.
12. The Labour Commissioner, Agartala Tripura for information.
13. The Income Tax Officer, Netaji Chowmuhani, Agartala for information
14. Treasury officer, Treasury -1, Agartala for your information.
15. Er. S. Debbarma, Assistant Engineer, TUDA for information & necessary action.
16. Er. R. Debbarma, Junior Engineer, TUDA for information & necessary action.
17. Work order file.
18. Agreement copy.

30/08/24

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA
For and on behalf of Governor of Tripura

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

F.No.3-(69)-TUDA/PROJECT/2023/ 2764 – 2782 **Dated. 31/08/2024**

"Letter of Commencement of Work"

To
M/S Ace Alliance (P) Limited & M/s S R Paryavaran Engineers Pvt. Ltd. JV
Guwahati, Assam-781005
Email: info@aceally.com

Name of Contract: Design-Build-Operate (DBO) of Sewage Treatment Plants (STP) along with Co-treatment of used water and Septage with 5 years of Operation and Maintenance in three Towns – Khowai, Ambassa and Teliamura of Tripura **(2nd call).**

Reference:

v. DNIeT No: **17/EE/TUDA/2023-24 Dated 12.07.2023**
vi. E-Tender ID: **2023_TUDA_44890_1**
vii. Performance Bank Guarantee submitted by you for the above mentioned work vide below BG No.
c) **19070ILG002224 dated. 31.07.2024 for an amount of Rs.2,12,00,096.00**
b) **19070ILG002324 dated. 31.07.2024 for an amount of Rs.23,55,556.00**
viii. This office Letter of Acceptance (LOA) of your tender no. **F.No.3(69)-TUDA/PROJECT/2023/1562-1576 dated. 01/07/2024.**

Dear Sir,

You tender for the above mentioned work has been accepted on behalf of Governor of Tripura for an amount of **Rs.23,55,56,617.00** (Rupees Twenty Three Crore Fifty Five Lakh Fifty Six Thousand Six Hundred Seventeen) only including 5 years operation and maintenance cost.

You are requested to start the work immediately in consultation with the **Assistant Engineer, Tripura Urban Planning and Development Authority (TUDA)** for taking possession of work site and starting the work at once, so that the work can be completed within the stipulated period.

You are also requested to attend this office within 7(seven) days from the date of issue of this Letter for Commencement of work for signing of formal agreement.

Please note that time for completion of the work **730 days excluding O & M** which shall be reckoned from the **15th day** after the issuance of this Letter of Commencement of the work.

Yours faithfully,

30/08/24

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA
For and on behalf of Governor of Tripura

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

Copy to:

1. PS to the Secretary, UDD for kind information of the Secretary, UDD.
2. The Director, Urban Development Dept. for kind information.
3. The Commissioner, TUDA for kind information.
4. The Chief Engineer, Urban Development Dept. for kind information.
5. The Chief Planner, TUDA for kind information.
6. The Accountant General (A&E), Agartala, Tripura for kind information.
7. The Chief Executive Officer, Ambassa Municipal Council, West Tripura, Tripura for information.
8. The Chief Executive Officer, Khowai Municipal Council, West Tripura, Tripura for information.
9. The Chief Executive Officer, Teliamura Municipal Council, West Tripura, Tripura for information.
10. The Assistant Commissioner of Taxes, P.N. Complex, Agartala for information
11. The Assistant Commissioner, Central Excise & Service Tax, Agartala Division, Kiran Medical Hall Building, Old R.M.S Chowmuhani, Agartala, Tripura for information.
12. The Labour Commissioner, Agartala Tripura for information.
13. The Income Tax Officer, Netaji Chowmuhani, Agartala for information
14. Treasury officer, Treasury -1, Agartala for your information.
15. Er. S. Debbarma, Assistant Engineer, TUDA for information & necessary action.
16. Er. R. Debbarma, Junior Engineer, TUDA for information & necessary action.
17. Work order file.
18. Agreement copy.

30/08/24

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA
For and on behalf of Governor of Tripura

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

F.No.3-(67)-TUDA/PROJECT/2023/2742-59 **Dated. 15/03/2024**

"Letter for Commencement of Work"

To
Hydrotech Paryavaran India Pvt.Ltd,
F-31, Industrial area, Phase-8.
Mohali, Punjab-160071.
Email: diksha@hydrotechindia.com

Name of Contract: Design-Build-Operate (DBO) of Sewage Treatment Plants (STP) along with Co-treatment of used water and septage with 5 years of Operation and Maintenance in three towns-Udaipur, Belonia & Melaghar of Tripura **(2nd call).**

Reference:

i. DNIeT No: **15/EE/TUDA/2023-24 Dated 09.06.2023**
ii. E-Tender ID: **2023_TUDA_41014_1**
iii. Performance Bank Guarantee submitted by you for the above mentioned work vide No. **a) 79880ILG000124 dated. 14.03.2024 for an amount of Rs. 5,05,692.00**
b) 79880ILG000224 dated. 14.03.2024 for an amount of Rs. 1,69,09,906.00
c) 79880ILG000324 dated. 14.03.2024 for an amount of Rs. 18,78,878.00
d) 79880ILG000424 dated. 14.03.2024 for an amount of Rs. 45,51,228.00
iv. This office Letter of Intent (LOI) of your tender no. **F.No.3(67)-TUDA/PROJECT/2023/2010-24 dated. 06/02/2024.**

Dear Sir,

You tender for the above mentioned work has been accepted on behalf of Governor of Tripura for an amount of **Rs. 23,84,57,036.00** (Rupees Twenty Three Crore Eighty Four Lakhs Fifty Seven Thousand Thirty Six) only including 5 years operation and maintenance cost.

You are requested to start the work immediately in consultation with the **Assistant Engineer, Tripura Urban Planning and Development Authority (TUDA)** for taking possession of work site and starting the work at once, so that the work can be completed within the stipulated period.

You are also requested to attend this office within 7(seven) days from the date of issue of this Letter for Commencement of work for signing formal agreement.

Please note that time for completion of the work **730 days excluding O & M** which shall be reckoned from the **15th day** after the issuance of this Letter of Commencement of the work.

Yours faithfully,

15/03/24

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA
For and on behalf of Governor of Tripura

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2329301(O), Email: tuda.trp@gmail.com

Copy to:

1. PS to the Secretary, UDD for kind information of the Secretary, UDD.
2. The Director, Urban Development Dept. for kind information.
3. The Commissioner, TUDA for kind information.
4. The Chief Engineer, Urban Development Dept. for kind information.
5. The Chief Planner, TUDA for kind information.
6. The Accountant General (A&E), Agartala, Tripura for kind information.
7. The Chief Executive Officer, Udaipur Municipal Council, West Tripura, Tripura for information.
8. The Chief Executive Officer, Belonia Municipal Council, West Tripura, Tripura for information.
9. The Chief Executive Officer, Melaghar Municipal Council, West Tripura, Tripura for information.
10. The Assistant Commissioner of Taxes, P.N. Complex, Agartala for information
11. The Assistant Commissioner, Central Excise & Service Tax, Agartala Division, Kiran Medical Hall Building, Old R.M.S Chowmuhani, Agartala, Tripura for information.
12. The Labour Commissioner, Agartala Tripura for information.
13. The Income Tax Officer, Netaji Chowmuhani, Agartala for information
14. Treasury officer, Treasury -1, Agartala for your information.
15. Er. S. Debbarma, Assistant Engineer, TUDA for information & necessary action.
16. Er. R. Debbarma, Junior Engineer, TUDA for information & necessary action.
17. Work order file.
18. Agreement copy.

15/03/24

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA
For and on behalf of Governor of Tripura

STP Construction in progress at Ranirbazar MC and Mohanpur MC


SANY
GPS Map Camera
Check In
West Tripura, Tripura, India
Ramkrishna Seva Ashram Vivekananda Colony
Road, Jirania, West Tripura, 799035, Tripura, India
Lat 23.832196, Long 91.361535
11/05/2024 01:06 PM GMT+05:30
Note : Captured by GPS Map Camera


GPS Map Camera
Check In
West Tripura,Tripura,India
Ramkrishna Seva Ashram Vivekananda Colony
Road, Jirania, West Tripura, 799035, Tripura, India
Lat 23.832205, Long 91.361606
11/05/2024 01:06 PM GMT+05:30
Note : Captured by GPS Map Camera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West Tripura,Tripura,India
Ramkrishna Seva Ashram Vivekananda Colony
Road, Jirania, West Tripura, 799035, Tripura, India
Lat 23.832203, Long 91.361683
11/05/2024 01:05 PM GMT+05:30
Note : Captured by GPS Map Camera

In-situ Nallah Treatment Technology

The proposed In-situ Nallah treatment technology is primarily based on the bioremediation process which involves the use of microbial agents (microbial remediation) and plants (phytoremediation) for treatment of wastewater. The technology includes different components to ensure the complete removal of floating waste, suspended waste, organic and nutrient pollution and fecal pathogens along with enhancement of dissolved oxygen levels in the water bodies.

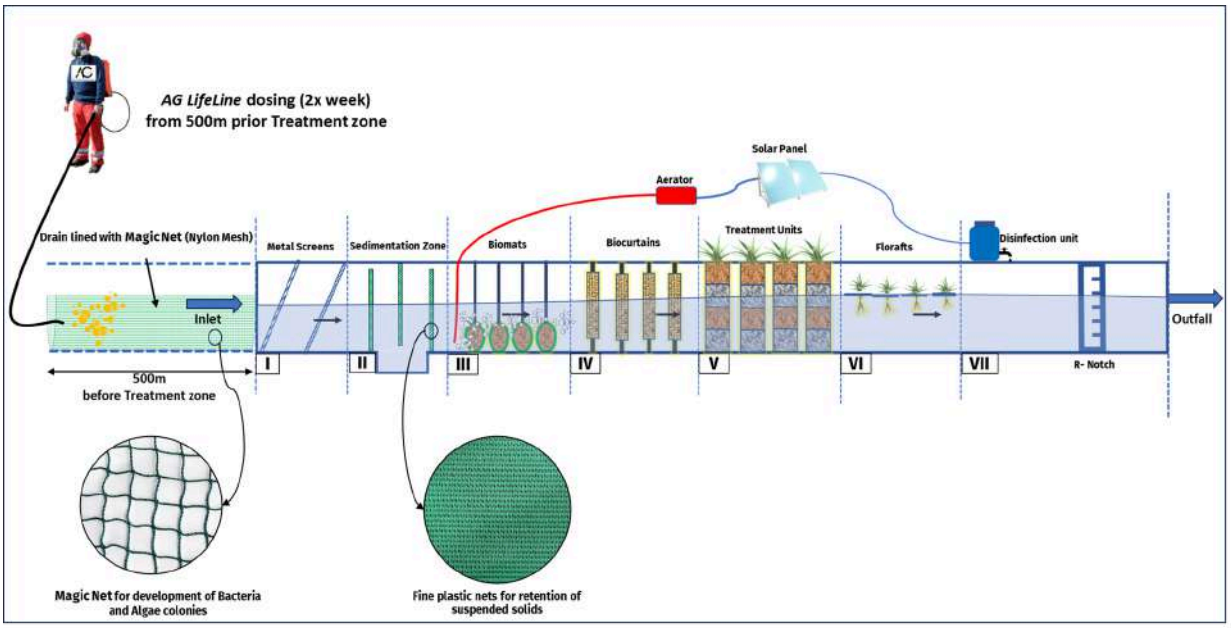

Fig. 1: A diagrammatic view of proposed In-situ Nallah treatment technology

The proposed technology has been smartly designed to address **Primary, Secondary** and **Tertiary treatment** of wastewater similar to the STPs advancing with the fact that this technology can be implemented on site without tapping the natural drains to the STPs. The different stages of water treatment in the proposed technology are described below:

3.1 Primary Treatment

The **primary treatment** of sewage ensures the **trapping and removal of floating waste and suspended solids**. Two different zones are constructed for the primary treatment of wastewater, including-

a. Screening Zone

The sewage water is first allowed to pass through screens where **floating large solids** are removed. The **Coarse** and **Fine screens** trap the **floating waste of varying sizes**. The main objectives of the removal of coarse solids are- i) protection of the wastewater transport devices (pumps and piping); ii) protection of the subsequent treatment units; iii) protection of the receiving bodies.

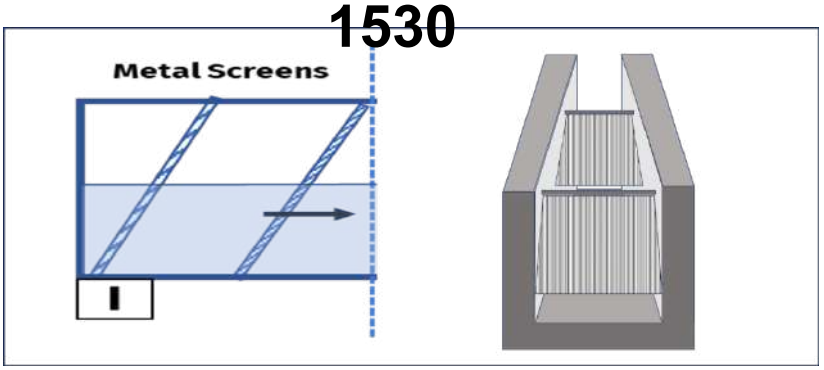

Fig. 2: A diagrammatic view of Screening zone with coarse and fine metal screens

b. Sedimentation Zone

Followed by Coarse and Fine screens, the wastewater reaches grit chamber or **sedimentation zone** which **reduces the velocity of the incoming sewage** and thus **allows coarser particles** such as **gravel** and **sand**, **which are heavier than water, to settle at the bottom**.

The basic purposes of grit removal are: to avoid abrasion of the equipment and piping; to eliminate or reduce the possibility of obstructions in piping, tanks, orifices, siphons; to facilitate the transportation of the liquid, principally the transfer of the sludge in its various phases

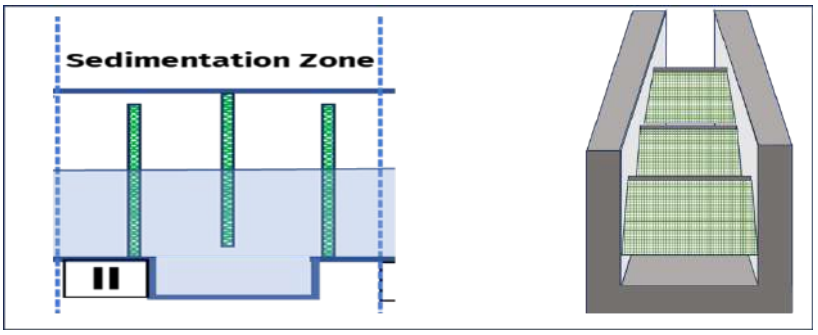

Fig. 3: A diagrammatic view of Sedimentation zone with fine plastic nets for retention of suspended solids

3.2 Secondary Treatment

The main objective of secondary treatment is the removal of organic matter. Organic matter is present in the form of **dissolved** and **suspended organic matter** (**BOD**). The removal of the organic matter in the secondary stage is carried out through biochemical reactions, undertaken by microorganisms

a. Biomat and Biocurtain Zone

The specially designed **Biomats** and **Biocurtains** contain **coconut coir** and **ropes** which act as **natural media** and operated as **fixed-film systems**, in that **beneficial microorganisms** are encouraged to **colonize and reproduce** in media. The **startup period** for **natural media filters** such as **coconut coir**, is **shorter** than for artificial media filters. This is because natural media **already contain low numbers of microorganisms**, flora and fauna. Their reproduction provides the biomass needed for sewage treatment. This stage **converts organic matter in sewage into stable forms through biological activities**, resulting in secondary sedimentation.

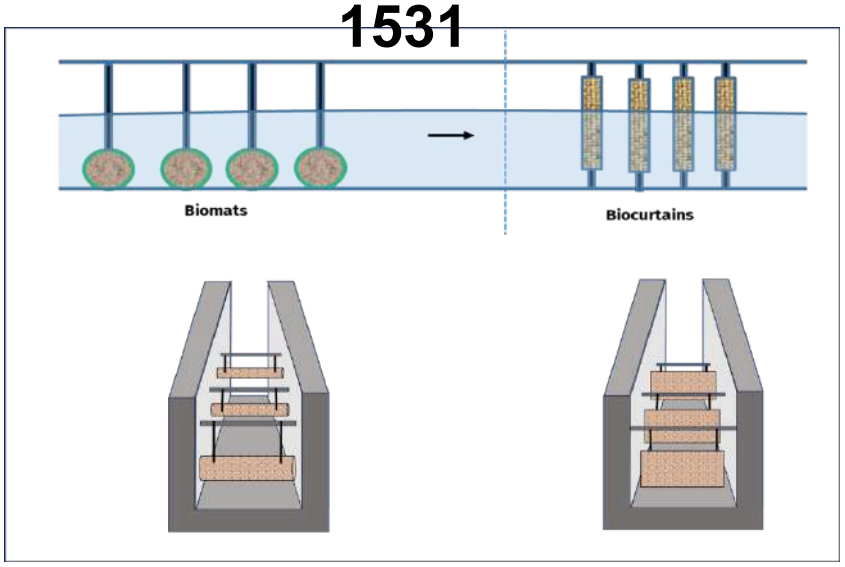

Fig. 4: A diagrammatic view of Biomat-Biocurtain zone for microbial biofilm production

b. Treatment Unit Zone

The water is then allowed to pass through **Treatment Units** which contains **four beds of boulder stones** and **coconut coir**. As mentioned above, **coconut coir** is a natural media which **provides a surface for bacterial biofilm formation** for removal of BOD/COD, nutrients (N & P), heavy metals and other pollutants.

The other component of the Treatment Units i.e., **Stones**, serves two different functions which are, **providing a media with large surface area for bacterial biofilm development** and **ensuring the uninterrupted flow of water** across the treatment unit.

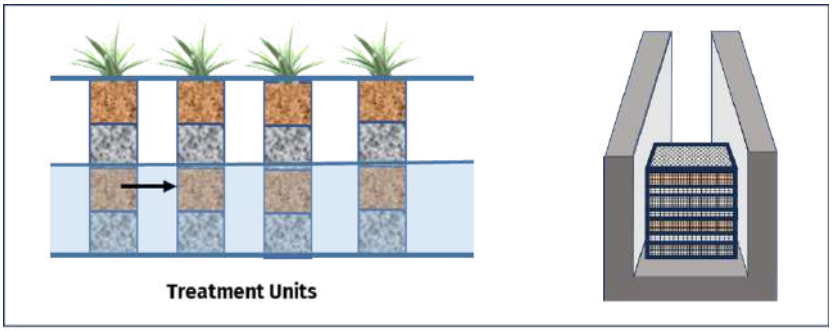

Fig. 5: A diagrammatic view of Treatment Unit zone with wonder boxes

c. Growth Hormone

The **growth hormone** contains a **potential aerobic bacterial consortium** specially designed for target specific applications depending upon the pollution levels in the waterbody. Our consortia contain aerobic bacteria which rapidly consumes organics, dyes, phosphates, nitrates, heavy metals thereby improving the overall water quality.

Aerobic decomposition of organic matter:

$C_6H_{12}O_6 + 6\ O_2 \rightarrow 6\ CO_2 + 6\ H_2O + Energy$

The oxygen consumption and in the **increase in the microorganism's population**, and can be represented by the generic equation:

$8\ CH_2O + NH_3 + 3\ O_2 \rightarrow C_5H_7NO_2 + 3\ CO_2 + 6\ H_2O + Energy$

Organic Matter Cellular Material

d. Floraft Zone

Florafts are small **artificial platforms** that allow **aquatic emergent plants** to **grow** in water that is typically too deep for them. Their **roots spread** through the floating islands and down into the water creating **dense columns of roots with lots of surface area**. The **Florafts** are designed for **removal of organic matter, N, P and heavy metals** through **rootzone Treatment technology**. Not only do the plants take up nutrients and contaminants themselves, the plant roots and floraft material provide extensive surface area for microbes to grow—forming a slimy layer of biofilm. The biofilm is where the majority of nutrient uptake and degradation occurs in a rootzone treatment system.

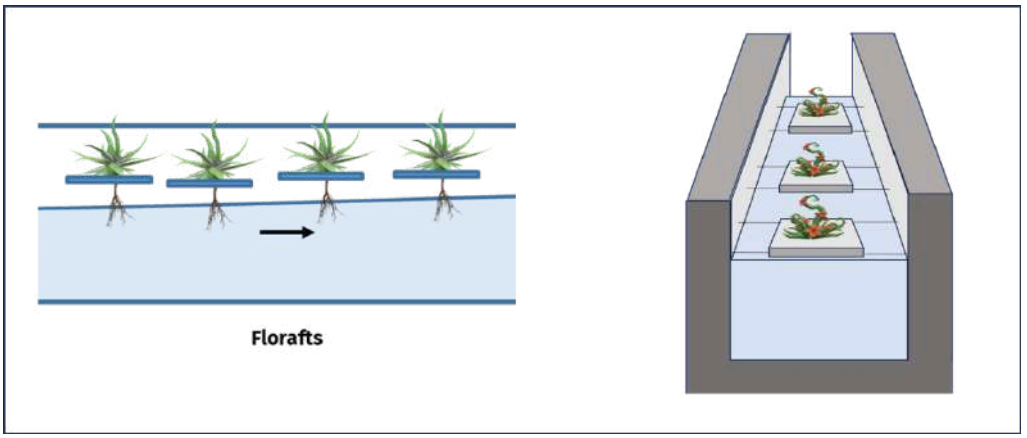

Fig. 6: A diagrammatic view of Floraft zone

3.3 Tertiary Treatment/ Disinfection Zone

The main objective of **tertiary treatment** is the **removal of pathogens** from the wastewater. The tertiary treatment of the effluent occurs in this zone by incorporation of **chlorination**. This third stage of treatment **removes inorganic compounds, bacteria, viruses, and parasites**. Removing these harmful substances makes the treated water safe to reuse, recycle, or release into the environment.

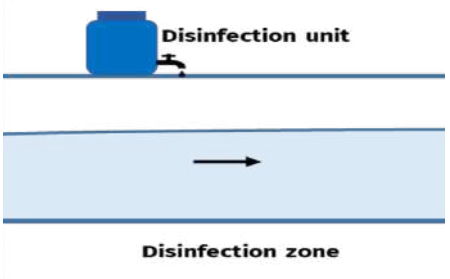

Fig. 7: A diagrammatic view of Disinfection zone

Need for In-Situ Nallah Treatment in Bishalgarh, Kamalpur, Sonamura, Santir Bazar, Panisagar, Sabroom, and Jirania

The towns of **Bishalgarh, Kamalpur, Sonamura, Santir Bazar, Panisagar, Sabroom, and Jirania** are emerging urban centers in Tripura that face unique challenges in wastewater management due to their geographical, infrastructural, and socio-economic constraints. The justification for implementing **in-situ nallah treatment** in these towns is outlined below:

---

1. Lack of Centralized Sewage Treatment Facilities

- Most of these towns lack adequate centralized sewage treatment infrastructure, leading to:
  - **Direct Discharge** of untreated wastewater into drains, rivers, and local water bodies.
  - Pollution of critical natural water resources, which are vital for irrigation, drinking, and domestic use.
- **In-situ nallah treatment** provides an immediate and cost-effective solution to mitigate this issue without requiring extensive infrastructure.

---

2. Prevention of Water Pollution

- **Major Water Sources at Risk**:
  - Towns like Sonamura, Panisagar, and Sabroom rely heavily on nearby rivers and streams for drinking water and agriculture. Untreated wastewater contaminates these sources, making them unfit for use.
  - Bishalgarh and Kamalpur have multiple small streams that serve as lifelines for surrounding rural areas.
- In-situ nallah treatment can reduce the pollutant load, ensuring better water quality for downstream users.

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3. Growing Urbanization and Wastewater Generation

- These towns are experiencing rapid urbanization and increased domestic and commercial wastewater generation due to population growth.
- In-situ nallah treatment can address the increasing wastewater loads without the need for large-scale construction projects.

---

4. Geographic and Topographic Constraints

- **Hilly Terrain and Limited Land Availability**:

    - Towns like Kamalpur and Panisagar have undulating terrains, which make laying centralized sewer networks difficult and expensive.
    - Urban areas have limited space for constructing centralized treatment plants.
- In-situ nallah treatment uses existing drain pathways, overcoming these geographical constraints effectively.

---

5. Environmental and Ecological Concerns

- The region's **fragile ecosystem** requires eco-friendly wastewater management practices.
    - Untreated wastewater leads to eutrophication, harming aquatic life in rivers and ponds.
    - Towns that are surrounded by forests and agricultural land, making untreated wastewater a significant ecological threat.
- In-situ treatment methods, such as phytoremediation and bioremediation, are natural and sustainable, reducing environmental impacts.

---

6. Public Health and Hygiene

- **Disease Outbreaks**:
    - Stagnant and polluted water in nallahs increases the prevalence of waterborne diseases like cholera, dysentery, and malaria.
    - Towns with high dependence on untreated water sources, are particularly vulnerable.
- In-situ nallah treatment improves water quality in urban areas, thereby reducing health risks for residents.

---

7. Flood Mitigation and Drain Management

- **Heavy Monsoons**:
    - Drains overflow during monsoons, carrying untreated wastewater into farmlands and settlements.
- In-situ treatment prevents drains from becoming sources of pollution during floods, reducing contamination risks in waterlogged areas.

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9. Economic and Feasibility Considerations

- **Cost Constraints**:
    - Developing centralized sewage infrastructure in smaller towns is often economically unviable.

- In-situ nallah treatment is economically feasible and provides immediate results with minimal investment.

---

10. Improving Urban Livability and Tourism

- **Enhancing Aesthetics**:
  - Polluted drains with foul odors and unsightly appearance negatively impact the quality of life in these towns.
  - Cleaner nallahs improve urban aesthetics and livability in towns which can have tourism potential.
- **Supporting Local Economies**:
  - Cleaner environments attract businesses and tourists, boosting local economies.

Conclusion

In-situ nallah treatment in these towns will provide a practical, sustainable, and cost-effective solution to address wastewater challenges, improve public health, protect water resources, and enhance the quality of life. By treating wastewater at the source, these towns can ensure environmental sustainability while aligning with national and global development goals.

Comparative statement for **Oxidation Pond**, **Sewage Treatment Plant (STP)**, and **In-Situ Nallah Treatment**, considering **cost**, **capacity**, and **performance**

1. Capital and Operational Costs

Parameter	Oxidation Pond	STP	In-Situ Nallah Treatment
Capital Cost in	Low to Moderate: ₹2.71 crore (2520m^2 area)	High: ₹ 4.5-5.5 crore/MLD	₹65.3Lakh /drain (~70-100m each drain in 8 towns with 2.06km total length)
Operational Cost	Very Low ₹0.5-1 lakh/year	High ₹15-20 lakh/year	Negligible ₹1-2 lakh/year
Energy Cost	None or Minimal as it relies on natural processes	High Energy-intensive aeration systems	Minimal Primarily natural processes

2. Capacity Handling

Parameter	Oxidation Pond	STP	In-Situ Nallah Treatment
Optimal Capacity	Small to Medium: Up to 510 MLD	Medium to Large: Scalable to 500+ MLD	Localized: Effective for drains <10-50 MLD of a drain
Scalability	Land constraints limit capacity	Modular systems available	Easily Scalable: Add more segments along drains
Overloading Impact	Reduced Efficiency: Retention time decreases	Risk of Failure: Systems may fail under load	Adaptable: Handles fluctuating wastewater loads

3. Performance

Parameter	Oxidation Pond	STP	In-Situ Nallah Treatment
Pollutant Removal Efficiency	BOD 70-80%, COD50-60%	BOD 85-95%, COD 8090%	BOD 80-95%, COD 80-95%
Sludge Generation	Natural degradation of organic matter	Requires regular sludge management	None or Minimal: Pollutants are broken down
Pathogen Removal	Moderate: Relies on sunlight and long retention	High: Advanced tertiary treatments available	Moderate: Effectiveness depends on bioremediation techniques
Resilience to Flooding	Overflow leads to untreated discharge	May overflow during heavy rains	Integrates with natural drainage

4. Environmental Impact

Parameter	Oxidation Pond	STP	In-Situ Nallah Treatment
Carbon Footprint	Natural processes dominate	Energy-intensive processes	Natural processes and passive systems
Land Use Impact	Requires large areas, affecting ecosystems	Relatively compact but still impacts	No additional land use
Sustainability	Minimal external inputs required	Energy and chemical-dependent	Eco-friendly and promotes natural systems

5. Applicability and Limitations

Parameter	Oxidation Pond	STP	In-Situ Nallah Treatment
Applicability	Rural/semi-urban areas with ample land	Urban areas with high wastewater volumes	Urban/semi-urban areas with polluted drains
Space Availability	Requires large, open spaces	Requires dedicated land for facility	No additional land needed; uses existing drains
Implementation Time	Moderate: 1-2 years	High: 2-3 years for design and construction	Fast: Weeks to months
Maintenance Needs	Low: Periodic desludging	High: Requires skilled operators and chemicals	Minimal: Basic monitoring and minor adjustments

6. Name of Agency, Agreement Value & Agreement No.

Name of Work	Name of Agency	Agreement Value	Agreement No.
DBO for used water management including STP in Udaipur, Belonia and Melaghar towns (3 towns). Cluster-2 (2nd Call).	M/S Hydrotech Paryavaran India (P) Limited.	**₹23,84,57,036.50**	06/EE/TUDA/2023-24
DBO for used water management including STP in Dharmanagar, Kailasahar and Kumarghat towns (3 towns). Cluster-3 (2nd call)	M/S ACE Alliance (P) Limited & M/S S.R. Paryavran Engineers Pvt. Ltd.	**₹25,18,62,500.00**	12/EE/TUDA/2023-24
DBO for used water management including STP in Ambassa, Khowai & Teliamura towns (3 towns).Cluster-4 (2nd call) File No :- F.3(69)-TUDA/PROJECT/2023	M/S ACE Alliance (P) Limited & M/S S.R. Paryavran Engineers Pvt. Ltd.	**₹23,55,56,617.00**	13/EE/TUDA/2023-24
DBO for used water management including STP in Ranirbazar & Mohanpur towns (2 towns). Cluster-1.	M/S SAINATH ENVIROTECH	**₹15,56,17,500.00**	07/EE/TUDA/2023-24

	REFERNCES	
	FOR POND	• Punjab Pollution Control Board — REPORT OF TECHNICAL COMMITTEE FOR TREATMENT OF WASTEWATER IN VILLAGES (ppcb.punjab.gov.in)
		• Butler, E., Hung, Y. T., Suleiman Al Ahmad, M., Yeh, R. Y. L., Liu, R. L. H., & Fu, Y. P. (2017). Oxidation pond for municipal wastewater treatment. *Applied Water Science*, *7*, 31-51.
		• Punjab Pollution Control Board — Thapar model technology for liquid waste management in Dhianpur – Water, Sanitation and Hygiene (dwsspunjab.wordpress.com)
	FOR DRAIN	In-Situ Bioremediation for Treatment of Sewage Carrying Drains Joining River Ganga - Performance Evaluation of Technologies and Development of Guidelines and Protocols report (https://cpcb.nic.in/ngrba/aboutprojectinsitu.pdf)
		https://cdn.cseindia.org/attachments/0.54258900_1597398991_phytorid-and-reneu-for-decentralized-wastewater-treatment-by-dr-rakesh-kumar,-csir-neeri.pdf
		AG Bio Remediation LLP , Delhi bioremediated the Tuglakabad drain of ~60MLD and successfully completed a project in Delhi under the aegis of National Mission for Clean Ganga with ~95% reduction in BoD, and ~90% reduction in CoD (CPCB reports attached SI.No. 21)

DELHI POLLUTION CONTROL COMMITTEE
WATER LABORATORY
4th FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI-06
visit us at : http://dpcc.delhigovt.nic.in

WATER QUALITY STATUS OF DRAIN

REPORT NO: DPCC/W/D/22-23/ 4747 Dated: 09/05/2022
Date of Sampling: -04.04.2022

S.No.	Name of Sample	pH	TSS (mg/l)	COD (mg/l)	BOD (mg/l)	Discharge (m^3/sec)
	Standards	5.5- 9.0	100	250	30	
1.	Najafgarh Drain	7.41	176	352	80	30.33
2.	Metcalf House Drain	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW
3.	Khyber Pass Drain	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW
4.	Sweeper Colony Drain	7.69	160	272	78	OVER FLOW
5.	Magazine Road Drain	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW
6.	ISBT Drain	6.96	152	256	68	0.50
7.	Tonga Stand Drain	7.58	62	165	40	0.62
8.	Civil Mill Drain	7.86	128	224	60	0.07
9.	Sen Nursing Home Drain	7.11	156	336	73	0.35
10.	Drain No. 14	7.06	48	136	30	0.13
11.	Power House Drain	7.59	172	288	75	1.38
12.	Indrapuri Drain	7.30	136	304	85	0.16
13.	Sonia Vihar Drain	7.46	216	400	80	1.33
14.	Kailash Nagar Drain	7.91	208	368	86	0.01
15.	Shastri Park Drain	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW
16.	Barapulla Drain	7.62	120	346	66	2.16
17.	Maharani Bagh Drain	6.91	88	213	56	2.33
18.	Old Agra Canal Drain	7.20	132	266	62	0.18
19.	Jaitpur Drain	7.41	82	192	44	0.50
20.	Sarita Vihar Pool	7.45	92	208	52	2.16
21.	Tuglakabad Drain	7.25	24	74	14	0.68
22.	Drain Near LPG Bottling Plant	3.81	60	200	38	0.27
23.	Drain Near Sarita Vihar Bridge (Mathura road)	NO FLOW	NO FLOW	NO FLOW	NO FLOW	NO FLOW
24.	Shahdara Drain	7.48	144	360	93	5.20
25.	Sahibabad Drain	7.69	140	320	90	0.53
26.	Molarband Drain	7.52	100	272	64	0.34
27.	Abul Fazal Drain	7.61	124	293	70	0.23

I/C Water Lab
Scientist 'C'

https://pib.gov.in/Pressreleaseshare.aspx?PRID=1777268

FOR STP

https://www.niti.gov.in/sites/default/files/2022-09/Waste-Water-A4_20092022.pdf

ANNEXURE-13

Work Order of In-situ Nalla Treatment of 8 ULBs

TRIPURA URBAN PLANNING AND DEVELOPMENT AUTHORITY (TUDA)
(Directorate of Urban Development)
Shakuntala Road, Near Rabindra Bhawan
Agartala, Tripura (W), PIN Code: 799001
Telephone No: 0381-2320301(O), Email: tuda.upg@gmail.com

No. F. 3(57)-TUDA/PROJECT/2023/P-II / 2131 – 36 **Dated, 7th August, 2023**

"Letter For Commencement of Work"

To
M/s AG Bio Water Remediation LLP-AKCCPL (Consortium),
Corporate office: 11-C, Prithviraj Road, New Delhi-110011

Subject: In-situ Nallah Treatment of Waste-water by Proven Technology under Phytoremediation/ Bioremediation method on Design, Built and Operate (DBO) basis and Post Completion Operation & Maintenance for 05 (Five) Years including Defects Liability Period of 01 (One) Year for Sabroom, Panisagar, Sonamura, Santirbazar, Jirania, Amarpur, Kamalpur and Bishalgarh Towns (Eight towns in total) in Tripura.

Reference:

(i) DNIcT No: 05/EE/TUDA/2022-23 dated, 09.01.2023.
(ii) Performance Guarantee submitted by you vide No. 080401000000127 dt 28.06.2023 for the above work.
(iii) This office Letter of Acceptance (LOA) of your tender **no. F. 3(57)-TUDA/PROJECT/2023/P-II/1020-42 dated 26/07/2023**

Dear Sir

You are requested to contact with the **Assistant Engineer** (Er. Sukumar Debbarma) **Tripura Urban Planning and Development Authority (TUDA)** for taking possession of work site and starting the work at once.

In continuation to the letters referred to above, you are requested to attend this office to **complete the formal agreement** within **15 days** from the date of issue of this letter.

Yours faithfully,

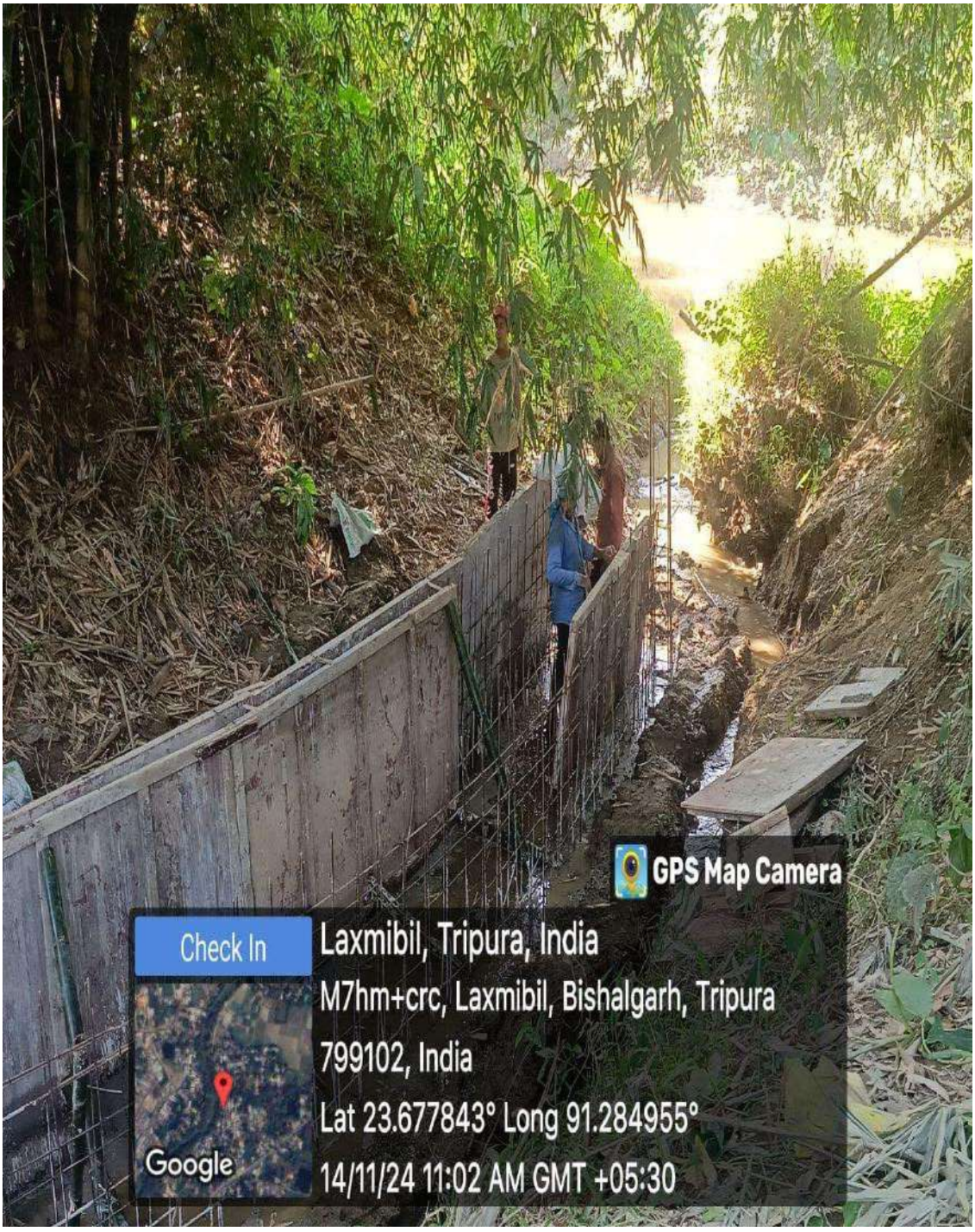
07/08/23

(Er. Natya Kumar Jamatia)
Executive Engineer, TUDA

Copy to:

1. The Commissioner, TUDA for kind information.
2. The Chief Engineer, Urban Development Dept. for kind information.
3. The Chief Planner, TUDA for kind information.
4. Dr. S. Debbarma, AE, TUDA for information and necessary action.
5. Er. R. Debbarma, JE, TUDA for information and necessary action.

Construction progress of In-situ Nalla at various Location in 8 ULBs

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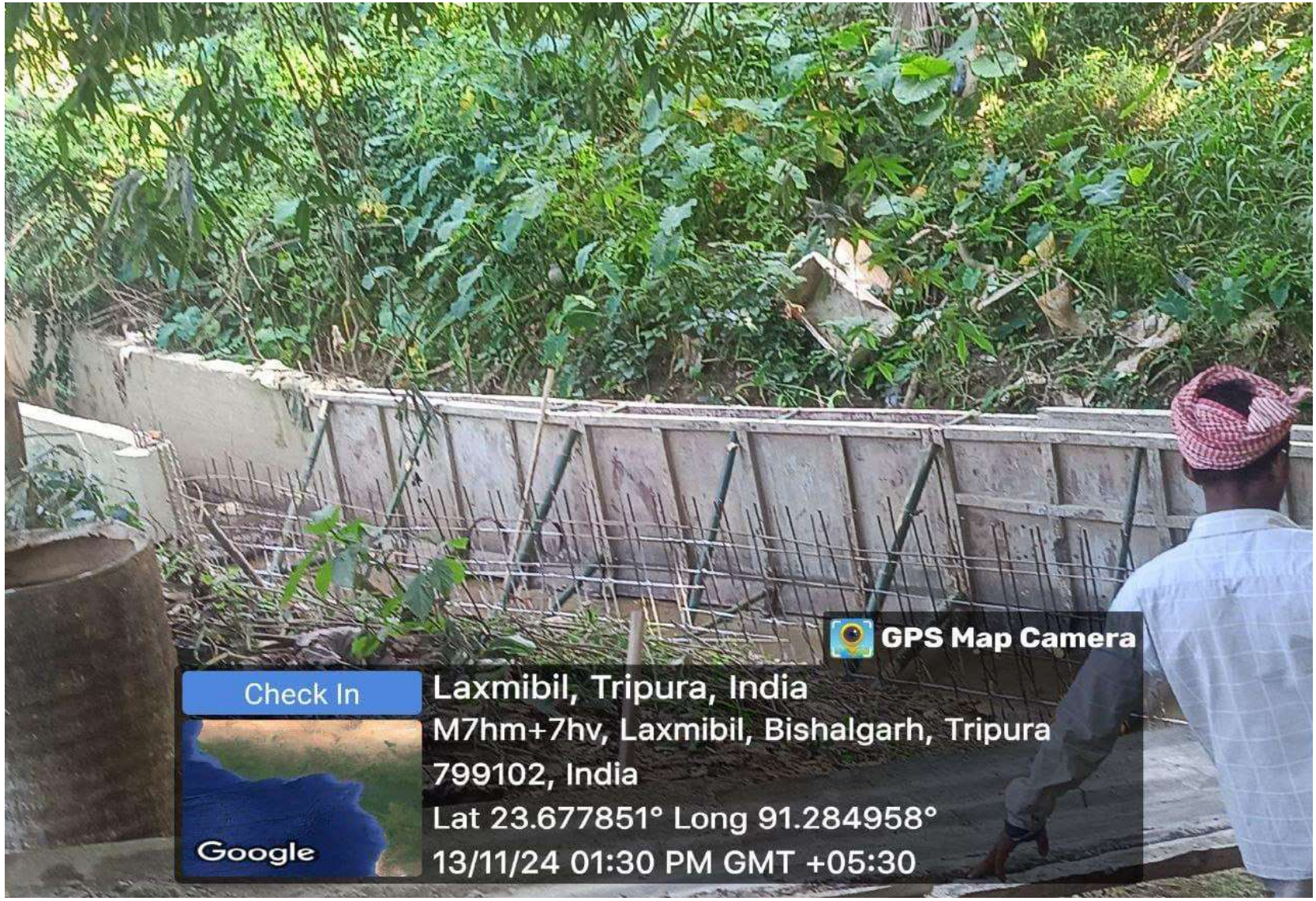
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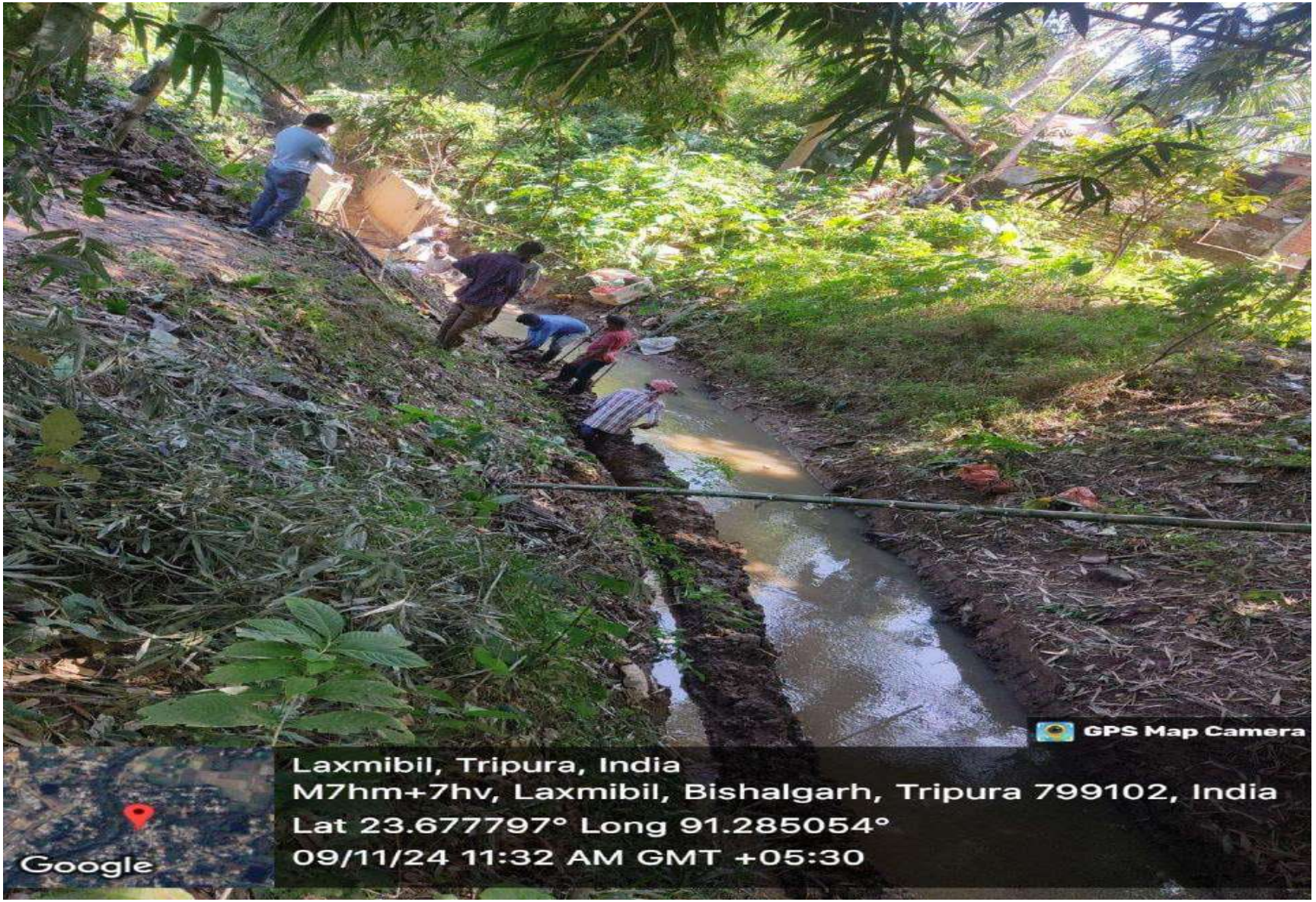
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Google


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04/09/24 05:07 PM GMT +05:30
Google


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Bishalgarh, Tripura, India
M79J+4X4, Bishalgarh, Brajapur, Tripura 799102, India
Lat 23.667454°
Long 91.281713°
27/08/24 10:45 AM GMT +05:30
Google


07/09/2024 10:10


GPS Map Camera
Bishalgarh, Tripura, India
M7GP+M25, Bishalgarh, Tripura 799102, India
Lat 23.67786°
Long 91.2855°
14/08/24 11:04 AM GMT +05:30
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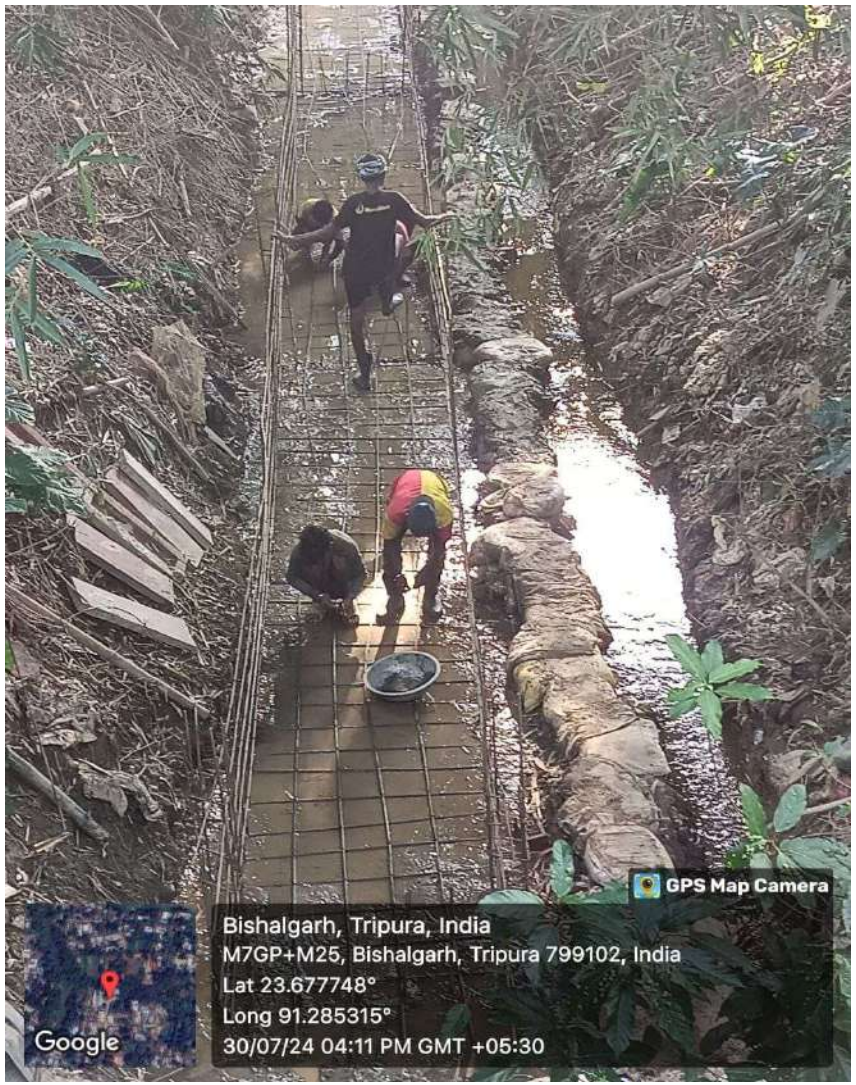
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Long 91.285315°
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Google


GPS Map Camera
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GPS Map Camera
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M7GP+M25, Bishalgarh, Tripura 799102, India
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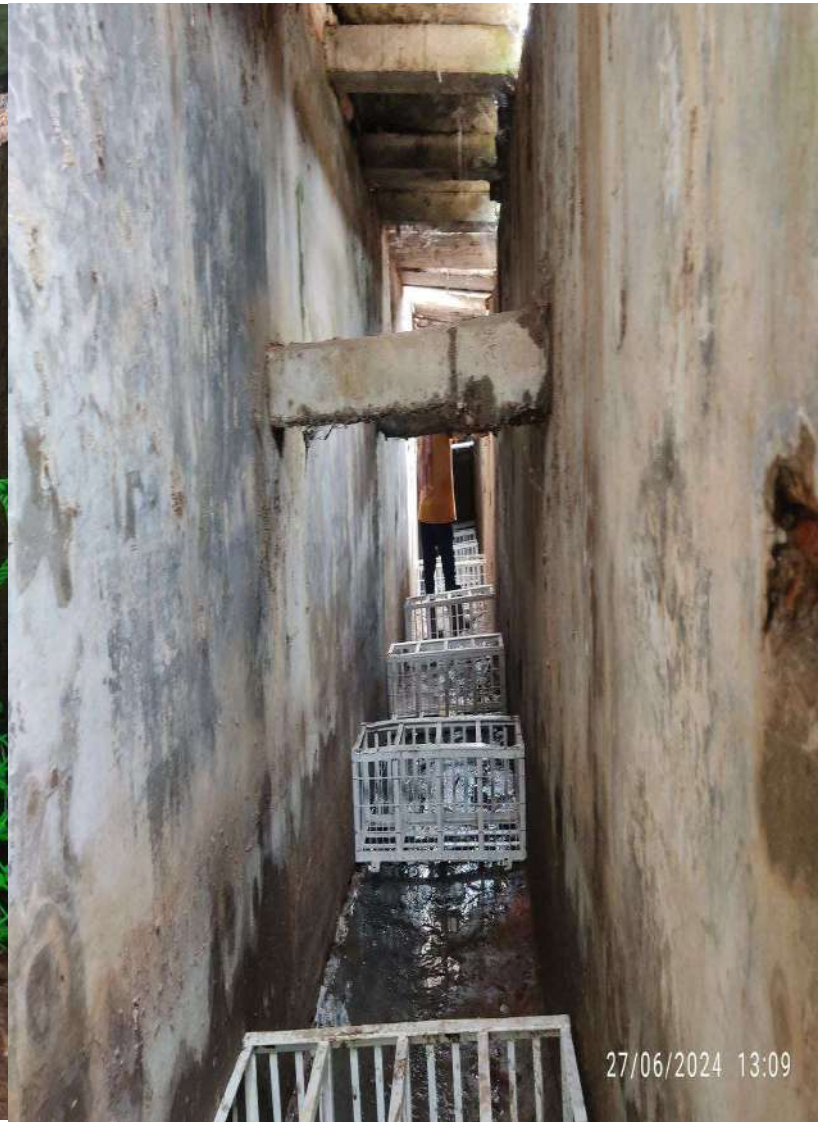
Long 91.285367°
15/08/24 10:48 AM GMT +05:30


26/06/2024 11:37


27/06/2024 13:09

ANNEXURE-14

Augmentation work of 5 MLD through interception and diversion for capacity enhancement of existing 8 MLD STP at Chandinamura, Agartala

AGARTALA SMART CITY LIMITED
(CIN: U74999TR2016SGC013499)
SHAKUNTALA ROAD, U. D. BHABAN, 1ST FLOOR,
AGARTALA, WEST TRIPURA- 799 001

No. F.4 (131)/ ASCL/2022/ 15395-15404 **Dated 06.02.2024**

Letter of Award

To
M/s. D. P. Construction
140, Motor Stand Road
Agartala – 799 001, West Tripura
Ph. +91 94361 29461
E-mail: dpconstruction108@gmail.com

Kind Attn.: Mr. Dipak Paul

Sub: Letter of Award for the work of Design, Supply, Transportation, Construction, Installation, Testing and Commissioning of Augmentation of 5 MLD STP at Chandinamura, Agartala by Providing Additional Sewage Pumping Station in EPC Mode and Post Completion Operation & Maintenance for 03 (Three) Years Including Defects Liability Period Year of (01) One Year.

Ref: Tender Id No. 2023_CEO_44245_1 & Nic-T No. ASCL /RFP/2023/61

Sir,

With reference to the above, Agartala Smart City Limited is pleased to inform that the rates offered by you, i.e., **Rs. 4,42,76,618.00** (Rupees Four Crore Forty-Two Lakh Seventy-Six Thousand and Six Hundred Eighteen only) inclusive of applicable taxes and duties, till the completion of the project for the above-mentioned work has been accepted by this office.

You are requested to start the work at once and kindly note that the date of commencement of work will be reckoned after 07 (seven) days from the date of issue of this Letter of Award.

Further, you are requested to attend this office along with **Rs. 500/- stamp paper** to execute the agreement on or before 15 (fifteen) days from the date of issue of this Letter of Award.

(Dr. Shailesh Kr. Yadav, IAS)
Mission Director & Chief Executive Officer
Agartala Smart City Limited

Copy to:

1. P.S to Secretary, UD Department for kind information of The Secretary (Chairman, Agartala Smart City Limited).
2. The Municipal Commissioner, Agartala Municipal Corporation for kind information.

Recieved by
Bhaskar Ghosh
06.02.2024.


KOMATSU


KOMATSU

ANALYTICAL RESULTS OF TREATED WASTE WATER SAMPLES COLLECTED FROM SEWAGE TREATEMENT PLANT (8MLD) OF AMC, BHUBANBAN, TRIPURA (W)

June, 24						July, 24						August, 24					
pH	Total Suspended Solid (TSS)	Biochemical Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)	Oil & Grease	Faecal Coliform	pH	Total Suspended Solid (TSS)	Biochemical Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)	Oil & Grease	Faecal Coliform	pH	Total Suspended Solid (TSS)	Biochemical Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)	Oil & Grease	Faecal Coliform
6.93	64	24	232	6	170	6.89	52	21	232	5	150	6.95	68	28	232	5	350

September, 24						October, 24					
pH	Total Suspended Solid (TSS)	Biochemical Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)	Oil & Grease	Faecal Coliform	PH	Total Suspended Solid (TSS)	Biochemical Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)	Oil & Grease	Faecal Coliform
6.81	32	9	114	4	240	6.93	30	8	96	4	210

A. Materials and Methods

Treated waste water samples from **SEWAGE TREATEMENT PLANT OF AMC, (8 MLD) BHUBANBAN, TRIPURA WEST** were collected by the TSPCB official (Lab. Div.) for the analysis of different physical & chemical parameters. The samples were analyzed in the laboratory of TSPCB using the standard methods given in **APHA, 2012** (*American Public Health Association*).

B. Analytical Outcome

From the analytical results, it has been observed that, all the analyzed parameters of the treated waste water sample of the said unit are within the prescribed standards limit of CPCB (Central Pollution Control Board) for disposal into Surface water.

Gautam Ghosh 16/11/24
(Gautam Ghosh)
JS, TSPCB
(GAUTAM GHOSH)
Junior Scientist,
TSPCB, Agartala.

16/11/24
(Dr. Rajib Paul)
JSA, TSPCB
(Dr. RAJIB PAUL)
Junior Scientific Assistant,
TSPCB, Agartala.

Ratan Debnath 16/11/24.
(Ratan Debnath)
SLA, TSPCB
(RATAN DEBNATH)
Senior Laboratory Assistant,
TSPCB, Agartala.

1560

Annexure-15 123

AGARTALA SMART CITY LIMITED

(CIN: U74999TR2016SGC013499)

UD BHAWAN 1ST FLOOR, SAKUNTALA ROAD, AGARTALA, WEST TRIPURA- 799001

No .F.4 (34)/ASCL/2018/ 18458-61

Date: 01.07.2024

To

The Team Leader
Project Management Consultant
Agartala, Tripura

The Project Manager
Haora Riverfront Development Project
Project Management Consultant
Agartala, Tripura

Name of Work: Waste Water treatment Through In-situ Nallah Treatment by Proven Technology under Phytoremediation/Bioremediation Method on Design, Built and Operate (DBO) Basis and Post Completion Operation & Maintenance for 05 (Five) years including Defects Liability Period of 01 (one) Year.

Name of Agency: M/S Bint Biotech

Subject: Examination of Water Sample

Ref.: **Letter No.: Nil, Date: 19/01/2024.**

Sir,

As directed by the authority you are requested to examine the attached documents and comment on it.

Yours faithfully

1/7/24

Project In-Charge, CITIIS
Agartala Smart City Limited
Agartala, Tripura

Enclose: As stated

Copy to

1. The Chief Executive Officer, ASCL for his kind information please.
2. The Executive Engineer, ASCL Agartala for information.

1/7/24

Project In-Charge, CITIIS
Agartala Smart City Limited
Agartala, Tripura

file
Miscellaneous

Hoke
It. Review and revert.
05-07-2024

AGARTALA SMART CITY LIMITED
(CIN: U74999TR2016SGC013499)
1st FLOOR,UD BHAWAN,SHAKUNTALA ROAD
AGARTALA, WEST TRIPURA- 799001

No: F.4(12)/ASCL/2018/

Date: 01/ 07 /2024

To
The Team Leader
(PMC)TCEL,
Agartala Smart City Limited

Sub :-Application form for outlining another in Dimsagar new Park under ward no.19,AMC

Sir,

Regarding above cited matter, a letter has been received by this office which will speak itself. So it is forwarding for your comments to get the best solution of it.

This is for your information & necessary action please.

Enclo :enclosed the letter.

Yours faithfully

Debbarma 01/07/2024
(Er.S.Debbarma)
(Executive Engineer)
Agartala Smart City Limited

Copy to

1) The Chief Executive Officer, ASCL for kind information.
2) P.K.DEB(P.E) civil, ASCL for kind information.
3) C.DEBSHARMA (JE) civil , ASCL for kind information.

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

Issued : To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Date:19.01.2024

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.II, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

For, Ramkrishna Testing Laboratory & Consultancy

Proprietor

Ramkrishna Testing

Laboratory & Consultancy

ISO9001:2015 certified

Lake Road, Haradhan Sangha, Krishnanagar, Agartala, Tripura (W), Pin-799001
PHONE : 0381-232 4737, MOBILE : +91 9436129198, E-MAIL : dr.rti@rediffmail.com, rupadatta56@gmail.com

Dated,Agartala,the 19.01.2024

REPORT OF WATER SAMPLE

Source of Sample :- Purified Water (Drain No –2)

Date of receipt:- 16.01.2024
Date of test:-17.01.2024 onwards

1. B.O.D.in mg/l on 16.01.2024 :-27 (incubation at 20° C for 5 days)
2. C.O.D.in mg /l on 17.01.2024 :-73
3. TSS in mg/l :-3.9
4. Total Nitrogen in mg/l :-2.28
5. Ammonia Nitrogen in mg/l :-1.05
6. Oil & Grease in mg/l :-4.13
7. pH :-5.83

Analysed

Dated,Agartala,the 22.01.2024

REPORT OF WATER SAMPLE

ource of Sample :- Purified Water (Drain No –3)

ate of receipt:- 15.01.2024
ate of test:-16.01.2024 onwards

1. B.O.D.in mg/l on 15.01.2024 :-23 (incubation at 20° C for 5 days)
2. C.O.D.in mg /l on 16.01.2024 :-68
3. TSS in mg/l :-3.5
4. Total Nitrogen in mg/l :-2.12
5. Ammonia Nitrogen in mg/l :-1.18
6. Oil & Grease in mg/l :-3.29
7. pH :-5.64

Analysed

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

Issued : To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Date:24.01.2024

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.IV, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

RAMKRISHNA TESTING LABORATORY & CONSULTANCY
All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

Issued : To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Date:25.01.2024

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.V, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

: To

Date:09.02.2024

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

ct :Testing of Water sample (Purified Water)

e of sample :Drain No.II, near Office Incubation Center

of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe le mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

Dated, Agartala, the 09.02.2024

REPORT OF WATER SAMPLE

ce of Sample :- Purified Water (Drain No –2)

e of receipt:- 05.02.2024
e of test:-06.02.2024 onwards

1. B.O.D.in mg/l on 05.02.2024 :-23 (incubation at 20° C for 5 days)
2. C.O.D.in mg /l on 06.02.2024 :-79
3. TSS in mg/l :-4.4
4. Total Nitrogen in mg/l :-2.36
5. Ammonia Nitrogen in mg/l :-1.20
6. Oil & Grease in mg/l :-2.67
7. pH :-6.48

Analysed

PARIKSHA TESTING LABORATORY & CONSULTANCY AGARTALA

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

: To

Date:15.02.2024

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

bject :Testing of Water sample (Purified Water)

rce of sample :Drain No.III, near Office Incubation Center

t of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

ear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe ove mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

ISO9001:2015 certified

Lake Road, Haradhan Sangha, Krishnanagar, Agartala, Tripura (W), Pin-799001
PHONE : 0381-232 4737, MOBILE : +91 9436129198, E-MAIL : dr.rtl@rediffmail.com, rupadatta56@gmail.com

Dated,Agartala,the 15.02.2024

REPORT OF WATER SAMPLE

of Sample :- Purified Water (Drain No –3)

receipt:- 09.02.2024
test:-10.02.2024 onwards

B.O.D.in mg/l on 09.02.2024 :-21 (incubation at 20° C for 5 days)
C.O.D.in mg /l on 10.02.2024 :-74
. TSS in mg/l :-4.8
. Total Nitrogen in mg/l :-2.19
2. Ammonia Nitrogen in mg/l :-1.23
3. Oil & Grease in mg/l :-3.10
4. pH :-6.36

Analysed

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

ited : To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Date:20.02.2024

ubject :Testing of Water sample (Purified Water)

ource of sample :Drain No.IV, near Office Incubation Center

est of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe bove mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

ward : To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Date:24.02.2024

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.V, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Date:11.03.2024

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.II, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

RAMKRISHNA TESTING LABORATORY & CONSULTANCY
All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

Date.15.03.2024

To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

bject :Testing of Water sample (Purified Water)

urce of sample :Drain No.III, near Office Incubation Center

st of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

Thanking you,

For,

Ramkrishna Testing

Laboratory & Consultancy

REPORT OF WATER SAMPLE

Dated,Agartala,the 15.03.2024

Source of Sample :- Purified Water (Drain No –3)

Date of receipt:- 11.03.2024
Date of test:-12.03.2024 onwards

8. B.O.D.in mg/l on 11.03.2024 :-23 (incubation at 20° C for 5 days)
9. C.O.D.in mg /l on 12.03.2024 :-72
10. TSS in mg/l :-4.68
11. Total Nitrogen in mg/l :-2.37
12. Ammonia Nitrogen in mg/l :-1.05
13. Oil & Grease in mg/l :-2.45
14. pH :-6.74

Analysed

Dated,Agartala,the 21.03.2024

REPORT OF WATER SAMPLE

Source of Sample :- Purified Water (Drain No –4)

Date of receipt:- 18.03.2024
Date of test:-19.03.2024 onwards

15. B.O.D.in mg/l on 18.03.2024 :-25 (incubation at 20° C for 5 days)
16. C.O.D.in mg /l on 19.03.2024 :-77
17. TSS in mg/l :-4.61
18. Total Nitrogen in mg/l :-2.48
19. Ammonia Nitrogen in mg/l :-1.19
20. Oil & Grease in mg/l :-3.12
21. pH :-6.85

Analysed

TRIPURA TESTING LABORATORY & CONSULTANCY AGARTALA

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

Issued : To

Date:23.03.2024

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.V, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

Dated,Agartala,the 23.03.2024

REPORT OF WATER SAMPLE

Source of Sample :- Purified Water (Drain No –5)

Date of receipt:- 20.03.2024
Date of test:-21.03.2024 onwards

22. B.O.D.in mg/l on 20.03.2024 :-24 (incubation at 20° C for 5 days)
23. C.O.D.in mg /l on 21.03.2024 :-79
24. TSS in mg/l :-4.73
25. Total Nitrogen in mg/l :-2.26
26. Ammonia Nitrogen in mg/l :-1.07
27. Oil & Grease in mg/l :-2.87
28. pH :-7.19

Analysed

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

ssued : To

Date:08.04.2024

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.II, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Yours Sincerely

Thanking you,

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

Date:15.04.2024

ued : To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.III, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

Thanking you,

For,

Ramkrishna Testing

Laboratory & Consultancy

Lake Road, Haradhan Sangha, Krishnanagar, Agartala, Tripura (W), Pin-799001
PH : 91 9436129198, E-MAIL : dr.rtl@rediffmail.com, rupadatta56@gmail.com

Dated,Agartala,the 15.04.2024

REPORT OF WATER SAMPLE

of Sample :- Purified Water (Drain No –3)

receipt:- 10.04.2024
f test:-11.04.2024 onwards

B.O.D.in mg/l on 10.04.2024 :-21 (incubation at 20° C for 5 days)
C.O.D.in mg /l on 11.04.2024 :-70
0. TSS in mg/l :-4.64
1. Total Nitrogen in mg/l :-2.26
2. Ammonia Nitrogen in mg/l :-1.12
3. Oil & Grease in mg/l :-2.63
14. pH :-6.78

Analysed

RAMKRISHNA TESTING LABORATORY & CONSULTANCY
All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

: To

Date:22.04.2024

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

ect :Testing of Water sample (Purified Water)

ce of sample :Drain No.IV, near Office Incubation Center

t of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

ar Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe ove mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

Dated,Agartala,the 22.04.2024

REPORT OF WATER SAMPLE

e of Sample :- Purified Water (Drain No –4)

of receipt:- 17.04.2024
of test:-18.04.2024 onwards

15. B.O.D.in mg/l on 17.04.2024 :-24 (incubation at 20° C for 5 days)
16. C.O.D.in mg/l on 18.04.2024 :-78
17. TSS in mg/l :-4.65
18. Total Nitrogen in mg/l :-2.38
19. Ammonia Nitrogen in mg/l :-1.04
20. Oil & Grease in mg/l :-2.97
21. pH :-6.68

Analysed

Dated,Agartala,the 22.04.2024

REPORT OF WATER SAMPLE

Source of Sample :- Purified Water (Drain No –4)

Date of receipt:- 17.04.2024
Date of test :-18.04.2024 onwards

15. B.O.D.in mg/l on 17.04.2024 :-24 (incubation at 20° C for 5 days)
16. C.O.D.in mg /l on 18.04.2024 :-78
17. TSS in mg/l :-4.65
18. Total Nitrogen in mg/l :-2.38
19. Ammonia Nitrogen in mg/l :-1.04
20. Oil & Grease in mg/l :-2.97
21. pH :-6.68

Analysed

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

ed : To

Date:29.04.2024

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

ject :Testing of Water sample (Purified Water)

urce of sample :Drain No.V, near Office Incubation Center

st of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

ar Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe ove mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

ISO9001:2015 certified

Lake Road, Haradhan Sangha, Krishnanagar, Agartala, Tripura (W), Pin-799001
PHONE : 0381-232 4737, MOBILE : +91 9436129198, E-MAIL : dr.rtl@rediffmail.com, rupadatta56@gmail.com

Dated,Agartala,the 29.04.2024

REPORT OF WATER SAMPLE

ce of Sample :- Purified Water (Drain No –5)

: of receipt:- 24.04.2024
e of test:- 25.04.2024 onwards

22. B.O.D.in mg/l on 24.04.2024 :-29 (incubation at 20° C for 5 days)
23. C.O.D.in mg /l on 25.04.2024 :-73
24. TSS in mg/l :-4.47
25. Total Nitrogen in mg/l :-2.16
26. Ammonia Nitrogen in mg/l :-1.03
27. Oil & Grease in mg/l :-2.33
28. pH :-6.86

Analysed

SHIVKRISHNA TESTING LABORATORY & CONSULTANCY AGARTALA

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

Issued : To

BINT BIOTECH (P)LTD

C4/4082,Vasant Kunj

New Dhelhi-110070

Date:06.05.2024

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.II, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

Dated,Agartala,the 06.05.2024

REPORT OF WATER SAMPLE

ce of Sample :- Purified Water (Drain No –2)

of receipt:- 02.05.2024
of test:-03.05.2024 onwards

1. B.O.D.in mg/l on 02.05.2024 :-23 (incubation at 20° C for 5 days)
2. C.O.D.in mg /l on 03.05.2024 :-71
3. TSS in mg/l :-4.53
4. Total Nitrogen in mg/l :-2.39
5. Ammonia Nitrogen in mg/l :-1.07
6. Oil & Grease in mg/l :-2.68
7. pH :-6.97

Analysed

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

ied : To

BINT BIOTECH (P)LTD

C1/4082,Vasant Kunj

New Dhelhi-110070

Date:13.05.2024

bject :Testing of Water sample (Purified Water)

urce of sample :Drain No.III, near Office Incubation Center

st of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

ear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe love mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

Dated,Agartala,the 13.05.2024

REPORT OF WATER SAMPLE

:e of Sample :- Purified Water (Drain No –3)

of receipt:- 9.05.2024
of test:-10.05.2024 onwards

. B.O.D.in mg/l on 9.05.2024 :-27 (incubation at 20° C for 5 days)
. C.O.D.in mg /l on 10.05.2024 :-74
0. TSS in mg/l :-4.47
1. Total Nitrogen in mg/l :-2.34
2. Ammonia Nitrogen in mg/l :-1.13
3. Oil & Grease in mg/l :-2.49
4. pH :-6.97

Analysed

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

All Civil Engineering Tests Concerning Construction of Building & Roads,
Topographical Survey, Soil Investigation, D.P.R. (Roads & Buildings)

Date:20.05.2024

INT BIOTECH (P)LTD

:4/4082,Vasant Kunj

New Dhelhi-110070

:Testing of Water sample (Purified Water)

f sample :Drain No.IV, near Office Incubation Center

Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe ıentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

9001:2015 certified

Lake Road, Haradhan Sangha, Krishnanagar, Agartala, Tripura (W), Pin-799001
PHONE : 0381-232 4737, MOBILE : +91 9436129198, E-MAIL : dr.rtl@rediffmail.com, rupadatta56@gmail.com

Dated,Agartala,the 20.05.2024

REPORT OF WATER SAMPLE

of Sample :- Purified Water (Drain No –4)

receipt:- 16.05.2024
test:-17.05.2024 onwards

. B.O.D.in mg/l on 16.05.2024 :-21 (incubation at 20° C for 5 days)
. C.O.D.in mg /l on 17.05.2024 :-69
. TSS in mg/l :-4.65
. Total Nitrogen in mg/l :-7.31
. Ammonia Nitrogen in mg/l :-1.04
. Oil & Grease in mg/l :-3.69
1. pH :-6.58

Analysed

RAMKRISHNA TESTING LABORATORY & CONSULTANCY

Tests Concerning Construction of Building & Roads,
Soil Investigation, D.P.R. (Roads & Buildings)

Issued to

Date:25.05.2024

New Delhi-110070

Subject :Testing of Water sample (Purified Water)

Source of sample :Drain No.V, near Office Incubation Center

Test of Parameter : BOD, COD,TSS, Total Nitrogen, Ammonia Nitrogen, Oil & Grease and PH.

Dear Sir,

With reference to the Subjects necessary test have been conducted on supplied Water Sample ogthe above mentioned Test at our laboratory and the test report are in one copy are enclosed herewith.

Thanking you,

Yours Sincerely

Ramkrishna Testing Laboratory & Consultancy

Proprietor

For,

Ramkrishna Testing

Laboratory & Consultancy

Dated,Agartala,the 25.05.2024

REPORT OF WATER SAMPLE

Source of Sample :- Purified Water (Drain No –5)

Date of receipt:- 21.05.2024
Date of test:-22.05.2024 onwards

22. B.O.D.in mg/l on 21.05.2024 :-26 (incubation at 20° C for 5 days)
23. C.O.D.in mg /l on 22.05.2024 :-71
24. TSS in mg/l :-4.68
25. Total Nitrogen in mg/l :-2.10
26. Ammonia Nitrogen in mg/l :-1.01
27. Oil & Grease in mg/l :-2.76
28. pH :-6.92

Analysed