

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE
ORIGINAL APPLICATION NO. 58 OF 2022

Aryavart Foundation

...Applicant

Versus

M/s RIA CETP Co-op Society Ltd. & Ors. ...Respondents

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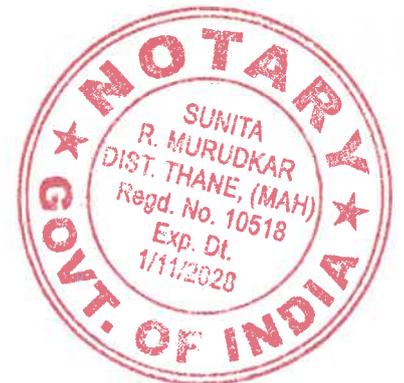
Versus

M/s RIA CETP Co. Op Society Ltd. & Ors. ...Respondents

**AFFIDAVIT IN REPLY ON BEHALF OF RESPONDENT NO. 7, i.e.,
HYDROAIR TECTONICS (PCD) LTD.:**

I, Harbhajan Singh, aged 79 years, Indian Inhabitant, having my office address at 501, Concorde Premises, Plot No 66A, Sector 11, C B D Belapur, Navi Mumbai-400614, Authorised Signatory of the Respondent No. 7, do solemnly state on oath and affirm as under:-

1. I am the Chairman of Respondent No. 7 and I have gone through the above Original Application (the "**Application**") and the documents filed along with the said Application by the Applicant. I am familiar with the facts of the case and am competent to depose to the facts in this Reply.
2. I am filing this Reply for the limited purpose of opposing the Original Application and the grant of any reliefs against Respondent No. 7 ("**answering Respondent**"). I crave leave of this Hon'ble Tribunal to file further affidavit(s), should the need arise.



3. At the outset, I deny all allegations, contentions and submissions made in the Application, which are contrary to or inconsistent with what is stated in this Reply. Further, I oppose the reliefs prayed for in the Original Application in so far as they pertain to Respondent No. 7. None of the allegations, contentions or submissions in the Original Application which have not been specifically dealt with or denied by me, should be deemed to be admitted. I clarify and submit that the averments made herein are in the alternative and without prejudice to one another.

Brief Background of Respondent No. 7

4. Hydroair Tectonics (PCD) Ltd., Respondent No. 7 is a project engineering company providing turnkey solutions to various types of industrial and domestic wastewater treatment, water recycle and solid waste management. Their expertise lies in common effluent treatment plans, effluent treatment plans, sewage treatment plans, biomedical waste management, etc and have provided solutions to over 200 customers covering wide spectrum of industries including Maharashtra State Electricity Board, Navi Mumbai Municipal Corporation, City & Industrial Development Corporation (“CIDCO”), Maharashtra Industrial Development Corporation (“MIDC”), National thermal Power Corporation, etc. The Chairman of the company, Mr. H. B. Singh,



the Authorised signatory herein, has also been awarded the Rashtriya Ratan Award from the Governor of Punjab for outstanding achievement in the field of environment.

5. On 14th September 2018, Respondent No. 6 and 7 executed a Deed of Partnership to form a Joint Venture for the purpose of execution of 'Design, Build and Commissioning including Rehabilitation and Upgrade of 22.5 MLD Common Effluent Treatment Plant (CETP) on DB basis with Operation & Maintenance at Roha Industrial Area.' under the aegis of MIDC, the Respondent No. 4 herein. Hereto annexed and marked as "Annexure-1" is a copy of the Joint Venture Agreement dated 14th September 2018 executed between the Respondent Nos. 6 and 7.

PRELIMINARY OBJECTIONS:

6. At the further outset, I submit that the captioned Original Application is liable to be dismissed with costs, *inter alia*, on the following grounds, which are without prejudice to each other:

Limitation

7. The captioned Original Application has been filed under Sections 14, 15 and 17 of the National Green Tribunal Act, 2010 ("**NGT Act**"). Sub-section (3) of Section 14 of the NGT Act expressly states that no application for adjudication of dispute under this section shall be entertained by the Hon'ble Tribunal unless it is made within a period of



six months from the date on which cause of action for such dispute first arose. The proviso to sub-section (3) of Section 14 of the NGT Act states that this Hon'ble Tribunal may, if it is satisfied that the applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding sixty days. The Respondent No. 7 submits that this Hon'ble Tribunal ought not to entertain the captioned original application and the same deserves to be dismissed at the very threshold on the sole ground of limitation. The National Green Tribunal is a creation of the NGT Act. The NGT Act prescribes strict timelines under Section 14. It is humbly submitted that this Hon'ble Tribunal is bound by the NGT Act.

8. Under the NGT Act, 2010 two different regimes and periods of limitation are provided for invoking the jurisdiction of this Hon'ble Tribunal. Under Section 14 of the NGT Act, this Hon'ble Tribunal has jurisdiction to resolve all civil cases where substantial question relating to environment is involved. The limitation period for Section 14 is 6 months from the date when the cause of action for such dispute '*first arose*', which is extendable by a period of 60 days on sufficient cause being shown. Further, under Section 15, this Hon'ble Tribunal has jurisdiction to provide relief and compensation to the victims of pollution, restitution of property of victims and restitution of



environment. The limitation period for Section 15 is 5 years from the date when the cause of action for such dispute 'first arose', which is extendable by a period of 60 days on sufficient cause being shown.

9. That the use of the words '*first arose*' as distinct from '*continuous cause of action*'; or '*recurring cause of action*' or '*successive cause of action*' in Section 14 as well as Section 15 of the NGT Act are not only indicators of unambiguous legislative intent and scheme expressed in plain words, but also statutorily and mandatorily fix the starting point of period of limitation. These words no doubt relate to the earliest point of time of inception of cause of action. The interpretation is further reinforced by the use of the words '*from the date*' which again would apply that there is a definite occurrence of cause of action.

10. The cause of action on the basis of which the present application has been filed has been attributed to purported violations of the consolidated consent to operate granted to Respondent No. 1 dated 1st March 2018. The Applicant has heavily relied on Inspection Reports, analysis reports starting from the year 2020 to show the purported violations of the consent to operate as well as environmental laws and norms. Therefore, the cause of action first arose for any concerned party to file an application under Section 14 of NGT Act in the year 2020 and the present Original Application ought to have been filed within a period



not exceeding sixty days, as stipulated in sub-section (3) of Section 14 of NGT Act and the proviso thereto. However, the captioned application was only filed on 24th May 2022, which is *ex facie* beyond the period of limitation stipulated in sub-section (3) of Section 14 of the NGT Act and the proviso thereto. In the instance case, there is admittedly no condonation application filed by the original applicant in spite of the original application being filed beyond the period of limitation as prescribed by the NGT Act.

11. The Applicant has stated that the information/records/documents have been obtained by the Applicant under the Right to Information Act, 2005 (“RTI Act”) on 9th March 2022. However, knowledge and making of RTI applications to gather information does not constitute as a valid ground for cause of action. This view has been consistently taken by this Hon’ble Tribunal in several cases which will be cited at the time of arguments. Therefore, the Respondent No. 7 states that the captioned original application is filed beyond the period as prescribed under the NGT Act and deserves to be dismissed.

Person Aggrieved / Credentials of the Applicant

12. Respondent No. 7 submits that this Hon’ble Tribunal ought not to entertain the captioned Original Application as it is devoid of locus standi necessary to invoke the jurisdiction of this Hon’ble Tribunal. A



bare perusal of the cause title as well as the averments made in the captioned Original Application shows that the Applicant is an organisation based in the state of Gujarat while the alleged violations have been carried out in Raigad district in the state of Maharashtra. It is submitted that this Hon'ble Tribunal ought to look into the credentials of the Applicant who files any proceedings before this Hon'ble Tribunal.

13. It is well settled that when the credentials and *bonafides* of litigants are raised and when entertaining the grievance of such litigants which is likely to adversely affect the rights of many, the Hon'ble Tribunal must ensure the *bonafides* and credentials of such litigants at the first instance. It is evident that the Applicant has filed the present proceedings at the behest of persons with vested interest and thus, is not a *bonafide* litigation. Therefore, on this ground alone, the Original Application ought to be dismissed.

Violation of principles of natural justice

14. Respondent No. 7 submits that this Hon'ble Tribunal *vide* Order dated 6th July 2022 constituted a committee consisting of one representative from MoEF & CC, one representative from CPCB and one representative of MPCB to look into the violations alleged in the present original application and to submit a factual and action taken report. Respondent Nos. 6 and 7 were not made party-Respondents to the



present original application when the Order dated 6th July 2022 was passed. The Joint Committee in October 2022 submitted a report to this Hon'ble Tribunal stating the factual position of the violations alleged in the present application. Thereafter, the Hon'ble Tribunal *vide* Order dated 31st March 2023 ordered that the Joint Committee ought to submit an additional report as the Joint Committee Report was vague. Accordingly, an Additional Report was submitted by the Joint Committee in July 2023. The additional report submitted by the Joint Committee for the very first time imposed environmental compensation on Respondent Nos. 6 and 7 for the alleged violations caused by the Respondent Nos. 6 and 7 to the tune of Rs. 5.6 crores without giving any cogent reasons for the same. While considering the application for the first time, Respondent Nos. 6 and 7 were not even made parties to the present original application nor were they served with a copy of the said application. Therefore, the order of this Hon'ble Tribunal constituting a committee was issued without notice or appearance of Respondent Nos. 6 and 7. No opportunity of hearing was accorded to Respondent No.7 before the Joint Committee was constituted. It is submitted that under Section 19 of the NGT Act, 2010, it was necessary that Respondent Nos. 6 and 7 should have been heard before issuance of any such order by this Hon'ble Tribunal. Therefore, the order dated 6th July 2022 and 31st



March 2023 needs to be recalled as it is violative of principles of natural justice as required under Section 19 of NGT Act, 2010.

No Cause of Action as against Respondent Nos. 6 and 7

15. The Respondent No. 7 submits that there are no reliefs sought by the Applicant against Respondent Nos. 6 and 7 in the present Original Application. Respondent Nos. 6 and 7 (JV) are merely contractors who have been awarded a tender to carry out the subject project by Respondent No. 4, MIDC. Respondent Nos. 6 and 7 have been impleaded as Party-Respondents to the present application only on the basis of the Additional Joint Committee Report of July 2023 wherein the answering Respondents were given no opportunity to counter and object to the said Committee Report. On this ground alone, the present application ought to be dismissed as against the answering Respondents.

16. In light of the aforesaid, Respondent No. 7 submits that this Hon'ble Tribunal ought to decide the issue of maintainability and dismiss the captioned Original Application at the threshold without going into the merits of the captioned Original Application, as the same is not maintainable as per the extant applicable law.

ON MERITS:

17. Without prejudice to the aforesaid preliminary objections, Respondent No. 7 prefers the present Reply to address the issues that have been



raised in the captioned Original Application on merits and to place the correct facts on record.

Brief Facts

18. The Roha Industrial Association (“**RIA**”) established RIA CETP Co-Operative Society Ltd. for the purpose of establishing Common Effluent Treatment Plant. CETP of capacity 22.5 MLD is located in MIDC Roha Industrial Area, located in District Raigad. The CETP was built in two phases with Phase 1 of 10 MLD commissioned in 2005 and Phase 2 of 12.5 MLD commissioned in 2017.

19. On 12th July 2002, a Memorandum of Understanding (“**MoU**”) was executed between Hydroair Tectonics (PCD) Pvt. Ltd., the Respondent No. 7, RIA CETP Co-op Society Limited, (“**Respondent No. 1 Society**”) and Maharashtra Industrial Development Corporation (“**Respondent No. 4-MIDC**”), the Respondent No. 4 herein to design, build, operate the 10 MLD CETP in association with member industrial units situated at Roha. This was the first agreement that was signed between the parties and the project was valued at Rs. 12.5 crores on BOT (Build, Operate and Transfer) basis. Under the said MoU, maintenance of existing infrastructure like effluent collection and disposal sump, and other relevant existing facilities were the obligations of the MIDC. On 26th June 2002, an MoU was executed between RIA CETP and



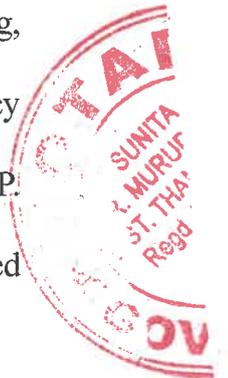
Respondent No. 7. In pursuance thereto, on 12th May 2003, letter of intent was issued by Respondent No. 1 Society to Respondent No. 7 for the installation of 10 MLD CETP for ROHA Industrial area on BOT basis subject to terms and conditions therein. Accordingly, the said work was completed on 15th March 2006 which has been duly acknowledged by Respondent No. 1. As per the agreement, Respondent No. 7 successfully executed the operation of the plant and thereafter, handed over the plant to RIA CETP.

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20. In the year 2017, additional capacity of 12.5 MLD with ASP and tertiary treatment filtration, Pressure Sand Filter (“PSF”), Activated carbon Filter (“ACF”) was commissioned and up flow anaerobic sludge blanket technology (“UASB”) was discontinued. The total flow of 22.5 MLD treated effluent from 34 member industries was to be treated and disposed on estuarine portion of river Kundalika (Saline Zone) at 14.3 km from CETP along with treated effluent of M/s. Sudarshan Chemicals, the Respondent No. 5 herein.
21. The existing CETPs were not always meeting the treated used water discharge standards as laid by Maharashtra Pollution Control Board (“MPCB”), Respondent No. 2 and due to continuous non-compliance of outlet norms, MPCB initiated action against the non-complying CETPs, including Respondent No. 1-Society with a direction to MIDC

under Section 33A of Water Act. It was directed that Respondent No. 4-MIDC should take over the non-complying CETP at Roha Industrial Area within a period of 3 months on or before 31st March 2017, and to operate the CETP by its own or otherwise through an expert agency and Respondent No. 4-MIDC should submit a time bound program to take over the Roha CETP within a period of one month from the date of receipt of the direction.

22. Accordingly, MIDC entrusted one M/s CH2M Hill (India) Pvt. Ltd. for the work of preparation of tender documents, tender processing, evaluation and recommendations and project management consultancy and additional work of rehabilitation and up-gradation of RIA CETP. The date of commencement of work was to be 16.03.2017 and stipulated date of completion of work was 15.03.2019.

23. However, Respondent No. 4 invited tender only in the year 2018-2019 for the project of *'Design, Build and Commissioning including Rehabilitation and Upgrade of 22.5 MLD CETP on DB basis with Operation and Maintenance at Roha Industrial Area (2nd Call) located at RIA CETP Co.-Operative Society Ltd., Plot No. 6, RIRC Building, MIDC, Dhatav – Roha, 402116, District Raigad, Maharashtra'* (**“said Project”**).



24. The said project mainly comprises of two parts: 1) Design Build (DB) Base - Part I – For Rehabilitation and Upgrade of existing CETP, including commissioning and trial runs to be completed within initial 18 months period after award of work. 2) Operation & Maintenance – Part II – Existing CETP to be operated and maintained during initial 18 months period of construction of part I works and thereafter for 5 years after completion and commissioning of Part I works. Under the contract agreement in the e-tender, the answering Respondents are merely contractors appointed by Respondent No. 4-MIDC for the said project and Respondent No. 4-MIDC is the Employer employing the contractor under the said contract.

Relevant Clauses of the Tender are as follows:

1.1.20 “Contract” means the Contract Agreement, the Letter of Award, the Form of Bid, Conditions of Contract, Contract Data Sheet, Employer’s Requirements, General Specifications, Schedules and Datasheets, Indicative Tender Drawings and the further documents (if any) which are listed in Contract Agreement or in the Letter of Award,

1.1.22 “Contractor” means the person(s) named as contractor in the Form of Bid whose tender has been accepted by the Employer and the legal successors in title to this person(s).;

“Employer” means Maharashtra Industrial Development Corporation (MIDC) and its authorized representatives.

3.1 Contractor’s General Obligations



3.1.1 *The Contractor shall design, execute and complete the Works and subsequently operate and maintain it in accordance with the Contract and as per the Engineer-in-charge's instructions. The Contractor shall also remedy any defects whatsoever in the Works to the satisfaction of Engineer-in-charge and in accordance with the Contract.*

3.1.4 *The Contractor shall, whenever required by the PMC/Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.*

3.1.5 *If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions:*

a. *the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract;*

b. *these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications as specified, and shall include additional information required by the Engineer-in-charge to add to the Drawings;*

c. *the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and*

d. *prior to the commencement of the Tests on Completion, the Contractor shall submit to the Engineer-in-charge the "as-built" documents and operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for*



the purposes of taking-over until these documents and manuals have been submitted to the Engineer-in-charge.

3.2 f. All the statutory fees/charges that are required to be paid to Govt./Govt. undertakings, MPCB (excluding testing charges and penalties if impose due to non-satisfactory performance of CETP) etc. will be reimbursed by Employer on production of receipt.

“1.3.3 All the rights to the Construction Documents and other design documents are to be assigned to the Employer.”

Hereto annexed and marked as “**Annexure-2**” is a copy of relevant portions of the Tender Document issued by Respondent No. 4-MIDC.

25. The total contract period as per the tender document is as under:

| | |
|--------------------------------|--|
| Construction period: | 18 months including 3 months for trial run and commissioning |
| Defect Liability Period (DLP): | 60 months after successful completion and commissioning of DB Base part I works. |
| O&M period: | 78 months including initial 18 months period during construction of DB Base Part I works and thereafter for 5 years after successful completion and commissioning of part I works. |
| Total contract period: | 78 months |

26. On 9th September 2019, after successful payment of bank guarantee and completing other tender agreement formalities, the Respondent No. 6 and 7 (JV) were awarded the tender of the said project vide Work Order bearing No. MIDC/ABG/TC/IFMS-C98958/of 2019. As per the Work

Order, the date of commencement of the work was from the date of handing over of CETP by Respondent No. 1 and the date of completion was 78 months from the date of commencement. Hereto annexed and marked as "Annexure-3" is a copy of the Work Order dated 9th September 2019.

27. After being awarded with the aforesaid work, the Respondent Nos. 6 & 7 (JV) addressed a letter to Respondent No. 4-MIDC to hand over possession of the work premises to start the work of operation and maintenance as per the work order as the site was not being handed over to the answering Respondents. A copy of the Tri-partite Agreement was also provided as per the tender agreement in order to take up the site work characterization. It is to be noted that the same had to be handed over within 15 days of issuance of award of the work order. However, this was not done as there was reluctance from Respondent No. 1 Society to hand over the site and execute the Tri-partite Agreement. It is pertinent to also note that the Tri-partite Agreement as on date is still not executed. Hereto annexed and marked as "Annexure-4" is a copy of the Letter dated 26th September 2019 addressed by Respondent Nos. 6 & 7 to Respondent No. 4-MIDC.

28. As there was hesitation to hand over the CETP, a meeting was held on 26th November 2019 between Respondent No. 4-MIDC, Respondent



No. 1 and answering Respondents to discuss the concerns regarding the same. The Minutes of the meeting shows that MIDC was the one responding to all queries and concerns and the Chairman of Respondent No. 1 ensured COD of coming effluent is maintained less than 2500 ppm and also informed that the design limit for TDS i.e. 4000 ppm. However, it is to be noted that Respondent No. 1 during the meeting stated that such low level of TDS is not possible and that an average value that can be maintained is around 11000 ppm which was way higher than the prescribed limits of MPCB. There was no resolve on when the CETP would be handed over to Respondent Nos. 6 & 7 to start the work. Another meeting was held by the parties on 7th January 2020 wherein it was resolved that the CETP would be positively handed over on 1st February 2020. On 29th January 2020, MIDC addressed a letter to Respondent No. 1 Society confirming that the CETP is to be handed over for upgradation, operation and management and requested Respondent No. 1 Society to ready the inventory of CETP for handing over of the same to Respondent No. 4-MIDC. Hereto annexed and marked as "Annexure-5" is a copy of the Minutes of the Meeting dated 26th November 2019 and 7th January 2020 and "Annexure-6" is a copy of the Letter dated 29th January 2020 addressed by Respondent No. 4-MIDC to Respondent No. 1 Society.



29. On 1st February, 2020, the CETP at Roha Industrial area which was in possession of Respondent No. 1 Society was handed over to MIDC and further the same was handed over to Respondent Nos. 6 & 7. RIA CETP was handed over to Respondent Nos. 6 and 7 and Respondent No. 4-MIDC in a dilapidated and non-working state. Relevant paras of the Minutes of Meeting dated 1st February, 2020 recorded by Respondent No. 4-MIDC are as follows –

“9. In case of COD of influent crosses 3000 ppm, Contractor will report to RIA-CETP and MIDC to take further action. Any consequence for that purpose from MPCB/ CPCB/ NGT will be RIA CETP’s responsibility.

10. Contractor will not sample/ monitor any of the member industry without permission of MIDC.

16. It will be sole responsibility of RIA-CETP to meet the designated parameters (consented by MPCB) of effluent at the inlet of CETP.”

Hereto annexed and marked as “Annexure-7” is a copy of the Minutes dated 1st February 2020 of Respondent No. 4-MIDC.



30. As part of complying with the Work Order, several documents and compliances have been carried out by Respondent Nos. 6 and 7 including Drawing Documents, Geo Technical Survey Report, Transfer of manpower and existing staff of Respondent No. 1 Society to be absorbed for operations and maintenance, Detailed Project Report of Pilot Plant with drawings, etc. Hereto annexed and marked as "Annexure-8-colly" are copies of the documents handed over by Respondent Nos. 6 and 7.
31. Immediately, in March 2020, nation-wide lockdown was announced due to the outburst of the coronavirus pandemic. The lockdown was essentially in effect till December 2021. Certain works like surveys, investigations, contour mapping, supply of materials to an extent was being carried out. However, during this period, workers migrated to their native place and locals could not reach the work site. Material could not be sent for repair to Pune, Ahmedabad, Kanpur etc. During Cyclonic storm Nisarga, there was total chaos on the site as roofs were blown off and fallen in Clarifier damaging the units resulting in shutdown of the plant. Several correspondences were addressed by Respondent Nos. 6 and 7 to Respondent No. 4-MIDC requesting for extension of time for completion of the commissioned work due to the coronavirus pandemic. There was also delay in implementing the project due to overflow of the



MIDC sump into equalisation tank resulting in hampering the upgradation and operation work of the plant and Respondent No. 6 and 7 requested Respondent No. 4-MIDC to rectify the pumping and drainage system so that implementation of project is not delayed. This fact was also reported on 1st January 2021 that MIDC effluent disposal line has developed leakages causing flooding of our thickener, causing stoppage of construction work which took almost one and half months to attend. Hereto annexed and marked as "Annexure-9-colly" is the correspondence between Respondent Nos. 6 & 7 and Respondent No. 4-MIDC.

32. In the interregnum, the Respondent Nos. 6 and 7 observed that the inlet COD was higher than the parameters of MPCB. So, several correspondences were addressed by the answering Respondents to Respondent No. 4-MIDC as well as MPCB stating that it was observed that Total Dissolved Solids ("TDS") was quite high and was affecting the plant performance. Similarly, inlet COD was also much higher at 3500 to 6000 mg/l which is much higher than MPCB consent norms of 2500 mg/l. Therefore, the Respondent Nos. 6 and 7 requested MIDC to involve the answering Respondents to conduct sampling and testing of the inlet effluent of contributing Industry and requested MIDC to give a list of defaulting industries to MPCB to improve the plant performance.



Condition assessment was also conducted of the plant and submitted to Respondent No. 4-MIDC and consultant detailed condition report of plant on 9th June 2020 which showed that the plant was in very bad condition. Hereto annexed and marked as "Annexure-10" is copy of the few of the correspondences addressed to MIDC by Respondent No. 6 & 7 (JV).

33. Subsequently, Respondent No. 4-MIDC wrote letters dated 18.12.2020, 24.05.2021 and 30.07.2021 to Respondent No. 1-RIA CETP in relation to the violations of inlet parameters stating that till date, Respondent No. 1-RIA CETP has not taken necessary action and that the COD, BOD and TDS results are between 3344 mg/l to 10720 mg/l, 1250 mg/l to 3100 mg/l and 5075 mg/l to 39212 mg/l respectively which is higher than the inlet design standard. No CETP can work with TDS above 5000 mg/L. Presence of high TDS interferes with oxygen transfer which is necessary for biological mechanism, thereby affecting the efficiency of activated sludge process. Hence, activated sludge process treating high TDS effluent are more sensitive to hydraulic shock loads and prone to process upset. Correspondence between MPCB, RIA CETP and Executive Engineer, Alibag took place for further action. On one of the meetings, on 19th May 2021, the Member Secretary had even shown displeasure on this issue and instructed to take strict action on defaulting industries.



It is submitted that the member industries of Respondent No. 1-RIA CETP rampantly let out untreated effluent and the authorities failed to take any action against the RIA CETP. In fact, Respondent No. 2 stopped the measurement of TDS altogether from 05.07.2021, while in all other CETPs in Maharashtra, the TDS is continuously monitored and shown on MPCB portal as this is important parameter for proper performance of CETP. Hereto annexed and marked as "Annexure-11" is the other CETPs Analysis data available on MPCB Portal.

34. The lockdown was essentially in effect till December 2021. Thereafter, after taking the necessary extensions from the Respondent No. 4-MIDC and Respondent No. 2-MPCB, on 30th April 2023, the work of upgradation of Roha CETP as per the tender and work order dated 9th September 2019 was completed. Therefore, the Respondents role as a contractor as envisaged under the tender agreement has been successfully completed by the Respondent Nos. 6 and 7.
35. In the interregnum, the present Original Application has been filed by the Applicant *inter alia* praying for closure of Respondent No. 1 CETP for operating without a valid Consent to Operate ("CTO"). No specific allegations have been made in the present original application against the Respondent No. 7. The timeline of the work carried out for the said Roha CETP work is as under:



| Date | Particulars |
|----------------------------------|---|
| 2018 | MIDC invited tender for design build and commissioning including rehabilitation and upgrade of 22.5 MLD CETP on DB basis with O & M Tender. |
| 09.09.2019 | Work Order awarded to Respondent Nos. 6 and 7 being the lowest bidder with certain terms and conditions. |
| 26.09.2019 | Letter addressed by Respondent Nos. 6 and 7 to MIDC to hand over the site to start the work as per Part 4 of condition of contract (tender). <u>Note:</u> This was not done in time as there was reluctance from Respondent No. 1 to handover the site and execute the tripartite agreement. |
| 01.02.2020 | Handing over of CETP to MIDC on 01.02.2020 took place by Deputy Engineer MIDC further the same was handed over to Respondent Nos. 6 and 7. |
| 12.02.2020 | Respondent Nos. 6 and 7 handed over the drawing documents and Geo Technical Survey report to D.E and CH2M. |
| 25.02.2020 | Existing staff of RIA CETP was handed over to Respondent Nos. 6 and 7 to be absorbed for O & M. |
| 29.02.2020 | Respondent Nos. 6 and 7 handed over DPR of Pilot Plant with drawings. |
| 01.03.2020 to Dec '21 | Nationwide lockdown was declared due to the coronavirus pandemic. |
| Between 10.07.2020 To 02-02-2024 | Correspondences addressed by Respondent No. 6 and 7 to MIDC regarding High inlet COD, BOD, TDS, TSS more than consent of MPCB and requested for vigilance sampling vide letters dated 10.07.2020, 12.08.2020, 03.10.2020, 28.11.2020, 10.11.2020, 21.01.2021, 09.02.2021, 13.03.2021, 23.04.2021, 15.05.2021, 17.05.2021, 23.06.2021, 20.08.2021, 14.09.2021, 10.10.2021, 14.02.2022, 07.04.2022, 09.05.2022, 03.06.2022, 02.07.2022, 03.08.2022, 02.09.2022, 10.10.2022, 04.11.2022, 04.12.2022, 04.01.2023, 04.03.2023, 06.04.2023, |



| | |
|------------|--|
| | 01.06.2023, 05.08.2023, 07.08.2023, 09.10.2023, 09.12.2023, 12.01.2024 and 02.02.2024. |
| 30.04.2023 | Work as per the tender was completed by Respondent Nos. 6 and 7. |

36. It is evident from the above table that Respondent Nos. 6 and 7 (JV) have duly followed all the procedures as per the tender agreement as well as the work order dated 9th November 2019 and completed the work of upgradation of Roha CETP without any infirmities. It is also pertinent to note that previously, Respondent No. 7 had been part of the successful installation of 10 MLD CETP for ROHA Industrial area on BOT basis and the said work was completed on 15th March 2006 which has been duly acknowledged by Respondent No. 1.
37. It is submitted that Respondent No. 7's role as a contractor as envisaged under the tender has been successfully completed by Respondent Nos. 6 and 7.

All Statutory Permissions granted are in the name of Respondent No 1

38. It is submitted that it was the obligation of Respondent No. 1 to obtain all statutory permissions for Roha CETP. On 1st March 2018, a consolidated consent to operate ("CTO") was issued to Respondent No. 1 for expansion of CETP from 10 MLD to 22.5 MLD capacity and renewal of consent for existing 10 MLD CETP which was valid up to 31st December 2021. Respondent No. 1 applied for renewal of the CTO



on 15th December 2021 and was granted the renewal of the CTO on 30th July 2022 for the period of 31.12.2021 to 31.12.2026 for the treatment of industrial effluent not exceeding 22.5 MLD. Hereto annexed and marked as "Annexure-12" is copy of Renewal of Consent to Operate dated 30.07.2022 issued in the name of Respondent No. 1.

39. It is also pertinent to note that in lieu of non-compliances of the conditions and not achieving the consented standards of Respondent No. 2-MPCB, the Respondent No. 2-MPCB has issued prosecution notices, directions, etc. to Respondent No. 1. This is also evident from the Affidavit in Reply filed on behalf of Respondent No. 2-MPCB dated 3rd November 2022. MPCB has also filed RCC No. 44 of 2018 against Respondent No. 1 before the Ld. JMFC, Roha in lieu of the said non-compliances which is currently pending. MPCB has also forfeited bank guarantee of Rs. 10 lakhs submitted by Respondent No. 1, RIA CETP on the ground of exceeding consented standards.

40. It is submitted that Respondent No. 1 was the entity responsible for following due procedure and to obtain all the permissions for the work of the CETP as is evident from the permissions granted to Respondent No. 1. And in view of non-compliances, Respondent No. 1 was issued necessary notices, warnings and directions by statutory authorities. Therefore, there is no basis on which the Joint Committee could have



imposed any cost on the Respondent No. 7 or Respondent No. 6 who were merely contractors appointed by the Respondent No. 4- MIDC and has carried out the work of upgradation of the CETP as per the tender agreement and advice of MIDC Engineer In-charge.

Inlet parameter of CETP outside the consent parameters

41. MPCB prescribes the inlet effluent discharge limits and parameters wherein the inlet COD limit is 2500 mg/l and gave directions for TDS 5000 ppm. The existing operations and processes at CETP are:

Inlet chamber → bar screen → collection cum-neutralization tank → pH correction → lime dosing → flash mixer (poly-dosing) → primary clari-flocculator → Collection tank for treated effluent from M/s. Sudarshan Chemicals Ltd (LSI) + Anoxic Tank → Aeration Tank → secondary clarifier → filter feed sump → pressure sand filter (10 nos.) → activated carbon filters (10 nos.) → Treated Effluent Sump-1 → **Final outlet** from CETP premises (Treated Effluent Sump-2) → discharge to estuarine portion of Kundalika river.



Therefore, the outlet discharge can be within the limit only when the inlet parameter is under the limit. The effluents are discharged by the member industries which is tested by Respondent No. 1 and 2.

42. However, it was observed that the inlet Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), Total Dissolved Solids (TDS), and Total Suspended Solids (TSS) has been consistently higher than the limit prescribed in the tender for the existing plant. It is

submitted that if the inlet effluent is above the parameter limits, it is impractical to expect the outlet discharge to be within the limit. The Plant cannot perform unless inlet parameter is as per the parameters laid down by MPCB. As the inlet effluent parameters were not functioning properly, therefore, naturally the outlet discharge did not perform properly. The Respondent No. 1 and Respondent No. 4-MIDC ought to ensure that the member industries are discharging effluents as per the MPCB Consent and directions. Only once that is achieved, the outlet discharge can be within limit. The effluent sample is collected and tested by Respondent No. 1 and only if it conforms to the inlet standard specified in the consent to operate is it supposed to be allowed to be admitted in the CETP. This was flouted by RIA CETP as the effluent at inlet COD is above 2500 mg/l and BOD above 1000 mg/l and TDS above 4000mg/l (The standard is as per DPR approved from NEERI).

43. The biological culture is the primitive microbial form of life. It is very sensitive to raw effluent characteristics and parameters. The culture has to be acclimatized to the cocktail of effluent (manufacturing of organic chemicals, dyes and pigments, food colors, pharmaceuticals and inorganic chemicals) that is regularly coming to CETP. Once the culture is killed and dead, it will take weeks and months to again acclimatize the bio-mass culture and build it in sufficient quantity. Once this biomass



culture is damaged, the CETP will not be able to function for weeks or months at its optimized capacity. The CETP's ability to treat effluents can reduce considerably.

44. This was pointed out by the answering Respondents to MIDC through several correspondences. In fact, in the 3rd and 4th Joint Progress Meeting held of several CETPs, this issue was pointed out by the Chairman of Respondent No. 7 and Respondent No. 4-MIDC acknowledged the same and informed all the stakeholders that the member industries responsible for high TDS would be identified and in the MPCB level, further action would be taken. Therefore, Respondent No. 7 submits that Respondent Nos. 6 and 7 have been singled out for the perpetrators to shirk their responsibilities. Hereto annexed and marked as "Annexure-13" is copy of the relevant portion of 3rd and 4th Joint Progress Meeting dated 22.10.2021 and 16.12.2021 respectively.

45. It is also pertinent to note that as Respondent No. 1 failed to control the inlet parameters, MPCB has issued directions on 13th November 2020 and 27th January 2021 to Respondent No. 1 under Section 33A of the Water Act stating that High COD effluent, steam COD and TDS Conc. > 5000 mg/l shall be segregated, treated, and disposed separately without mixing effluent discharging to CETP. However, till date the



direction is not followed by Respondent No. 1 causing high inlet COD and TDS leading to non-performance of CETP. No CETP can work with TDS above 5000 mg/L. The admitted raw effluent is treated chemically and biologically. Both components work only when the raw untreated effluent let out by Member industries is within the limits, as per the Consents given to them and the Consent given to CETP. The quality of raw treated effluent has to be within the consented parameters and is the basic pre-criteria for the successful working of the CETP. This was to be exclusively ensured and enforced by RIA CETP and R2-MPCB. However, the CETP plant was not receiving inlet effluents within prescribed limits and this is even evident from letter addressed by Respondent No. 1 dated 17th August 2022 to Regional Officer, Raigad stating that few member industries are yet to complete their requirements as per MPCB directions and requested for extension of time. The parameters listed on the MPCB portal during this time is as follows:

COD-3400 mg/l and BOD -1800 mg/l on 19.07.22

COD-3200 mg/l on 11.07.22

COD-2896 mg/l on 29.08.22

COD -3088 mg/l on 23.08.22

COD-10720 mg/l and BOD 2900 mg/l on 01.08.22

COD -2576 mg/l on 26.09.22

TDS-11000 to 39000 from 01.02.2020 to till date.

Hereto annexed and marked as "Annexure-14" is copy of letter addressed by RIA CETP dated 17th August 2022 to Regional Officer, Raigad and "Annexure-15" is copy of the analysis report in MPCB portal.

Respondent Nos. 6 and 7 are only contractors

46. Respondent Nos. 6 and 7 are merely contractors appointed by Respondent No. 4-MIDC as an expert agency to carry out the Project of Design, Build and Commissioning including Rehabilitation and Upgradation of 22.5 MLD Roha CETP and carrying out the work of upgradation and operation and maintenance of CETP. There is only a contractual obligation to complete the work in accordance with the tender that was awarded to the Joint Venture to upgrade the Roha CETP. This is evident from the clauses of the Tender document as well as the Work Order dated 9th November 2019. As per the aforesaid, the Respondent Nos. 6 and 7 have completed the work.

47. The authority to enter the premises of the Member Industries of R1-RIA CETP, take the effluent samples, analyse them, and take the corrective or punitive or preventive action was with R1-RIA CETP and R2-MPCB. Respondent No. 1-RIA CETP and Respondent No. 2-MPCB are duty bound by statute and as per the agreed arrangement, to monitor and control the quality of raw effluent sent to CETP. Respondent Nos. 6 and



7 had no control over it or had any authority or arrangement to control / refuse / reject the effluent being sent to CETP. Respondent Nos. 6 and 7, merely being the contractor of the Respondent No. 4-MIDC, did not have any duty, function, control or authority outside the battery limits of CETP.

48. Therefore, it is submitted that the Respondent Nos. 6 and 7 are civil-mechanical turnkey contractors for construction and cannot be held liable for any alleged environmental damage caused due to the working of the Roha CETP.

OBJECTIONS TO THE JOINT COMMITTEE REPORT DATED OCTOBER 2022 AND ADDITIONAL REPORT OF JOINT COMMITTEE DATED JULY 2023

No opportunity of hearing given to Respondent Nos. 6 and 7

49. It is submitted that this Hon'ble Tribunal *vide* Order dated 6th July 2022 constituted a committee consisting of one representative from MoEF & CC, one representative from CPCB and one representative of MPCB to look into the violations alleged in the present original application and to submit a factual and action taken report. Respondent Nos. 6 and 7 were not made party to the present original application. The Joint Committee in October 2022 submitted a report to this Hon'ble Tribunal stating the factual position of the violations alleged in the present application.



INDIA

50. Thereafter, the Hon'ble Tribunal *vide* Order dated 31st March 2023 ordered that the Joint Committee ought to submit an additional report as the Joint Committee Report was vague. Accordingly, an Additional Report was submitted by the Joint Committee in July 2023. The additional report submitted by the Joint Committee for the very first time imposed environmental compensation on Respondent Nos. 6 and 7 for the alleged violations caused by Respondent Nos. 6 and 7 to the tune of Rs. 5.6 crores without giving any cogent reasons for the same. While considering the application for the first time, Respondent Nos. 6 and 7 were not arrayed as party Respondents to the application, there was no notice issued to them and nor were they served with a copy of the said application. Therefore, the order of this Hon'ble Tribunal constituting a committee was issued without notice or appearance of Respondent Nos. 6 and 7. No opportunity of hearing was accorded to the answering Respondents before the Joint Committee was constituted.

51. It is submitted that under Section 19 of the NGT Act, 2010, it was necessary that Respondent Nos. 6 and 7 should have been heard before issuance of any such order by this Hon'ble Tribunal. Therefore, the order dated 6th July 2022 and 31st March 2023 needs to be recalled as it is violative of principles of natural justice as required under Section 19 of NGT Act, 2010.



No specific allegations of environmental damage against Respondent Nos. 6 and 7

52. The Joint Committee in its Report dated October 2022 only makes a recommendation to expedite the upgradation work and complete it as early as possible and a time bound action plan for this period may be submitted to MPCB. The directions issued by Respondent No. 2-MPCB under Section 33A of the Water Act and Section 31A of the Air Act was also to complete the upgradation and revamping work of CETP within the stipulated time. None of these observations were as against non-functioning of the CETP or any other non-compliances. Since the work was not complete, there is no question of imposing liability on the contractor/ operator. There are no allegations made against Respondent Nos. 6 and 7 and no justification or basis has been provided for what warranted an imposition of an exorbitant amount Rs. 5.64 crores as environmental compensation on Respondent Nos. 6 and 7. The 1st Report of October 2022 has also stated that it is the defaulting member industries who are letting the effluents to the CETP without confirming norms. The Respondent Nos. 6 and 7 is only a contractor of the CETP. If the Tripartite Agreement had been executed between the parties, Respondent Nos. 6 and 7 could have carried out the exercise of identifying the defaulting industries. However, the Tripartite Agreement has still not been executed.



53. Pertinently, the Additional Joint Committee Report dated July 2023 of the Joint Committee has acknowledged that for paying compensation, the operators, i.e., Respondent Nos. 6 and 7 may identify defaulting industries who were responsible for the non-compliances of inlet and outlet of CETP and consider collecting part of compensation from them in consultation with Respondent No. 2-MPCB. Respondent Nos. 6 and 7 are unaware of the names of the defaulting industries. Only Respondent No. 1 (RIA CETP) is aware of the said fact on the basis of which Respondent No. 1 collects treatment charges every month which is utilized in running the Roha Industrial Association. This clearly shows non-application of mind of the Joint Committee in imposing environmental compensation in the present matter and therefore, the said reports ought to be completely disregarded on this ground alone.

54. It is stated that it is seen from Additional Joint Committee Report dated July 2023 that raw untreated effluent from member industries was unscrupulously allowed in the CETP. Respondent No. 1 had the sole responsibility in controlling this. Further Respondent No. 2 had the statutory duty to visit member industries, check their effluent being let out, and when it was exceeding the standards allowed in the Consent, ought to have taken action against such industries. But they jointly failed



to do so. It is evident that Respondent Nos. 6 and 7 are not the polluters in the present case.

55. It is important to further note that CETP was handed over to Respondent Nos. 6 and 7 (JV) in a dilapidated and non-working state. It was not in working condition before and it was a known fact that it will not work till the upgradation is complete in all respects. The work continued till end of March 2023 and the delay was due to the coronavirus pandemic on which none had any control. It is stated that these facts are also overlooked by the Joint Committee.

56. Respondent Nos. 6 and 7 are in fact at great loss and inconvenience as their working of the CETP was getting affected. It was the sole responsibility of the Member industries, Respondent No. 1 and Respondent No. 2 to keep a check on the effluent parameters which they failed to perform.

57. The Additional Joint Committee Report dated July 2023 at Page No. 863 table-01 and Page No 866 table-03 shows that the inlet design standards are grossly violated and the maximum concentration of COD at the inlet is in the range of 3344 mg/l to 10720 mg/l which are grossly exceeding the inlet design standard i.e. 2500 mg/l and TDS at the inlet is in the range of 5075 mg/l to 39212 mg/l which are grossly exceeding the inlet



design standard i.e. 4000 mg/l. Even after making such observations that the inlet parameters are exceeding, the Joint Committee has saddled Respondent Nos. 6 and 7 with heavy costs for alleged environmental violations.

58. The Additional Joint Committee dated July 2023 states that there is no design parameters or standards for TDS while giving the analysis results of inlet and outlet of CETP. However, as per the directions of MPCB, the TDS parameters is less than 5000 mg/L. And as per the analysis report of the Joint Committee (at Page Nos. 878 to 884), it is evident that the TDS levels are exceeding the MPCB TDS parameters and due to this reason, the plant is unable to perform because of disturbance of the biological process. Hence, Respondent No. 6 and 7 are not responsible for any environmental damage or liable to pay any environmental compensation in this respect.



OA No. 44 of 2023 – Aryavart Foundation v. Lote Parshuram Environmental Protection Co-operative Society Ltd. & Ors.

59. Respondent No. 7 submits that in a similar matter before this very Hon'ble Tribunal, the observations and conclusions by the Joint Committee Report are completely distinguishable from the Report submitted in the present Original Application. In *Original Application No. 44 of 2023 - Aryavart Foundation v. Lote Parshuram*

Environmental Protection Co-operative Society Ltd. & Ors, the Applicant Aryavart Foundation who is also the Applicant in the present case challenges the violations of environmental norms by CETP operated by M/s. Lote Parshuram Environmental Protection Co-operative Society Ltd. MIDC is the nodal agency and owner of the plot in this case as well and MIDC had contracted one M/s. Aquachem Enviro Engineers Pvt. Ltd. for operation and maintenance of the said CETP. The Applicant therein, Aryavart Foundation filed OA No. 44 of 2023 pursuant to which the Hon'ble Tribunal constituted a Joint Committee comprising of one representative from Central Pollution Control Board ("CPCB"), one representative from Maharashtra Pollution Control Board ("MPCB"). It is pertinent to note that one of the members, Shri Pratik Bharné, Scientist E, CPCB, Regional Directorate, Pune is also a member of the Joint Committee constituted in the present Application. Similar methodology of site visit and sampling of the effluent was carried out by the Committee in OA No. 44 of 2023 as well. On thorough investigation, the Committee in OA No. 44 of 2023 concluded that there were violations of environmental norms and proceeded to impose environmental compensation on MIDC for causing environmental damage to the environment due to violation of environmental norms and direction of MPCB and not on the contractors employed by MIDC therein.



60. Respondent No. 7 submits that in an identical matter, the view taken by a Joint Committee constituted with the same officer and the same statutory bodies and with similar violations of environmental norms, the Committee has imposed costs on the owner of the CETP, i.e., MIDC and not saddled the contractor with environmental compensation as in the present case. It is evident that for identical facts, different conclusions have been made. Therefore, it is submitted that this is clearly arbitrary and contrary to the view taken differently. And Respondent Nos. 6 and 7 have been singled out by the perpetrators to shirk their responsibilities. Hereto annexed and marked as "Annexure-16" is a copy of the Joint Committee Report submitted in OA No. 44 of 2023 without annexures.

OA No. 125 of 2018 – Arvind Pundalik Mhatre Vs. Ministry of Environment, Forest and Climate Change & Ors.

61. Respondent No. 7 submits that in another similar matter before the Principal Bench of this Hon'ble Tribunal, the Hon'ble Tribunal first imposed environmental compensation charges on Taloja CETP Co-Op. Society Ltd. for the period of violation 2013 to 2018. After that following the same direction of MPCB dated 06.03.2017, MIDC took charge over the Taloja CETP and appointed a contractor for operation and maintenance and upgradation of Taloja CETP similar to the facts in the present matter. However, as there was no decrease in pollution



levels, the Hon'ble Tribunal passed an order imposing environmental compensation on MIDC and not on the contractor. Hereto annexed and marked as "Annexure-17" is copy of NGT Order dated 17.08.2018 and "Annexure- 18" is a copy of NGT order dated 03.09.2019.

Reliance on the Tripartite Agreement

62. The Additional Report submitted by the Joint Committee Report dated July 2023 has relied on a Tri-Partite Agreement between Respondent No. 1-Society, Respondent No. 4-MIDC and the answering Respondents. In accordance with the same, the Joint Committee has calculated the environmental compensation and imposed a sum of Rs. 5,64,00,000/- (Rupees Five Crores Sixty-Four Lakhs) on Respondent Nos. 6 and 7.
63. It is submitted that the Committee has erroneously relied on the Tri-partite Agreement as the same has not been executed yet between the parties and is only a draft Tri-partite Agreement. Respondent Nos. 6 and 7 had repeatedly followed up with the other signatories for further process of execution of the agreement, however the tripartite agreement was not executed. Due to this, Respondent Nos. 6 and 7 were unable to correct the influent to the consented parameters of COD, BOD, TDS etc. which caused the non-performance of the CETP. Therefore, Respondent

Nos. 6 and 7 (JV) are not responsible for the non-performance of the CETP.

64. The non-execution of the tripartite agreement is evident from the agreement that has been annexed to the Additional Report itself as the same is not executed or stamped or signed by either of the parties. Reliance on the said Tri-partite Agreement, therefore, shows clear non-application of mind of the Joint Committee. Respondent Nos. 6 and 7 are neither the generator of pollution, polluters, abettors of pollution, nor the parties responsible for fixing of any liability under 'polluter pays principle' and the responsibility and cost imposed on the answering Respondents is totally wrong, devoid of any logic or merit. Therefore, it is submitted that the reliance on the Tripartite Agreement by the Joint Committee as well as the Hon'ble Tribunal is erroneous, untenable and contrary to law.

Erroneous computation of period of violation by Joint Committee

65. Without prejudice to the contentions raised herein, it is submitted that the Joint Committee has erroneously computed the period of alleged violation. The Joint Committee in its Additional Report of July 2023 has stated that the violations is of total six years which is from the period of April 2017 to March 2023 which has been broken up into April 2017 to



March 2022 totalling to five years considering that the present Application was filed in March 2022 and as per Rule 15(3) of NGT Act, 2010 under relief, compensation and restitution and current financial year 2022-2023.

66. Section 15(3) of the National Green Tribunal Act, 2010 is as follows –

“(3) No application for grant of any compensation or relief or restitution of property or environment under this section shall be entertained by the Tribunal unless it is made within a period of five years from the date on which the cause for such compensation or relief first arose:

Provided that the Tribunal may, if it is satisfied that the applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding sixty days.”

67. The above provision relied on by the Committee to add another year of violation is completely erroneous and without any basis on legal provisions. There is no justification on why the violation period was increased and there is no justification or cogent reasons given for saddling the Respondent Nos. 6 and 7 with environmental compensation of Rs. 5.64 crores for a period between 1st February 2020 to 31st March 2023.

68. It is pertinent to point out that it is in contravention to the 1st Report of the Joint Committee of October 2022 which records that the possession of the Roha CETP was handed over on 1st February 2020 to Respondent



**SUBMISSIONS TO THE REPLIES FILED BY OTHER PARTY
RESPONDENTS**

Affidavit in Reply of MPCB dated 3rd November 2022

69. Respondent No. 2-MPCB has stated in their affidavit that all notices and proceedings for non-compliance has been issued against Respondent No. 1 and has categorical stated that Respondent No. 1 is non-compliant MPCB has also filed RCC No. 44 of 2018 against Respondent No. 1 before the Ld. JMFC, Roha in lieu of the said non-compliances which is currently pending. MPCB has also forfeited bank guarantee of Rs. 10 lakhs submitted by Respondent No. 1, RIA CETP on the ground of exceeding consented standards.

70. On 8th August 2022, the Respondent No. 2-MPCB issued Proposed Direction under Section 33(A) of Water Act and Section 31(A) of Air Act to Respondent No. 4-MIDC and the answering Respondents. On 12th August 2022, Respondent Nos. 6 and 7 replied to the same giving a detailed reply stating the compliances made to each of the directions issued. Hereto annexed and marked as "**Annexure-19**" is a copy of Reply dated 12th August 2022.

***Affidavit in Reply of Respondent No. 1-RIA CETP Co-op Society Ltd.
Dated 13th October 2022***

71. Respondent No. 1 has stated that there were concerns pertaining to the operations to the contractor appointed by the Respondent No. 4-MIDC,



i.e., Respondent Nos. 6 and 7 to operate the CETP. It is submitted that during several meetings where all the stakeholders were present, Respondent Nos. 6 and 7 have stated that it has observed that the inlet parameter has been consistently higher than the limit prescribed in the tender for the existing plant which adversely affects the plant performance.

72. Respondent No. 1 has also stated that no pilot studies have been conducted and verified through third party expert agency to ensure the adequacy of the treatment of the CETP. It is submitted that this is an erroneous conclusion made by the Respondent No. 1. As part of complying with the tender awarded for Roha CETP, several documents have been submitted and compliances have been carried out by the Respondent Nos. 6 and 7 including Drawing Documents, Geo Technical Survey Report, Detailed Project Report of Pilot Plant with drawings, etc.

73. It is submitted that the allegations against the Respondent Nos. 6 and 7 are wholly misplaced and without any basis. The Respondent Nos. 6 and 7 have followed due procedure in their capacity as contractors employed by Respondent No. 4-MIDC, confirmed by CH2M- Consultant and carried on the work for the subject project. The allegations against Respondent Nos. 6 and 7 are therefore wholly untenable and without any basis.



74. Respondent No. 7 will not be dealing with the Original Application in seriatim more particularly since the entire bogey of allegations and contentions raised in the Original Application have been dealt with and answered in terms of the aforesaid. However, the present Respondent No. 7 expressly craves leave to file an Additional Affidavit dealing with the Memo of Application in a paragraph-wise manner, if the circumstances so warrant. Respondent No. 7 states that the issues and grievances raised by the Applicant stand fully answered in terms of all that is stated hereinabove as regards Respondent No. 7 and thus, the Original Application has failed to make out a cogent and compelling case for grant of any reliefs by this Hon'ble Tribunal.

75. In these facts and circumstances, Respondent No. 7 states that the captioned Original Application ought to be dismissed *in toto* as against the Respondent No. 7 and Respondent No. 7 ought to be deleted as a party-Respondent to the captioned proceedings.

Date: 13/02/2024

Place: MUMBAI



Advocates for Respondent No. 7

Respondent No. 7

(M/s. Hydroair Tectonics (PCD) Ltd.)



VERIFICATION

I, Harbhajan Singh, aged 79 years, Indian Inhabitant, the Authorised Signatory of Respondent No. 7, having my office address at 501, Concorde Premises, Plot No 66A, Sector 11, C B D Belapur, Navi Mumbai-400614 do hereby state that I have submitted this Affidavit on solemn affirmation and oath. I have verified that the facts are true to my personal knowledge. I have not suppressed any material fact known to me and relevant to this matter.

Date: 13-02-2024

Place: Navi Mumbai.



[Signature]
Advocates for Respondent No. 7

[Signature]

Respondent No. 7
(M/s. Hydroair Tectonics (PCD) Ltd.)



BEFORE ME

[Signature]
- 13/02/2024

SUNITA R. MURUDKAR
B.A., LL.M, D.C.L.
Regd. No. 10518

ADVOCATE & NOTARY (Govt. of India)
Sumangal C.H.S., Row House No. 11, Sector-2,
Airoli, Navi Mumbai-400 708, Dist. Thane (Mah.)

Register Sr.No. 303 2024

13 FEB 2024

HYDROAIR TECTONICS (PCD) LTD. 1131

Innovative Environmental Solutions

Correspondence Add: Office No. 501
Concorde Premises Co.Op. Society Ltd.,
Plot No. 66-A, Sector-11, CBD-Belapur,
Navi Mumbai 400614



Hydroair Tectonics (PCD) Ltd.

Tel : +91-22-49245642/43/44
E-mail : hydroenviro@gmail.com

Website: www.hydroairenviro.com

CERTIFIED TRUE COPY OF THE RESOLUTION PASSED AT THE MEETING OF THE DIRECTORS OF HYDROAIR TECTONICS (PCD) LTD HELD ON 06.02.2024 AT ITS OFFICE ADDRESS 501, CONCORDE PREMISES, SECTOR 11, C B D BELAPUR, NAVI MUMBAI-400614

AUTHORITY FOR LEGAL MATTERS:

“**RESOLVED THAT**, Mr Harbhajan Singh, Chairman of the Company (hereinafter referred to as 'Authorised Representative') be and are hereby authorized to finalize, sign, verify, submit, affirm, execute and/or file necessary vakalatnamas, pleadings, notices, affidavits, replies, rejoinders, applications, complaints, plaints, written statements, suit(s), leave to defend, petitions, appeals, revisions, statement(s) of claims, statement(s) of defence, counter claims), writ petitions, special leave petitions, lis pendens and/or any other legal proceedings (including but not limited to, arbitration), as may be required, from time to time, and to receive and acknowledge documents, notices, summons, warrants, and/or engage Advocates and Solicitors and/or also to prosecute, appear, defend, oppose and represent for hearings before any Court/Forum/ National Company Law Tribunal or any other tribunal(s)/ National Company Law Appellate Tribunal or any other appellate tribunal(s)/ competent authorities/ arbitral tribunal(s)/statutory bodies or authorities/ State Government(s)/ Central Government (hereinafter collectively referred to as 'Authorities') against any person(s), entity(s), company(s), authority(s), government(s),etc.

RESOLVED FURTHER THAT the Authorised Representative be and are hereby authorized to finalize, deal, sign, execute, file and/or submit any relevant documents with any person as may be required, from time to time, in the interest of the Company and to sign, verify, submit, affirm, execute and/or file the said relevant documents before any of the Authorities and also to appear and attend on behalf of the Company, in any proceedings before them that may be required and to appoint advocate(s), pleader(s), counsel(s) to represent the Company and to change such advocate(s), pleader(s), from time to time, and to execute such affidavits, deeds and documents, as may be required for the purpose and to do all such acts, deeds, matters and things, as may be deemed necessary and/or in the interest of the Company, so as to give effect to this resolution.

RESOLVED FURTHER THAT a certified true copy of the aforesaid resolution duly signed by any one of the Director of the Company, be forwarded to any authorities/ person(s) requiring the same and such authorities/ person(s) be requested to rely and act thereupon.

For Hydroair Tectonics (PCD) Ltd

R. K. Singh

R K Singh

Managing Director





महाराष्ट्र MAHARASHTRA

2018

AM 592371



(JOINT VENTURE OF M/s. R & B Infra Project Private Limited AND M/s. Hydroair Tectonics (PCD) Ltd.)

This Memorandum of Understanding for Joint Venture Agreement made and entered into at on this 5th day of December 2018 by and between :

M/s. R & B Infra Project Private Limited, having its registered office at B-1, Neela Apartment, Opp. Mandpeshwar Ind. Estate S.V.P Road, Borivali (W), Mumbai - 400092 and Mr. Balwant Singh (Project Head) as its authorized representative (here after referred as "FIRST PARTY")

AND

M/s. Hydroair Tectonics (PCD) Ltd., having its registered office at 106, Concorde Premises, Plot No.66A, Sector 11, C B D Belapur, Navi Mumbai - 400614 and Mr. Harbhajan Singh(Chairman) as its authorized representative. (here after referred as "SECOND PARTY")

Handwritten signature: Singh



Handwritten signature: H. B. Singh

DEFINITIONS

In this deed, the following words and expression shall have meanings set out below : "The Joint Venture" ("JV" for short) shall mean **"RBIPPL AND HYDROAIR (JV)"** and **"RBIPPL AND HYDROAIR (JV)"** Joint Venture collectively acting in collaborations for the purpose of this agreement.

"Apex Co-ordination Body (ACB) shall mean the body comprising Director of the Parties to the Joint Venture"

"The Owner" shall mean **"Maharashtra Industrial Development Corporation, and having its Principal office at Udyog Sarathi, MIDC Office, Marol Industrial Area, Andheri (East), Mumbai, Maharashtra, India - 400093."**

"The Works" shall mean the **"Design, Build and Commissioning including Rehabilitation, Upgrade and Expansion of Common Effluent Treatment Plant at DBESA (16 MLD TO 26 MLD) AND DCETP (1.5 MLD TO 2 MLD) on DB basis with Operation & Maintenance in Dombivli Industrial Area (2nd Call)"**.

"The Contract" shall mean the contract entered into or to be entered into between the "Joint Venture" and "The Owner" for the works.

JOINT VENTURE (JV)

(whereas the Parties hereto declare that, they agree and undertake to form a Joint Venture for the purpose of Execution of the works, as an integrated Joint Venture. The JV shall be called as "JOINT VENTURE" for short) Provided that the Parties are not under this agreement entering into any permanent Partnership or Joint Venture to tender or undertake any contract other than the subject works. Nothing herein contained shall be considered to construe the Parties or Partners to constitute either Party the agent of the other.

WITNESSES

WHEREAS the Executive Engineer, MIDC Division Alibaug, Revas Road, Nagdongari, Chendhre, Alibaug, Dist Raigad, Maharashtra - 402201 herein after referred as the Executive Engineer, have invited tenders for the work of **"Design, Build and Commissioning including Rehabilitation, Upgrade and Expansion of Common Effluent Treatment Plant at DBESA (16 MLD TO 26 MLD) AND DCETP (1.5 MLD TO 2 MLD) on DB basis with Operation & Maintenance in Dombivli Industrial Area (2nd Call)"** hereinafter referred as "The Works".

Whereas PARTY NO. I and PARTY NO. II wish to execute the Contract, if awarded as per the terms of this indenture. Now, therefore this Deed of Partnership witnesses as follows :-





That, these recitals are and shall be deemed to have been part and parcel of the present MOU for JV. That, this MOU shall come into force from the date of this MOU i.e. 5th day of December the year 2018.

That, the operation of this MOU for JV firm concerns and is confined to "the works" only.

That, the name of the Joint Venture firm shall be "**RBIPPL AND HYDROAIR (JV)**"

That, PARTY NO. I and PARTY NO. II shall jointly execute the works according to all terms and conditions as stated in the relevant instructions contained in the Bid Documents / Contract as an integrated JV styled as "**RBIPPL AND HYDROAIR (JV)**".

That, this MOU for JV shall regulate the relations between the parties and shall include without being limited to them the following conditions.

M/s. R & B Infra Project Private Limited shall be the lead Company Incharge of the Joint Venture for all intents and purpose.

The parties hereto shall jointly and severally liable to MIDC for all acts, deeds and things pertaining to the Contract. The Contract for the works shall be signed by Shri. Balwant Singh as a General Power of Attorney Holder.

That the Director of one of the parties of the JV, M/s. R & B Infra Project Private Limited shall be the lead Partner of the JV firm and shall have the Power to Control and Manage the Affairs of the JV.

That, on behalf of the Joint Venture Lead Partner, M/s. R & B Infra Project Private Limited have the Authority to incur liabilities, receive instructions and payments, sign and execute the Contract for and on behalf of the Joint Venture. All payments made under the contract shall be made into the Joint Venture's bank account.

One or two Bank Accounts shall be opened in the name of JV to be operated by the Joint Signatory by representative of both the Partner of Joint Venture.

That each of the parties to the JV agrees and undertake to place at the disposal of the JV benefits of its individual experience, technical knowledge and skill and shall in all respects bear its share of the responsibility including the provision of information, advice and other assistance required in connection with the works. The share and the participation of the partners in the JV shall broadly be as follows :-
Name of Contractor Share of Percentage

| | |
|---|------|
| 1) M/s. R & B Infra Project Private Limited | 51% |
| 2) M/s. Hydroair Tectonics (PCD) Ltd | 49% |
| Total | 100% |



And all rights, interests, liabilities, obligations, works experience and risks (and all net profit or net losses) arising out of the contract shall be shared or borne by the Parties in proportion to these share. Each of the parties shall furnish its proportionate share in any bonds, guarantees, sureties required for the works as well as its proportionate share in working capital and other financial requirements, all in accordance with the decisions of the Apex Coordinating body.

Any loan/advances shall be shared by the PARTY NO. I and PARTY NO. II in the ratio of 51% and 49% respectively.

All funds, finance or working capital required for carrying out and executing, the works or contract shall be procured and utilized by the parties are mutually agreed by them and they shall be liable and responsible for the same. Initial Capital of the JV firm shall be Rs. 1,00,000.00

The execution of the work on the site will be managed by a Project Manager. The Project Manager shall be authorized to represent the JV on site in respect of matters arising out or under the contract.

The PARTY NO. I and PARTY NO. II shall be jointly and severally liable towards the owner for the execution of the contract commitment in accordance with contract condition.

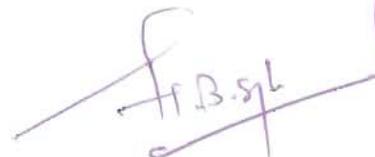
The JV shall be registered with the Registrar of Firms / Company, Maharashtra State. Prior written approval of MIDC shall be obtained before any changes are proposed to be made in this Joint Venture Agreement, once it is registered with the Registrar of firms / Company, Maharashtra State.

This Joint Venture Agreement shall not be dissolved till the completion of the defect liability period as stipulated in the Tender Document conditions of the works and till all the liabilities thereof are liquidated.

That, questions relating to validity and interpretation of this deed shall be governed by the laws of India. Any disputes in interpretation of any conditions mentioned herein shall be referred to Arbitrator by mutual consent of the parties to the JV and such proceedings shall be governed by the Indian Arbitration and Conciliation act, 1996. The award of the Arbitrator shall be final and binding on the parties, hereto, neither the obligations of each party hereto to perform the contract nor the execution of works shall stop during the course of these arbitration proceedings or as a result thereof.

That, no party to the JV has the right to assign any benefit, obligation or liability under the agreement to any third party without first obtaining the written consent of the other partner and MIDC.

Bank account (s) in the name of the Joint Venture firm may be opened with any Nationalized or Scheduled Bank and the representatives of both partners are authorized to operate upon such accounts jointly.

That, both the parties to the JV shall be responsible to maintain or cause to maintain proper Books of Accounts in respect of the business of the JV firm and the same shall be closed at the end of every financial year.

That the financial year of the firm shall be the year ended on the 31st day of March every year.

That upon closure of the books of account, balance sheet and profit and loss account, as to the state of affairs of the firm, as at the end of the financial year and as to the profit or loss made, or incurred by the firm for the year ended on that date respectively, shall be prepared and the same shall be subject to audit by a Chartered Accountant.

LEGAL JURISDICTION

All matters pertaining to or emanating from this JV agreement involving the owner shall be subject to jurisdiction or High Court of Judicature, at MUMBAI.

NOTICE AND CORRESPONDENCE

All correspondence and notices to the JV shall be sent to the following address :

B-1, Neela Aaprtment, Opp. Mandpeshwar Ind. Estate, S.V.P Road, Borivali (West), Mumbai - 400092.

IN WITNESS WHERE TO the parties have caused their duly authorized representative to sign below :

Signed for and on behalf of
M/s. R & B Infra Project Private Limited


Mr. Balwant Singh
Project Head

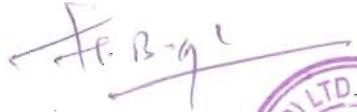
Witness

1. Polachan V.L. Raw

2. SHRAVANKUMAR 



Signed for and on behalf of
M/s. Hydroair Tectonics (PCD) Ltd



TENDER

For

**Design, Build and Commissioning including
Rehabilitation and Upgrade of 22.5 MLD
Common Effluent Treatment Plant (CETP) on
DB basis with Operation & Maintenance at
Roha Industrial Area (2nd Call)**

VOLUME 1

Instructions to Bidders and Conditions of Contract

2018 - 19

Maharashtra Industrial Development Corporation
(A Govt. Of Maharashtra undertaking)

Udyog Sarathi, MIDC Office, Marol Industrial Area,
Andheri (East), Mumbai, Maharashtra State, India – 400093

1. Introduction

1.1 Project Information

1.1.1 Background

Maharashtra Industrial Development Corporation (MIDC) an agency of Government of Maharashtra (here-in after referred as Employer) has a mandate for promoting industrial development in the State. Up to date, 281 industrial areas are developed by MIDC in Maharashtra on 840 km² comprising of specialized parks for different industrial sectors.

MIDC currently has 19 Common Effluent Treatment Plants (CETP's) in operation with total capacity of 188.80 MLD and 43.50 MLD under expansion/ upgrade. MIDC has also planned for new CETP's in the area with combined capacity of 61.50 MLD. Taking into account, the installed and planned future capacities of MIDC's CETP's, up to 293.80 MLD of treated effluent can be available for recycled water production.

MIDC has decided to appoint expert agencies for the Design, Build and Commissioning of Roha CETP including rehabilitation and upgrade on DB basis with Operation & Maintenance for MIDC as directed by Maharashtra Pollution Control Board. Therefore, it is now proposed to appoint an agency for the work of Design, Build and Commissioning including Rehabilitation and Upgrade of 22.5 MLD Common Effluent Treatment Plant (CETP) on DB basis with Operation & Maintenance at Roha Industrial Area as per norms of MPCB / CPCB on "As is where is basis".

Plant is located at Roha Industries Association (RIA) – CETP Cooperative Society Ltd, Plot No. 6, RIRC Building, MIDC, Dhatav – Roha, 402116, District Raigad, Maharashtra

The brief particulars of the Project are as follows:

1.2 Brief description of Bidding Process

- 1.2.1 The Employer has adopted a **single stage two-part process** (collectively referred to as the "Bidding Process") for selection of the Bidder for award of the Project. Under this process, the Bid shall be invited under two parts viz. Technical Bid and Financial Bid.
- 1.2.2 The bidder has to compile and submit his bid in accordance to requirements detailed in Clause 5 [Submission of Bids] of ITB.
- 1.2.3 Eligibility and qualification of the Bidder will be first examined based on the details submitted under First Part i.e. Technical Bid with respect to eligibility and qualifications criteria prescribed in this Tender.
- 1.2.4 Prior to making an Application, the Bidder shall pay tender fee to the Employer as indicated in the clause 4.5 [Bid Validity] of the ITB. The Financial Bid under the second part shall be opened only for only the Bidders who's Technical Bids are found to be responsive to the eligibility and qualifications requirements as per this Tender.
- 1.2.5 In the Bid Stage, the aforesaid qualified Bidders, including their successors (the "Bidders"), are being called upon to submit their Financial offers (the "BID's") in accordance with the terms specified in the Bidding Documents. The Bid shall be valid for a period of 120 days from the opening of 1st envelope of the tender.
- 1.2.6 Bidders are advised to examine the Project in greater detail, and to carry out, at their cost, such studies as may be required for submitting their respective BID's for award of the

contract including implementation of the Project.

- 1.2.7 The bidders can visit site, raise pre-bid queries and attend pre-bid meeting prior to bid submission.

1.3 Schedule of Bidding Process

As per Notice inviting e Tender (NIT)

1.4 Pre-bid Meeting and Pre-bid Clarifications

- 1.4.1 Pre-Bid meeting of the Bidders shall be convened at the designated date, time and place. A maximum of two representatives of each Bidder shall be allowed to participate on production of the Employer letter from the Bidder.
- 1.4.2 The bidder or its official representative can attend pre-bid meeting, which will take place at the venue indicated in Contract Data Sheet.
- 1.4.3 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage and thus the Bidders will be free to seek clarifications and make suggestions for consideration of the Employer. The Employer shall endeavor to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive Bidding Process.
- 1.4.4 The bidder is requested to submit any questions or queries online as specified in NIT of Employer
- 1.4.5 Minutes of the meeting, including the text of the questions raised and the responses given, will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum and not through the minutes of the pre-bid meeting.
- 1.4.6 Bidders are advised to attend the pre-bid meeting. However, nonattendance at the pre-bid meeting will not be a cause for dis-qualification of a bidder. Bidders who do not attend the pre-bid meeting assume the responsibility to comply with modifications to the bidding documents and which are communicated through an Addendum.

1.5 Site Visit

- 1.5.1 The bidder is encouraged to visit and examine the Project site and its surroundings and obtain for itself on its own responsibility all the information like site conditions, traffic, location, surroundings, climate, availability of power, water and other utilities for construction, access to site, handling and storage of materials, weather data, applicable laws and regulations, and any other matter considered relevant by them that may be necessary for preparing the bid and entering into a contract for rehabilitation and upgrade of the works. The costs of visiting the proposed site shall be at the bidder's own expense.
- 1.5.2 The bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such inspection, but only upon the express condition that the bidder, its personnel and agents, will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of the inspection. For permission, bidders may contact **Present Executive Engineer, MIDC Division Alibaug, Mr R P Patil, Contact Phone 02141-222242/57** or **Deputy Engineer, MIDC Subdivision**

Roha, Contact Phone 02194-263825

- 1.5.3 The Employer may conduct a Site Visit concurrently with the Pre-Bid Meeting.

1.6 Corrupt or Fraudulent Practices

- 1.6.1 The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process and subsequent to the issue of the LOA and during the subsistence of the Agreement. Notwithstanding anything to the contrary contained herein, or in the LOA or the Agreement, the Employer may reject a BID, withdraw the LOA, or terminate the Agreement, as the case may be, without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder or the Contractor, as the case may be, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process. In such an event, the Employer shall be entitled to forfeit and appropriate the BID Security or Performance Security, as the case may be, as Damages, without prejudice to any other right or remedy that may be available to the Employer under the Bidding Documents and/ or the Agreement, or otherwise.
- 1.6.2 Without prejudice to the rights of the Employer under Clause 1.6.1 hereinabove and the rights and remedies which the Employer may have under the LOA or the Agreement, or otherwise if a Bidder or Contractor, as the case may be, is found by the Employer to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, or after the issue of the LOA or the execution of the Agreement, such Bidder or Contractor shall not be eligible to participate in any tender or RFP issued by the Employer
- 1.6.3 The following terms shall have the meaning hereinafter respectively assigned to them:
- a. "Corrupt practice" means
 - i. the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Employer who is or has been associated in any manner, directly or indirectly, with the Bidding Process or the LOA or has dealt with matters concerning the Agreement or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Employer, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or
 - ii. engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Contract Agreement, who at any time has been or is a legal, financial or technical adviser of the Employer in relation to any matter concerning the Project;
 - b. "Fraudulent practice" means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;
 - c. "Coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bidding Process;

- d. “Undesirable practice” means (i) establishing contact with any person connected with or employed or engaged by the Employer with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest;
- e. “Restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

2. General

2.1 Scope of Bid

- 2.1.1 Maharashtra Industrial Development Corporation (Employer), (the “Employer”) invites bids for Design, Build and Commissioning including Rehabilitation and Upgrade of 22.5 MLD Common Effluent Treatment Plant (CETP) on DB basis with Operation & Maintenance at Roha Industrial Area based on **Conventional Activated Sludge Technology** (as defined in these documents and referred to as “the Project”) The successful bidder will be expected to complete the Works, including Design construction, testing and commissioning as detailed in the **Volume 2: Technical Specifications** by the intended completion date specified in the **Contract Data Sheet including cost of all materials, tools, plants, manpower for DB base work and operation and maintenance of the plant for the period of 73 months including cost of all material, manpower, tools and plants, electricity, water, removal and disposal of sludge including necessary treatment charges, testing charges, housekeeping, security provisions, providing acrylic model of CETP, providing commissioning pilot plant of specified capacity for CETP and its O & M during contract period including all taxes, duties, GST, etc.**

2.2 Eligible Bidders

- 2.2.1 This Invitation to Bid is open to bidders meeting eligibility for their qualification hereunder:
- a. The Bidder can be a **single entity or JV or consortium** to implement the Project. The term Bidder used herein would apply to single entity **or JV or consortium**.
 - b. A Bidder may be a company incorporated under the Indian Companies Act, 1956.
 - c. The bidder should fulfill requirement as per NIT and should be registered in India under appropriate laws.
 - d. A Bidder shall not have a conflict of interest (the "**Conflict of Interest**") that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified.
- 2.2.2 **The Bidder shall not be falling under any one of the following criteria:**
- a. a constituent of one Bidder is also a constituent of another Bidder
 - b. Bidder has the same legal representative for purposes of this Bid as any other Bidder
 - c. Bidder has a relationship with another Bidder directly or through common third party/ parties, that puts either or both of them in a position to have access to each other's' information about, or to influence the Bid of either or each other;
 - d. Such Bidder or any of its Member thereof has participated as a consultant to the Employer in the preparation of any documents, Design or Technical specifications of

the Project.

- 2.2.3 A Bidder shall be liable for disqualification if any legal, financial or technical adviser of the Employer in relation to the Project is engaged by the Bidder, or any of its Members, as the case may be, in any manner for matters related to or incidental to the Project. This disqualification shall not apply where such adviser was engaged by the Bidder, its Member in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of this Tender.
- 2.2.4 Without prejudice to the satisfaction of the above requirements and any other prerequisites as per the terms of this RFP by the Bidder, a Bid may still be disqualified if it has, in the sole and exclusive opinion of the Employer:
1. made any misleading or false representation or deliberately suppressed the information in the technical schedules/enclosures required to be submitted with /in support/as a clarification with respect to its Bid; and/or
 2. has been black-listed/debarred by any government/semi-government department/public sector company in India or in any other foreign country; and/or
 3. has a record of poor performance such as abandoning work, not properly completing the contract, or financial failures/weaknesses; and/or
 4. engaged in Fraud & Corrupt practices as mentioned under this Tender
- 2.2.5 Each bidder shall provide a statement that it complies with Clause 2.2 in all respects and provide such further evidence of their eligibility satisfactory to the Employer as the Employer shall reasonably request.

2.3 Qualification of the Bidder

- 2.3.1 All bidders shall include the following information and documents with their bids in duly completed Tender Forms in the order specified in Clause 5.1 [Sealing and Marking of bids].
- a. Document defining the constitution or legal statutes, place of registration and principal place of business
 - b. Written power of attorney of the signatory of the Bid to commit the Bidder
 - c. Reports on the financial standing of the Bidder
 - d. Evidence of adequacy of working capital for this contract (access to line of credit and availability of other financial resources);
 - e. Information regarding any litigation, or arbitration resulting from contracts executed by the Bidder in the last ten years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, cause of litigation and matter in dispute.
 - f. Experience in works of a similar nature and details of work carried out during the qualifying period
 - g. The credentials to meet following Qualification Criteria clause from the Client/Employer. No self - certification will be accepted.
- 2.3.2 **Joint Venture Clause**
1. Joint venture or Consortium is allowed for this work for plant & machinery and/or work experience
 2. "Any of the J.V. Partners who have formed Joint Venture for a work, cannot form another J.V. with other agency (s) for same work. If it is found that one or more

Contract Data Sheet

| Condition | Reference Clause | Data |
|--|---|--|
| Name of Works | Vol 1 ITB Clause 2.1 | Design, Build and Commissioning including Rehabilitation and Upgrade of 22.5 MLD Common Effluent Treatment Plant (CETP) on DB basis with Operation & Maintenance at Roha Industrial Area |
| Address of the tender opening authority of Employer | | Office of the Superintending Engineer (K), MIDC Konkan Circle, Plot No. 57, Sec-17, Khanda Colony, New-Panvel (W), Maharashtra -410206 Ph: 022-27483642 |
| Bid Due Date and Time | Vol 1 ITB Clause 5.2 [Deadline for Submission of Bids] | As per NIT |
| Amount of Bid Security (EMD) | Vol 1 ITB Clause 4.6 [<i>Bid Security</i>] | Rs. 30.00 Lakh |
| Venue of Pre-bid Meeting | Vol 1 ITB Clause 1.4 [Pre-bid Meeting and Pre-bid Clarifications] | Same as address of tender opening authority. |
| Address for Correspondence and Pre-bid Queries | Vol 1 ITB Clause 1.4 [Pre-bid Meeting and Pre-bid Clarifications] and Clause 5 [Submission of Bids] | Pre-bid queries to be submitted online |
| Time for Completion of Part 1 –DB of the Works | Vol 1 ITB Clause 2.1 and Vol 1 Part 4 [Conditions of Contract] Clause 4.4 and Clause 4.5 | 13 months inclusive of 4 months period for commissioning and trial run from the date of Letter of Award. |
| Time for Part 2 - Operation and Maintenance of the Works | Vol 1 Particular Conditions of Contract for Operations and Maintenance | Initial 13 months period of DB Base Part I from the date of award of work plus 5 years (60 months) from the date of completion and commissioning of DB base Part I |
| Defects Liability Period | Vol 1 [Conditions of Contract] Clause 1.1.28 | 5 years from the date of completion and commissioning after completion of DB Base Part I. |
| Total Contract Period | Vol 1 Conditions of Contract | 73 months from the date of Letter of Award, including initial 13 months period of DB Base Part I work and 5 years O & M period. |

| Condition | Reference Clause | Data |
|---|--|---|
| Project Start date | Vol 1 [Conditions of Contract] Clause 7.1 | Date of issue of Letter of Award by the Employer. |
| Site Possession Date | Vol 1 Conditions of Contract | Immediately after award of work for O &M and for DB Base Part I works within 10 days from the formal request by the Contractor. |
| Project Plan and Schedule | Conditions of Contract Clause 4.1 [Obligations prior to commencement of Works] | The Contractor shall submit project plan and schedule within 10 days of from the date of issue of Letter of Award. |
| Date of Submission of Basic Engineering Package | Vol 1 [Conditions of Contract] Clause 4.3 and Vol 2 Part 1 [General Requirements] Clause 4.2 | Within 30 days the from the date of issue of Letter of Award by the Employer |
| Performance Security (Security Deposit) a) Initial Security Deposit b) Through RA Bills | Vol 1 ITB Clause - 7.5 [Performance Security] and Vol 1 Part 4 [Conditions of Contract] Clause 3.7 | a) 2 % of Accepted Contract Price of Part I DB Base Work in the form of DD/BG b) 3 % through RA bills for Part I DB Base Work & Part II O&M Work. |
| Time for submission of Performance Security / Initial Security Deposit | Vol 1 ITB Clause - 7.5 [Performance Security] and Vol 1 Part 4 [Conditions of Contract] Clause 3.7 | Before issue of work order |
| Normal Working Hours | Vol 1 [Conditions of Contract] Clause 5.3 | Part 1 – DB Works - Normal hours during which work will be permitted to be carried out at the Site shall be between 08:00 Hrs to 18:00 Hrs, Monday to Saturday, excluding holidays. Part 2 - Operation and Maintenance shall be carried out 24 hours a day, 7 days a week, for all days of the year. |
| Maximum amount of Delay damages | Vol 1 [Conditions of Contract] Clause 7.3 | Rs 5,000 per day limited to 1 % of the accepted Contract Price per day subject to total of 10% of accepted Contract Price for Part 1 – DB Base Work. |
| Maximum amount of Liquidated Damages in a month for Breakdown of Equipment during O & M | Vol 1 [Particular Conditions for O&M] Clause 3.1.4 | Maximum Liquidated damages shall not exceed the monthly O&M cost |

| Condition | Reference Clause | Data |
|--|--|--|
| Mobilization Advance Payment and its recovery | Mobilization Advance Clause | As per Clause for Mobilization Advance against Contract Price of DB Part I works. |
| Minimum Amount of Interim Payment Certificate | Vol 1 [Conditions of Contract] Clause 10.3 | 1 - 2.5 % of the Accepted Contract Price for DB Part I. 2 – Monthly Bill Amount for O & M Part II |
| Penalty for not employing Project Manager and other Key Personnel till the date of employment of the personnel | Vol 1 Particular Conditions of Contract for Operations and Maintenance | Project Manager - Rs. 1 lakh/month Other Key Personnel – Rs. 50,000/month |
| Minimum insurance to be provided by the Contractor during the Part 1 – DB of the Works | Vol 1 [Conditions of Contract] Clause 13.2 | As per Insurance Clause |
| Insurances to be provided by the Contractor during the Operation and Maintenance Period | Vol 1 [Particular Conditions of Contract for O&M] Clause 11 | As per Insurance Clause |
| Periods of submission of insurance: Evidence of insurance Relevant policies | Vol 1 [Conditions of Contract] Clause 13 | 30 days from date of Letter of Award 60 Days after from date of Letter of Award |
| Maximum total liability of the Contractor to the Employer | Vol 1 [Conditions of Contract] Clause 12.5 | Equal to accepted Contract Price for DB Base Part I Works and O & M Cost for 73 months period. |
| Influent parameters control | | Tripartite Agreement to be executed between industries contributing effluent to CETP, MIDC and Contractor |
| GST | Vol 1 [Conditions of Contract] Clause 10.13 | This is to clarify that the Contractor should quote their offer including GST to be paid as applicable as per GST Act and all other taxes, duties etc payable for this work. No GST / Service Tax etc. will be reimbursed to the Contractor by MIDC. |

1. General Provisions

1.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

- 1.1.1 **“Accounting Year”** means the financial year commencing from the first day of April of any calendar year and ending on the thirty-first day of March of the next calendar year.
- 1.1.2 **“Advance Payment”** shall have the meaning set forth in the recitals.
- 1.1.3 **“Affected Party”** shall have the meaning set forth in the recitals.
- 1.1.4 **“Affiliate”** means, in relation to either Party {and/or Members}, a person who controls, is controlled by, or is under the common control with such Party {or Member} (as used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise).
- 1.1.5 **“Agreement”** means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement.
- 1.1.6 **“Applicable Laws”** means all laws, brought into force and effect by GOI or the State Government including rules, regulations and notifications made there under, and judgments, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement.
- 1.1.7 **“Applicable Permits”** means all clearances, licenses, permits, authorizations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction, operation and maintenance of the Project Works during the subsistence of this Agreement.
- 1.1.8 **“Appointed Date”** means that date of issue of Letter of Award (LOA).
- 1.1.9 **“Arbitration Act”** means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof, as in force from time to time.
- 1.1.10 **“Bank”** means a bank incorporated in India and having a minimum net worth of Rs. 1,000 crores (Rupees one thousand crore) or any other bank acceptable to the Employer.
- 1.1.11 **“Bank Rate”** means the Repo rate of interest announced by the Reserve Bank of India for all its lending operations on the Base Date.
- 1.1.12 **“Base Date”** means the last date of that calendar month, which date precedes the Bid Due Date by at least 28 (twenty-eight) days.
- 1.1.13 **“Bid”** means the documents in their entirety comprised in the bid submitted by the

- [selected bidder/Consortium] in response to the Request for Qualification cum Request for Proposals in accordance with the provisions thereof.
- 1.1.14 **“Bid Security”** means the Bid Security provided by the Contractor to the Employer in accordance with the Request for Proposal, and which is to remain in force until substituted by the Performance Security.
- 1.1.15 **“Change in Law”** means the occurrence of any of the following after the Base Date:
- a. the enactment of any new Indian law.
 - b. the repeal, modification or re-enactment of any existing Indian law;
 - c. the commencement of any Indian law which has not entered into effect until the Base Date.
 - d. a change in the interpretation or application of any Indian law by a judgment of a court of record which has become final, conclusive and binding, as compared to such interpretation or application by a court of record prior to the Base Date; or
 - e. any change in the rates of any of the Taxes or royalties that have a direct effect on the Project.
- 1.1.16 **“Completion Certificate”** shall have the meaning set forth in the recitals;
- 1.1.17 **“Consortium”** means the consortium of entities which have formed a joint venture for implementation of this Project;
- 1.1.18 **“Construction”** shall have the meaning set forth in the recitals;
- 1.1.19 **“Construction Period”** means the period commencing from the Appointed Date and ending on the date of the Completion Certificate;
- 1.1.20 **“Contract”** means the Contract Agreement, the Letter of Award, the Form of Bid, Conditions of Contract, Contract Data Sheet, Employer’s Requirements, General Specifications, Schedules and Datasheets, Indicative Tender Drawings and the further documents (if any) which are listed in Contract Agreement or in the Letter of Award,
- 1.1.21 **“Contract Price”** means the amount specified in the recitals;
- 1.1.22 **“Contractor”** means the person(s) named as contractor in the Form of Bid whose tender has been accepted by the Employer and the legal successors in title to this person(s).;
- 1.1.23 **“Contractor’s Personnel”** means the Contractor’s Representative and all personnel who may include the staff, labour, other employees of the Contractor, personnel utilized by contractor on Site, and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.
- 1.1.24 **“Subcontractor”** means any person appointed by Contractor for design execution, operation, maintenance of any part of the Works; and the legal successors in title to each of these persons.
- 1.1.25 **“Contractor Default”** shall have the meaning set forth in the recitals;
- 1.1.26 **“Damages”** shall have the meaning set forth in the recitals;
- 1.1.27 **“Defect”** means any defect or deficiency in Construction of the Works or any part thereof, which does not conform with the Specifications and Standards, and in the case of Maintenance, means any defect or deficiency which is specified in Schedule E;

- 1.1.28 **“Defects Liability Period”** shall have the meaning set forth in the recitals;
- 1.1.29 **“Dispute”** shall have the meaning set forth in the recitals;
- 1.1.30 **“Dispute Resolution Procedure”** means the procedure for resolution of Disputes set forth in the recitals;
- 1.1.31 **“Drawings”** means all of the drawings, calculations and documents pertaining to the Project Works as set forth in Schedule-I, and shall include ‘as built’ drawings of the Project Works;
- 1.1.32 **“Document”** or **“Documentation”** means documentation in printed or written form, or in tapes, discs, drawings, computer programmes, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;
- 1.1.33 **“Emergency”** means a condition or situation that is likely to endanger the safety or security of the individuals on or about the Project Works, including Users thereof, or which poses an immediate threat of material damage to any of the Project Assets;
- 1.1.34 **“Employer”** means Maharashtra Industrial Development Corporation (MIDC) and its authorized representatives.
- 1.1.35 **“Employer’s Engineer/Engineer- In- charge”** means the person appointed by the Employer from time to time to act as the Engineer;
- 1.1.36 **“Employer’s Personnel”** means such person or persons as may be authorized in writing by the Employer to act on its behalf under this Agreement and shall include any person or persons having Employer to exercise any rights or perform and fulfil any obligations of the Employer under this Agreement;
- 1.1.37 **“Encumbrances”** means, in relation to the Project Works, any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project Works, where applicable herein but excluding utilities referred to in the recitals;
- 1.1.38 **“EPC”** means Engineering, Procurement and Construction;
- 1.1.39 **“DBO”** means Design, Build and Operate
- 1.1.40 **“Final Payment Certificate”** shall have the meaning set forth in the recitals;
- 1.1.41 **“Final Payment Statement”** shall have the meaning set forth in the recitals;
- 1.1.42 **“Force Majeure”** or **“Force Majeure Event”** shall have the meaning ascribed to it in the recitals;
- 1.1.43 **“GOI”** or **“Government”** means the Government of India;
- 1.1.44 **“Good Industry Practice”** means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced contractor engaged in the same type of undertaking as envisaged under this Agreement;
- 1.1.45 **“Government Instrumentality”** means any department, division or subdivision of the Government or the State Government and includes any commission, board, Employer, agency or municipal and other local Employer or statutory body including panchayat

- under the control of the Government or the State Government, as the case may be, and having jurisdiction over all or any part of the Project Works or the performance of all or any of the services or obligations of the Contractor under or pursuant to this Agreement;
- 1.1.46 **“Indemnified Party”** means the Party entitled to the benefit of an indemnity pursuant to the recitals;
- 1.1.47 **“Indemnifying Party”** means the Party obligated to indemnify the other Party pursuant to the recitals;
- 1.1.48 **“Indirect Political Event”** shall have the meaning set forth in the recitals;
- 1.1.49 **“Insurance Cover”** means the aggregate of the maximum sums insured under the insurances taken out by the Contractor pursuant to Clause 13, and includes all insurances required to be taken out by the Contractor under relevant sub clauses of Clause 13 but not actually taken, and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;
- 1.1.50 **“Intellectual Property”** means all patents, trademarks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semiconductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;
- 1.1.51 **“Interim Payment Certificate”** or **“IPC”** means the interim payment certificate issued by the Employer’s Engineer for payment to the Contractor in respect of Contractor’s claims for payment raised in accordance with the provisions of this Agreement;
- 1.1.52 **“LOA”** or **“Letter of Award”** means the letter of award referred to in Recital (E);
- 1.1.53 **“Material Adverse Effect”** means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;
- 1.1.54 **“Materials”** are all the supplies used by the Contractor for incorporation in the Works or for the maintenance of the Project Works;
- 1.1.55 **“Non-Political Event”** shall have the meaning set forth in the recitals;
- 1.1.56 **“Parties”** means the parties to this Agreement collectively and **“Party”** shall mean any of the parties to this Agreement individually;
- 1.1.57 **“Performance Security”** shall have the meaning set forth in the recitals;
- 1.1.58 **“Plant”** means the apparatus and machinery intended to form or forming part of the Works;
- 1.1.59 **“PMC”** shall mean Project/Program Management Consultant appointed by Employer
- 1.1.60 **“Political Event”** shall have the meaning set forth in the recitals;
- 1.1.61 **“Programme”** shall have the meaning set forth in the recitals;
- 1.1.62 **“Project”** means the Construction and Maintenance of the Project Works in accordance

- with the provisions of this Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;
- 1.1.63 **“Project Assets”** means all physical and other assets relating to (a) tangible assets such as civil works and equipment including foundations, civil tanks and structures, buildings, process control hardware and software, electro-mechanical equipment, piping, valves, electrical equipment and motor control centres, field instruments and control system, drainage works (b) Project Facilities situated on the Site;
- 1.1.64 **“Project Completion Date”** means the date on which the Provisional Certificate is issued and in the event no Provisional Certificate is issued, the date on which the Completion Certificate is issued;
- 1.1.65 **“Project Completion Schedule”** means the progressive Project Milestones set forth in Schedule-J for completion of the Project Works on or before the Scheduled Completion Date;
- 1.1.66 **“Project Works”** or **“Works”** means the work of Design, Build and Commissioning including Rehabilitation and Upgrade of 22.5 MLD Common Effluent Treatment Plant (CETP) on DB basis with Operation & Maintenance flows at Roha Industrial Area, in accordance with this Agreement;
- 1.1.67 **“Quality Assurance Plan”** or **“QAP”** shall have the meaning set forth in the recitals;
- 1.1.68 **“Re.”**, **“Rs.”** or **“Rupees”** or **“Indian Rupees”** means the lawful currency of the Republic of India;
- 1.1.69 Deleted
- 1.1.70 **“Right of Way”** means the constructive possession of the Site free from encroachments and encumbrances, together with all way leaves, easements, unrestricted access and other rights of way, howsoever described, necessary for construction and maintenance of the Project Works in accordance with this Agreement;
- 1.1.71 **“Scheduled Completion Date”** shall have the meaning set forth in the recitals;
- 1.1.72 **“Scope of the Project”** shall have the meaning set forth in Clause 1.6; **“Section”** means a part of the Project Works;
- 1.1.73 **“Site”** shall have the meaning set forth in Clause 1.7;
- 1.1.74 **“Specifications and Standards”** means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Project Works, as set forth in Volume 2 – Technical Specifications, Volume 4 -Tender Drawings, other relevant parts of the tender and any modifications thereof, or additions thereto, as included in the design and engineering for the Project Works submitted by the Contractor to, and expressly approved by the Employer;
- 1.1.75 **“Subcontractor”** means any person or persons to whom a part of the Works or the Maintenance has been assigned for completion/execution/operation by the Contractor and the permitted legal successors in title to such person, but not an assignee to such person;
- 1.1.76 **“Taxes”** means any Indian taxes including excise duties, customs duties, GST, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, Materials, equipment and services incorporated in and forming part of the Project Works charged, levied or imposed by any Government Instrumentality, but

excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

- 1.1.77 **“Termination”** means the expiry or termination of this Agreement as per Clause 11 [Termination];
- 1.1.78 **“Termination Notice”** means the communication issued in accordance with this Agreement by one Party to the other Party terminating this Agreement;
- 1.1.79 **“Termination Payment”** means the amount payable by either Party to the other upon Termination in accordance with Clause 11.7 [Termination Payment];
- 1.1.80 **“Tests”** means the tests set forth in Volume 2- Technical Specifications to determine the completion of Works in accordance with the provisions of this Agreement;
- 1.1.81 **“Time Extension”** shall have the meaning set forth in Clause 4.6 [Extension of time for completion];
- 1.1.82 **“User”** means a person who uses or intends to use on the Project Works or any part thereof;
- 1.1.83 **“Valuation of Unpaid works”** shall have the meaning set forth in the recitals;
- 1.1.84 **“WPI”** means the wholesale price index for various commodities as published by the Ministry of Commerce and Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding month.

1.2 Order of Precedence

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- a. the Contract Agreement (if any),
- b. the Letter of Award,
- c. the Form of Bid,
- d. the Contract Data Sheet,
- e. the Particular Conditions of Contract for O&M,
- f. the Conditions of Contract,
- g. the Indicative Tender Drawings,
- h. Technical Specifications and
- i. the Schedules and any other documents forming part of the Contract.

If an ambiguity or discrepancy is found in the documents, the Engineer in charge shall issue any necessary clarification or instruction.

1.3 Employer's Use of Contractor's Document

- 1.3.1 Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

- 1.3.2 The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:
- a. apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
 - b. entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
 - c. in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.
- 1.3.3 All the rights to the Construction Documents and other design documents are to be assigned to the Employer.

1.4 Contractor's Use of Employer's Document

- 1.4.1 Employer shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor.

1.5 Confidentiality

- 1.5.1 The Parties shall treat the details of this Agreement as private and confidential, except to the extent necessary to carry out obligations under it or to comply with Applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Employer.

1.6 Scope of the Project

- 1.6.1 Under this Agreement, the scope of the Project (the "Scope of the Project") shall mean and include the relevant section described in the Volume 2.
- i. Model of CETP --The successful bidder shall have to provide a model of the CETP depicting the picture of post completion stage of DB base work; using acrylic or any other approved durable material within 3 months from the date of issue of work order. The cost of the model shall be deemed to be included in the offer price of Part I- DB base work.
 - ii. Pilot plant --The successful bidder shall have to provide and commission a Pilot Plant of 25 cum/day capacity for Roha CETP. All cost towards pilot plant shall be borne by the contractor. Pilot plant requirements are enclosed as Annexure-III of MIDC Clarifications

1.7 Site

- 1.7.1 The site of the Project Works (the "Site") shall comprise the site described in Volume 2, in respect of which the Right of Way shall be provided by the Employer to the Contractor.

The Employer shall be responsible for:

- a. acquiring and providing land on the Site in accordance with the land use plan finalized by the Employer, free from all encroachments and encumbrances, and free access thereto for the execution of this Agreement; and
- b. To assist the contractor in obtaining licenses and permits for environment clearance for the Project Works, MPCB's consent to operate

1.8 Inspections and Audit (Quality Audit Clause)

- 1.8.1 The Employer or any representative authorized by the Employer in this behalf may inspect and review the progress and quality of the construction of Project Works and issue appropriate directions to the Employer's Engineer and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.
- 1.8.2 The contractor shall note that, following exercise of Quality Audit of the work shall be carried out by the nominated authority from MIDC.
 - a. The quality audit of the work shall be exercised by authority nominated by MIDC at a stage when 80% of the work is completed or at stage as decided by MIDC.
 - b. The contractor should remain present (along-with all test reports & necessary documents for the works) at site when quality audit of the work is being exercised.
 - c. Final Bill (for DB Base Part I Works) will be released for payment only after compliance of the points/remarks raised by the quality auditor with proper reasoning to the competent authority & only after receipt of clearance of nominated authority.
 - d. The contractor has to make all necessary rectifications, alterations to the work executed, as suggested by the quality auditor without any extra cost. If the contractor fails to do so, or does not intend to do so, then the probable amount required for the rectification shall be withheld from the bills & other dues payable to the contractor. The contractor shall be liable to pay suitable compensation as decided by the Superintending Engineer.
 - e. This clause shall be applicable for DB Base Part I Works and O & M Part II Work under scope of this contract as below
 - DB Base Part I Work – Quality Audit shall be conducted at a stage when 80% work is completed.
 - O & M Part II Work - Quality Audit shall be conducted every year 2nd half

1.9 Third Party Inspection

Material such as all type of pipes R.C.C. / P.S.C. / M.S. / S.S. / D.I. / CI. / GI / HDPE (of all sizes), all types of valves and specials (of all sizes), prefabricated structures, M & E Equipment, pumping machinery, any other materials as per requirements which are supplied by the contractor under this contract are subject to third party inspection. The charges for third party inspection shall be 0.20% on the actual cost of materials, excluding Excise and freight of materials. The charges for such inspection shall be paid by the contractor. All the arrangements for inspection i.e. measuring tools, testing equipment and tools, labour required for handling materials during testing etc shall be made available / arranged by the manufacturer / Vendor / contractor in their premises at their own costs. If any particular testing facility is not available at the premises / location of Factory, then the test shall be arranged by the factory owner / Vendor at his own cost at

other locations / test laboratory. All expenses in this regard shall also have to be borne by the manufacturer /vendor /contractor only

If the material inspected fails during test on no fault of the inspecting agency, fees are payable to the inspecting agency for the said inspection and for any further re-inspection of the same material.

Third party inspection shall be done from one of the following agencies. The name of the agency for third party inspection shall be informed by Engineer-in-charge.

1. M/s. Geo-Chem Laboratories Pvt. Ltd.
2. M/s. Dr. Amin Controllers Pvt. Ltd.
3. M/s. Quality Services and Solutions (QSS),
4. M/s. SGS India Pvt. Ltd.
5. M/s. Wapcos Ltd.
6. M/s. RITES Ltd.

If it is subsequently observed that there are defects in the quality of material, the contractor shall replace the material without any extra cost.

In addition to third party inspection, the Engineer-in-charge or his representative may conduct inspection intermittently.

Third Party Inspection Report: The third-party inspection report merely in the certificate form stating that pipes/valves/specials or any other material inspected are found satisfactory will not be accepted, but it should be in the form of detailed report stating the parameters checked & observations made with comments of the Inspecting Officer in accordance with the respective specifications/detailed item wise specifications / as per Tender notice.

1.10 Equipment Standards

All equipment shall be ISI Mark. For non-ISI mark equipment, the best performing three options available in the National or International market shall be proposed by the Contractor for approval of MIDC.

Contractor shall arrange at his own cost, inspection visits for 2 representatives of MIDC and 1 representative from Consultant. As well the provisions under third party inspection clause shall be applicable.

2. The Project Management Consultant (PMC)

2.1 Appointment of the Employer's PMC

2.1.1 The MIDC (Employer) has appointed CH2M as Project Management Consultant hereinafter referred as PMC").

2.1.2 The Employer's PMC may exercise the authority attributable to the Engineer as specified or implied from the Contract. However, under no circumstances the Employer's PMC shall have authority to modify or amend the Contract.

2.1.3 Except as otherwise stated in these Conditions, whenever carrying out duties or

exercising authority, specified in or implied by the Contract, the PMC shall be deemed to act for the Employer;

- 2.1.4 Except as otherwise stated in these Conditions, the PMC has no authority to relieve the contractor of any duties, obligations or responsibilities under the Contract;
- 2.1.5 Except as otherwise stated in these Conditions, any approval, consent, test, inspection, authorization or absence of approval shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, defect liability, omissions, discrepancies and non-compliances.
- 2.1.6 The staff of the Employer's PMC shall include suitably qualified engineers and other professionals who are competent to assist the Employer's PMC to carry out its duties.

2.2 Duties and Authority of the Employer's PMC

- 2.2.1 The Employer's PMC may exercise the authority attributable to the PMC as specified in or necessarily to be implied from the Contract. The Employer's PMC shall perform the duties and exercise the Authority in accordance with the provisions of this Agreement.

2.3 Delegation by the Employer's PMC

- 2.3.1 The Employer's PMC may, by order in writing, delegate any of his duties and responsibilities to qualified representative or may revoke any such delegation, under intimation to the Employer and the Contractor. The representative may include site engineer and/or independent inspectors who are accountable to PMC, Provided, however, that the Engineer-in-charge shall be responsible and liable for all actions and omissions of such personnel.
- 2.3.2 Any failure of the PMC to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Employer to reject the work, Plant or Materials, which is not in accordance with the provisions of this Agreement and the Specifications and Standards.

2.4 Instructions of the Employer's PMC

- 2.4.1 The Employer's PMC at any time may issue instructions and additional or modified Drawings to the Contractor that may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall take such instructions from the Employer's PMC, or from its representative to whom appropriate Authority has been delegated under Clause 2.3.
- 2.4.2 The instructions issued by the Employer's PMC shall be in writing. However, if the Employer's PMC issues any oral instructions to the Contractor, it shall confirm in writing the oral instructions within 3 (three) working days of issuing them.
- 2.4.3 In case the Contractor does not receive the confirmation of the oral instruction within the time specified in Clause 2.4.2, the Contractor shall seek the written confirmation of the oral instructions from the Employer's PMC. The Contractor shall obtain acknowledgment from the Employer's PMC of the communication seeking written confirmation.
- 2.4.4 In case of any dispute on any of the instructions issued by the delegated representative, the Contractor may refer the dispute to the Employer's PMC, who shall then confirm,

reverse or vary the instructions within 5 (five) business days of the dispute being referred.

2.5 Employer's Engineer OR Engineer In charge

2.5.1 The Executive Engineer, MIDC Division Alibaug, having its office at Revas Road, Nagdongari, Chendhre, Alibaug, Dist Raigad, Maharashtra, 402201 shall be the Employer's Engineer or Engineer – In - Charge be for this Agreement.

2.6 Remuneration of the Employer's PMC

The remuneration, cost and expenses of the Employer's PMC shall be paid by the Employer.

2.7 Termination of the Employer's PMC

The Employer may, in its discretion, replace the Employer's PMC at any time, in accordance with Clause 2.1.

3. The Contractor

3.1 Contractor's General Obligations

3.1.1 The Contractor shall design, execute and complete the Works and subsequently operate and maintain it in accordance with the Contract and as per the Engineer-in-charge's instructions. The Contractor shall also remedy any defects whatsoever in the Works to the satisfaction of Engineer-in-charge and in accordance with the Contract.

3.1.2 The Contractor shall provide the Plant, Equipment, Services and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

3.1.3 The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract.

3.1.4 The Contractor shall, whenever required by the PMC/Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

3.1.5 If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions:

- a. the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
- b. these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications as specified, and shall include additional information required by the Engineer-in-charge to add to the Drawings;

- c. the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
- d. prior to the commencement of the Tests on Completion, the Contractor shall submit to the Engineer-in-charge the “as-built” documents and operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over until these documents and manuals have been submitted to the Engineer-in-charge.

3.2 Statutory Approvals and Compliances

The bidders are specifically advised that the following approvals are to be obtained by them from time to time as per prevailing by laws/ rules at his own cost: -

- a. Consent to Operate from the Maharashtra State Pollution Control Board.
- b. Environmental Clearance (EC).
- c. Plan approval and Building Completion Certificate from the SPA MIDC.
- d. Any other statutory clearance/approval / Compliances from any other authority concerned.
- e. The Employer will provide support letters for the approvals on request of the contractor but arranging approval will be responsibility of the Contractor
- f. All the statutory fees/charges that are required to be paid to Govt./Govt. undertakings, MPCB (excluding testing charges and penalties if impose due to non-satisfactory performance of CETP) etc. will be reimbursed by Employer on production of receipt.
- g. Insurance payment of labours / works / provident funds of labours engaged etc. for operation and maintenance of CETP shall be regularly paid by operator.

3.3 Permissions

The Contractor shall obtain all required permissions, sanctions clearances and permits for carrying out its Operations, including Contractors clearances and shall be fully responsible for carrying out the operations in a safe and secure manner, consistent with the law of the land, laws and regulations regarding such facilities and / or System and directives of any competent authority and planning permissions.

3.4 Agreement with Effluent Generating CETP Member Industry

The successful /eligible operator has to enter into an agreement with Employer and effluent generating CETP member industry/Industries Association in respect of CETP. This agreement will be part and parcel of the contract agreement along with all necessary clauses required to be incorporated by law etc. The draft conditions may be modified but will be in synergy with the scope of terms and conditions of the planning authority.

3.5 Penalty cum Termination on Non-Performance of CETP

3.5.1 Performance of existing 22.5 MLD Roha CETP during initial period of 13 months:

After issue of work order to the contractor, initial period of 9 months will be considered as period of improvement for existing capacities of CETP. During this period the

contractor shall have to complete 100% work of repair/replacement of existing equipment, providing new/additional equipment, electromechanical works related to Rehabilitation and Up-gradation of existing CETP, etc.

The contractor is bound to give the improvement in the Performance of CETP at outlet with respect to present performance of the CETPs. The present performance of the CETPs shall be decided on the basis of test reports of treated effluent, mutually taken by MIDC during the initial period of 15 days after issue of work order in respect of pH, SS, BOD, COD parameters for the respective CETP and the same shall be treated as basis for deciding improvement.

Achievement in Performance improvement of existing **22.5 MLD Roha CETP** related to improvement in parameters pH, SS, BOD, COD. shall be as below:

| | |
|--|---|
| First Three Months i.e. from the date of issue of work order to the end of Third Month | 50% Overall improvement on 90 th day after issue of work order. |
| First day of Fourth Month to end of Sixth Month | 75% Overall improvement on 180 th day after issue of work order. |
| First day of Seventh Month to end of Ninth Month | 100% Overall improvement on the 270 th day after issue of work order |

If the desired improvement as mentioned above is not achieved in the performance of CETP, then the deviation in performance achievement shall be liable for penalty of compensation through monthly bills of O & M as stated below:

| Sr. No. | Time frame proposed for achievement | Desired achievement in Overall Performance improvement in parameters pH, SS, BOD, COD | Compensation to be recovered on default. % amount of monthly bill to be forfeited |
|---------|--|---|---|
| 1 | The date of issue of work order to the end of 90 days. | 50% | 5% (through monthly bills from 4th month) |
| 2 | 91st day to end of 180th day. | 75% | 10% (through monthly bills from 7th month) |
| 3 | 181st day to completion of the Part I DB Base Work | 100% | 15% (through monthly bills from 10th month) |

3.5.2 Performance of 22.5 MLD capacity CETP after completion of Part I DB base works:

After completion of Part I DB base works for rehabilitation, up-gradation and commissioning, performance of the CETP shall be as per MPCB norms/prevaling consent to operate issued by MPCB.

Employer/MPCB will take monthly/periodically samples and get it tested from MPCB or MoEF & CC approved laboratory or performance results that are reflected on MPCB website through online analyzer etc; all the results and reports will be binding on contractor. If the performance of CETP is exceeding the limits prescribed in MPCB's consent to operate for Roha CETP; following procedure will be followed:-

- a. 30 days notice will be served to operator/contractor to improve the performance.
- b. After 30 days, if performance is found not improved i.e. within outlet parameters of consent to operate issued by MPCB; then 20% of total bill amount of treatment charges due to the contractor/operator for that month will be recovered and forfeited.
- c. After period of 60 days of issue of such notice; if the performance of CETP is not improved then 25% of total bill amount of treatment charges due to the contractor/operator for that month will be recovered and forfeited and a final notice of 30 days will be issued as notice of the contract agreement termination on failure to comply in next 30 days by forfeiting the performance security deposit and balance security deposit available with Employer as on date.

3.6 Financial Assistance

The operator shall not be entitled to take any financial assistance from any financial institute by mortgaging the any Employer property.

3.7 Performance Security

- 3.7.1 The Contractor shall, for the performance of its obligations hereunder during the Construction Period, provide to the Employer, within time limit specified in the Contract Data Sheet, an irrevocable and unconditional guarantee from a Bank in the format set forth in Tender Forms for an amount as specified in the Contract Data Sheet.
- 3.7.2 The BG against Performance security/initial security deposit shall be valid during whole contract period of 73 months and the same shall be refunded alongwith final bill at the end of the contract period.
- 3.7.3 Until such time the Performance Security is provided by the Contractor pursuant hereto and the same comes into effect, the Bid Security shall remain in force and effect, and upon such provision of the Performance Security, the Employer shall release the Bid Security to the Contractor. Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the Contractor to provide the Performance Security in accordance with the provisions of this Clause 3.7 and Vol 1, ITB Clause 7.5 [Performance Security] and within the time specified therein or such extended period as may be provided by the Employer, in accordance with the provisions of Clause, the Employer may encash the Bid Security and appropriate the proceeds thereof as Damages, and thereupon all rights, privileges, claims and entitlements of the Contractor under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Contractor, and this Agreement shall be deemed to have been terminated by mutual agreement of the Parties.

3.8 Extension of Performance Security

- 3.8.1 The Contractor shall initially provide the Performance Security for a period of 2 (two) years; provided that it shall procure the extension of the validity of the Performance Security, as necessary as stated in Clause 3.7.2, at least 28 days prior to the date of expiry thereof.
- 3.8.2 If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to

the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.

- 3.8.3 Upon the Contractor providing an extended Performance Security, the previous Performance Security shall be deemed to be released and the Employer shall return the same to the Contractor within a period of 15 (fifteen) business days from the date of submission of the extended Performance Security.

3.9 Appropriation of Performance Security

- 3.9.1 Upon occurrence of a Contractor's Default, the Employer shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate the relevant amounts from the Performance Security as Damages for such Contractor's Default.

- 3.9.2 Upon such encashment and appropriation from the Performance Security, the Contractor shall, within 30 (thirty) days thereof, replenish, in case of partial appropriation, to its original level the Performance Security, and in case of appropriation of the entire Performance Security provide a fresh Performance Security, as the case may be, and the Contractor shall, within the time so granted, replenish or furnish fresh Performance Security as aforesaid failing which the Employer shall be entitled to terminate the Agreement in accordance with Clause titled 'Termination'. Upon replenishment or furnishing of a fresh Performance Security, as the case may be, as aforesaid, the Contractor shall be entitled to an additional Cure Period of 30 (thirty) days for remedying the Contractor's Default, and in the event of the Contractor not curing its default within such Cure Period, the Employer shall be entitled to encash and appropriate such Performance Security as Damages, and to terminate this Agreement in accordance with Clause 11 titled '**Termination**'.

3.10 Release of Performance Security

- 3.10.1 The Performance Security shall be released to the Contractor as under;
- a. Initial Security Deposit - Alongwith final bill at the end of the contract period.
 - b. Security Deposit recovered through RA bills – After completion of defect liability period.

3.11 Deleted

3.12 Site Data

- 3.12.1 The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.
- 3.12.2 To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its

surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- a. the form and nature of the Site, including sub-surface conditions,
- b. the hydrological and climatic conditions,
- c. the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- d. the Laws, procedures and labour practices of the Country, and
- e. the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

3.13 Electricity, Water and Gas

The Contractor shall be responsible for procuring of all Power, Water and other services that it may require.

Contractor shall arrange and provide at his own cost electric connection of suitable load from local electricity supply agency and will also keep ready Generators of adequate capacity as stand by arrangement in case of electric failure during construction for running pump sets, vibrators, mixer, needle sets and electric set and other electrically operated Construction equipment etc. at his own cost.

The cabling for electric connection shall be arranged by the Contractor himself at his own cost. The non-availability /sanction of electric connection shall be no excuse for delay in completion of work.

The Water required for all purposes including construction purpose shall be arranged by Contractor at his cost.

If the quality of ground water is not as per standards or if contractor makes his own arrangement for construction and drinking purposes, he will ensure that the quality of water conforms to relevant BIS standards as applicable according to the use to which the water is being put to. The quality of water shall be got tested as per BIS by the Contractor at his own cost at a laboratory approved by Engineer-in-Charge.

3.13.1 Current water charges for the month Dec 2017 to Feb 2018 as per MIDC water bills are as under;

Dec 2017: Rs. 2,279/-

Jan 2018: Rs. 2,583/-

Feb 2018: Rs. 3,696/-

3.13.2 Current electricity charges for the month Dec 2017 to Feb 2018 as per MSEDCL bills are as under;

Dec 2017: Rs. 23,27,986/-

Jan 2018: Rs. 25,02,436/-

Feb 2018: Rs. 24,04,293/-

3.14 Employer's Equipment and Free Issue Material

Employer does not have provision for any equipment or free issue material. However, the existing CETP comprising of Civil structures, M & E equipment, DG set, Spares, Laboratory Equipment as per inventory shall be handed over to the contractor on as is where is basis

3.15 Progress Reports

- 3.15.1 During the Construction Period, the Contractor shall, no later than 10 (ten) days after the close of each month, furnish to the Employer and the Engineer-in-charge a monthly report on progress of the Works and shall promptly give such other relevant information as may be required by the Engineer-in-charge. Soft copies of the reports also to be submitted.
- 3.15.2 Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.
- 3.15.3 Each report shall include:
- a. charts and detailed descriptions of progress, including each stage of design Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Subcontractor,
 - b. photographs/video showing the progress on the Site and status of manufacture;
 - c. for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
 - i. commencement of manufacture,
 - ii. Contractor's inspections,
 - iii. tests, and
 - iv. shipment and arrival at the Site;
 - d. copies of quality assurance documents, test results and certificates of Materials;
 - e. list of claims by any party;
 - f. Comparisons of actual and planned progress, with details of any events or anticipated risks that may inhibit the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.
 - g. safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations;

3.16 Security of the Site

Unless otherwise stated:

- a. the Contractor shall be responsible for keeping unauthorized persons off the Site, and
- b. authorized persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by the Employer or the Engineer, as authorized personnel of the Employer's other contractors on the Site.
- c. The contractor shall have to provide security arrangement for the whole contract period of 73 months at his own risk and cost.

3.17 Fossils

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care

and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Engineer and shall be entitled subject to claims for:

- a. an extension of time for any such delay, if completion is or will be delayed, and
- b. payment of any such Cost, which shall be included in the Contract Price.

4. Design and Construction of the Project Works

4.1 Obligations prior to commencement of Works

Within 15 (fifteen) days of the Letter of Award, the Contractor shall:

- a. appoint its Project Manager (the "**Project Manager**"), duly authorized to deal with the Employer in respect of all matters under or arising out of or relating to this Agreement;
- b. appoint a Design Manager (the "**Design Manager**") who will head the Contractor's Design unit and shall be responsible for surveys, investigations, collection of data, and preparation of basic and detailed Designs and Drawings;
- c. undertake and perform all such acts, deeds and things as may be necessary or required before commencement of Works under and in accordance with this Agreement, the Applicable Laws and Applicable Permits;
- d. the Contractor within stipulated time as indicated in Contract Data Sheet, shall submit to the PMC and the Engineer-in-charge a project plan and schedule for the Works (the "**Programme**"), developed using networking techniques giving the following details:
 1. Contractor's organization for the Project, the general methods and arrangements for Design and Construction, Environmental Management Plan, Quality Assurance Plan including Design Quality Plan, Safety Plan covering Safety of users and workers during Construction, Contractor's key personnel and equipment.
 2. Programme for completion of all stages of Construction and Project milestones. The Programme shall include:
 - the order in which the Contractor intends to carry out the Works, including the anticipated timing of Design, Supply, Installation, Erection, Testing, Commissioning of all equipment and various packages and stages of Works;
 - the periods for reviews;
 - the sequence and timing of inspections and tests specified in this Tender.
 - The Contractor shall submit a revised programme whenever the previous programme is inconsistent with the actual progress or with the Contractor's obligations.
 3. Monthly Cash Flow Forecast

4.2 Design and Drawings Obligations

The Contractor shall carry out, and be responsible for, the complete Design of the Works including basic Engineering, detailed Engineering and Construction Drawings. Design shall be prepared by qualified Designers/professionals who comply with the criteria stated in the Employer's Requirements or as directed by Engineer-in-charge. The Contractor undertakes that the Designers shall be available to attend discussions with the Engineer-in-Charge at all reasonable times during the Contract Period.

Contractor shall be responsible for approval of Design, Construction documents and drawings from Employer or any agency or consultant appointed by Employer for this purpose. No extra payment or charges shall be paid to contractor for this purpose.

The Contractor is required to study the Employer's Design criteria, specifications etc., as included in the Bid documents to confirm their correctness in its bid and to assume full responsibility for them.

4.3 Submission of Design Calculations, Drawings and Documents

4.3.1 As per the date indicated in the Contract Data Sheet or as approved by the Engineer-in-Charge, the Contractor shall submit 3 (three) hard copies along with workable soft copies each of Design Calculations, Drawings and Other Documents as indicated in Volume 2, Part 1 [General Requirements] of the tender document to the Engineer-in-Charge for approval.

4.3.2 The Contractor shall incorporate all necessary comments of the Engineer-in-Charge or consultant appointed by Employer, if any, and shall re-submit further 3 (three) copies each of the revised Design and drawings within 10 (ten) days for final approval of the Engineer-in-Charge.

4.3.3 Design calculations and drawings shall be submitted in sequence as per schedule to be drawn and agreed upon mutually, immediately after submission of the general arrangement drawing. The entire process of submission of all such documents by the Contractor in initial copies and final copies after approval of the Engineer-in-Charge shall be completed within 90 days from the date of the work order.

The Contractor shall incorporate all necessary comments of the Engineer-in-Charge or consultant appointed by Employer, if any, and shall re-submit further 3 (three) copies each of the revised design and drawings within 14 (fourteen) days for final approval of the Engineer-in-Charge.

4.3.4 By submitting the Drawings for review to the Engineer-in-charge, the Contractor shall be deemed to have represented that it has determined and verified that the Design and engineering, including field construction criteria related thereto, are in conformity with the Scope of the Project, the Specifications and Standards and the Applicable Laws;

4.3.5 In the event the Contractor fails to revise and resubmit such Drawings to the Engineer-in-charge for review as aforesaid, the Engineer-in-charge may withhold the payment for the affected works in accordance with the relevant provisions of tender. If the Contractor disputes any decision, direction or determination of the Engineer-in-charge hereunder, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure;

4.3.6 No review and/or observation of the Engineer-in-charge and/or its failure to review and/or convey its observations on any Drawings shall relieve the Contractor of its obligations and liabilities under this Agreement in any manner nor shall the Engineer-in-

charge or the Employer be liable for the same in any manner; and if errors, omissions, ambiguities, inconsistencies, inadequacies or other Defects are found in the Drawings, they and the construction works shall be corrected at the Contractor's cost.

- 4.3.7 The Contractor shall be responsible for delays in submitting the Drawing as set forth in Volume 2, Part 1 [General Requirements] caused by reason of delays in surveys and field investigations, and shall not be entitled to seek any relief in that regard from the Employer;
- 4.3.8 The Contractor warrants that its Designers, including any third parties engaged by it, shall have the required experience and capability in accordance with Good Industry Practice and approval of Employer and it shall indemnify the Employer and Consultant appointed by Employer against any damage, expense, liability, loss or claim, which the Employer might incur, sustain or be subject to arising from any breach of the Contractor's Design responsibility and/or warranty set out in this Clause.
- 4.3.9 Any cost or delay in construction arising from review by the Engineer-in-charge shall be borne by the Contractor.
- 4.3.10 Works shall be executed in accordance with the Drawings provided by the Contractor in accordance with the provisions of this Clause 4.2 and the comments/observations of the Engineer-in-charge thereon as communicated. Such Drawings shall not be amended or altered without prior written notice to the Engineer-in-charge. If a Party becomes aware of an error or defect of a technical nature in the Design or Drawings, that Party shall promptly give notice to the other Party of such error or defect.
- 4.3.11 Within 30 (thirty) days of the Completion Date of DB base Part I works, the Contractor shall furnish to the Employer and the Engineer-in-charge a complete set of as built drawings, in 2 (two) hard copies and soft copy as may be acceptable to the Employer, reflecting the Project Works as actually designed, engineered and constructed, including an as built survey illustrating the layout of the Project Works and setback lines, if any, of the buildings and structures forming part of Project Facilities.

4.4 Construction of the Project Works (DB Base Part I Work)

- 4.4.1 The Contractor shall construct the Works (DB Base Part I) as specified in Schedules and Datasheets in conformance to Volume 2, Technical Specifications. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works. The Contractor agrees and undertakes that the construction shall be completed within the Time for Completion of Works as indicated in Contract Data Sheet, including any extension thereof.

4.5 Scheduled Completion date

- 4.5.1 The Scheduled Completion Date for the Part 1 - DB of the Works shall occur on the last day of Time for Completion of Part 1 - DB of the Works as indicated in the Contract Data Sheet.
- 4.5.2 On or before the Scheduled Completion Date, the Contractor shall have completed Part 1 - DB of the Works in accordance with this Agreement.

4.6 Extension of time for completion

- 4.6.1 Without prejudice to any other provision of this Agreement for and in respect of extension of time, the Contractor shall be entitled to extension time for Completion of Works (the “**Time Extension**”) to the extent that completion of any Project Milestone is or will be delayed by occurrence of any of the following conditions, namely:
- a. delay by Employer in providing access to site;
 - b. occurrence of a Force Majeure Event;
 - c. any delay, impediment or prevention caused by or attributable to the Employer, the Employer's personnel or the Employer's other contractors on the Site; and
 - d. any other cause or delay which entitles the Contractor to Time extension in accordance with the provisions of this Agreement.
- 4.6.2 The Contractor shall, no later than 15 (fifteen) business days from the occurrence of an event or circumstance specified in Clause 4.6.1, inform the Engineer-in-charge by notice in writing, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of this Agreement. Provided that the period of 15 (fifteen) business days shall be calculated from the date on which the Contractor became aware, or should have become aware, of the occurrence of such an event or circumstance.
- Provided further that notwithstanding anything to the contrary contained in this Agreement, Time Extension shall be due and applicable only for the Works which are affected by the aforesaid events or circumstances and shall not in any manner affect the Project Completion Schedule for and in respect of the Works which are not affected hereunder.
- 4.6.3 In the event of the failure of the Contractor to issue to the Engineer-in-charge a notice in accordance with the provisions of Clause 4.6.2 within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right for any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice as specified in this Clause 4.6, the Employer shall be discharged from all liability in connection with the claim.
- 4.6.4 The Engineer-in-charge shall, on receipt of the claim in accordance with the provisions of Clause 4.6.2, examine the claim expeditiously within the time frame specified herein. In the event the Engineer-in-charge requires any clarifications to examine the claim, the Engineer-in-charge shall seek the same within 15 (fifteen) days from the date of receiving the claim. The Contractor shall, on receipt of the communication of the Engineer-in-charge requesting for clarification, furnish the same to the Engineer-in-charge within 10 (ten) days thereof. The Engineer-in-charge shall, within a reasonable period from the date of receipt of such clarifications, forward in writing to the Contractor its determination of Time Extension.
- Provided that when determining each extension of time under this Clause 4.6, the Engineer-in-charge shall review previous determinations and may increase, but shall not decrease, the total Time Extension.
- 4.6.5 If the event or circumstance giving rise to the notice has a continuing effect:
- a. a fully detailed claim shall be considered as interim;
 - b. the Contractor shall, no later than 10 (ten) days after the close of each month, send further interim claims specifying the accumulated delay, the extension of time

claimed, and such further particulars as the Engineer-in-charge may reasonably require; and

- c. the Contractor shall send a final claim within 30 (thirty) days after the effect of the event or the circumstance ceases.

Upon receipt of the claim hereunder, the Engineer-in-charge shall examine the same in accordance with the provisions of Clause 4.6.4 within a reasonable period of the receipt thereof.

4.7 Incomplete Works

In the event the Contractor fails to complete the Works in accordance with the Project Completion Schedule, including any Time Extension granted under this Agreement, the Contractor shall endeavor to complete the balance work expeditiously and shall pay Damages to the Employer in accordance with the provisions for delay of each day until the Works are completed in accordance with the provisions of this Agreement. Recovery of Damages under this Clause shall be without prejudice to the rights of the Employer under this Agreement including the right to termination under Clause 11 [Termination].

4.8 Restrictions to Change of Scope

- 4.8.1 No Change of Scope shall be executed unless the Employer has issued the Change of Scope Order save and except any Works necessary for meeting any Emergency.
- 4.8.2 Notwithstanding anything to the contrary in this Clause 4, no change made necessary because of any default of the Contractor in the performance of its obligations under this Agreement shall be deemed to be Change of Scope, and shall not result in any adjustment of the Contract Price or the Project Completion Schedule.

4.9 Power of the Employer to undertake works

- 4.9.1 In the event the contractor fails to agree to the proposed Change of Scope in accordance with Clause 4.8, the Employer may, after giving notice to the Contractor and award such works or services to any third party or agency as deemed suitable and get the works executed at the risk and cost of the contractor.
- 4.9.2 It is also agreed that the Contractor shall provide assistance and cooperation to the person or agency who undertakes the works or services hereunder, and will be responsible for rectification of any Defects and/ or maintenance of works carried out by other agencies.
- 4.9.3 Notwithstanding anything contrary to this Clause 4.9, it will be Contractor's obligation to construct and maintain the Project Works in accordance with this Agreement.

5. Staff and Labour

5.1 Persons in the Service of Employer

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.

5.2 Labour Laws

The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

5.3 Working Hours

No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours as indicated in Contract Data Sheet, unless:

- a. otherwise stated in the Contract,
- b. the Engineer-in-charge gives consent, or
- c. the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer-in-charge

5.4 Facilities for Staff and Labour

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel.

The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

- a. Within 30 days of award of work the contractor shall provide the site office with independent soundproof air-conditioned cabins for use by Engineer-in-Charge and consultant and its staff appointed by Employer. The site office should have at least two meeting rooms (min 10-person seating capacity in each), pantry and toilet facilities. The site office shall include necessary furniture, required office equipment i.e. Fax, photocopy, computer with color laser printer of latest configuration /software and broadband internet connections for use by Engineer-in-Charge and consultant and its staff appointed by Employer.
- b. The location and layout of site offices shall be got approved from the Engineer-in-charge before providing the same.
- c. The Contractor shall appoint a duly qualified safety officer who shall be stationed at the site from the time the contractor mobilizes. These personnel or a suitable replacement, if required, and for which prior permission of Employer is to be obtained, shall be stationed at site till the end of the contract period.
- d. The Contractor shall provide electricity, water and telephone connections to the site office at his own cost along with other required facilities.
- e. Running expenses of the site office shall be borne by the Contractor.
- f. The Contractor shall not use any part of the project site or any adjoining/nearby site for labour camp or for accommodation/housing of any labour without the written permission of Engineer-in-Charge.

5.5 Contractor's Superintendence

Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

Contractor shall appoint a Planning Engineer at project site with computer having M.S. Project/Primavera and CAD facility. The role and purpose of the Engineer shall be mainly to maintain weekly reporting to Employer (besides monthly Progress Report) on an approved format through E-mail facility kept by the Contractor at site. Also, CAD drafting facility is required to incorporate necessary details/variation on drawings or the As-built drawings time -to- time during construction process and to avoid any discrepancies therein.

5.6 Measures against Insects and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect all staff and labour employed on the Site from insect and pest nuisance, and to reduce the dangers to health and general nuisance occasioned by the same. The Contractor shall provide his staff and labour with suitable prophylactics for the prevention of malaria and take steps to prevent the formation of the stagnant pools of water. The Contractor shall comply with all the regulations of the local health authorities and shall arrange to spray thoroughly with approved insecticide in all.

5.7 Epidemics

In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same.

5.8 Burial or Cremation of the Dead

The Contractor shall make all necessary arrangements for the transport, to anyplace as required for burial/cremation, of any of his expatriate employees or members of their families who may die at the works. The Contractor shall also be responsible, to the extent required by local regulations, for making any arrangements with regard to burial/cremation of any of his local employees who may die while engaged upon the Works.

5.9 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of the Country import, sell, gift, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale gift, barter or disposal by Contractor's Personnel.

5.10 Arms and Ammunition

The Contractor shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or allow Contractor's personnel to do so.

5.11 Festivals and Religious Customs

The Contractor shall respect the Country's/Locally recognized festivals, days of rest and religious or other customs.

5.12 Foreign Staff and Labour

The Contractor may import any personnel who are necessary for the execution of the Works. The contractor must ensure that these personnel are provided with the required residence visas and work permits. The Contractor shall be responsible for the return to the place where they were recruited or to their domicile of imported Contractor's Personnel. The Contractor shall be responsible for such personnel who are to return until they shall have left the Site or, in the case of foreign nationals who have been recruited outside the country, shall have left it.

6. Plant, Materials and Workmanship

6.1 Quality of Materials and Workmanship

The Contractor shall ensure that the Construction, Materials and workmanship are in accordance with the requirements specified in this Agreement, Employer's Requirements, General Specifications and Standards and Good Industry Practice.

6.2 Quality Control System

The Contractor shall establish a quality control mechanism to ensure compliance with the provisions of this Agreement (the "Quality Assurance Plan" or "QAP").

The Contractor shall, within 30 (thirty) days of the Appointed Date, submit to the Engineer-in-charge its Quality Assurance Plan which shall include the following:

- a. organization, duties and responsibilities, procedures, inspections and documentation;
- b. quality control mechanism including sampling and testing of Materials, test frequencies, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, check list for site activities, and proforma for testing and calibration in accordance with the Indian standards, relevant specifications and Good Industry Practice; and
- c. internal quality audit system.

The Contractor shall procure all documents, apparatus and instruments, fuel, consumables, water, electricity, labour, materials, samples, and qualified personnel as are necessary for examining and testing the Project Assets and workmanship in accordance with the Quality Assurance Plan.

The cost of testing of Construction, Materials and workmanship under this clause 6 shall be borne by the Contractor.

6.3 Methodology

The Contractor shall, at least 15 (fifteen) days prior to the commencement of the construction, submit to the Engineer-in-charge for review the methodology proposed to be adopted for executing the Works and measures for ensuring safety.

6.4 Inspection and Technical Audit by the Employer

The Employer or any representative authorized by the Employer in this behalf may inspect and review the progress and quality of the construction of Project Works and issue appropriate directions to the Engineer-in-charge and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.

6.5 External Technical Audit

At any time during construction, the Employer may appoint an external technical auditor to conduct an audit of the quality of the Works. The findings of the audit, to the extent accepted by the Employer, shall be notified to the Contractor and the Engineer-in-charge for taking remedial action in accordance with this Agreement. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder. Notwithstanding anything contained in this Clause 6.5, the external technical audit shall not affect any obligations of the Contractor or the Engineer-in-charge under this Agreement.

Also, the provisions laid under quality audit clause 1.8 part 4 COC, shall be applicable as under

A – DB Based Part I – Quality Audit after completion of 80 % work.

B – O & M Part II – Once in every year (in the second half)

6.6 Inspection of Construction Records

The Employer shall have the right to inspect the records of the Contractor relating to the Works.

6.7 Inspection

The Engineer-in-charge / its authorized representative and PMC shall at all reasonable times:

- a. have full access to all parts of the Site and to all places from which natural Materials are being obtained for use in the Works; and
- b. during production, manufacture and construction at the Site and at the place of production, be entitled to examine, inspect, measure and test the Materials and workmanship, and to check the progress of manufacture of Materials.

The Contractor shall give the Engineer-in-charge / its authorized agents and PMC access, facilities and safety equipment for carrying out their obligations under this Agreement.

For the avoidance of doubt, such inspection or submission of Inspection Report by the Engineer-in-charge shall not relieve or absolve the Contractor of its obligations and liabilities under this Agreement in any manner whatsoever.

Third Party Inspection clause 1.9 Part 4 COC, shall be applicable

6.8 Samples

The Contractor shall submit the following samples of Materials and relevant information to the Engineer-in-charge for pre-construction review:

- a. Manufacturer's test reports and standard samples of manufactured Materials; and
- b. Samples of such other Materials as the Engineer-in-charge may require.

6.9 Tests

For determining that the Works conform to the Specifications and Standards, the Engineer-in-charge shall require the Contractor to carry out or cause to be carried out tests, at such time and frequency and in such manner as specified in this Agreement, and in accordance with Good Industry Practice for quality assurance. The test checks by the Engineer-in-charge shall comprise at least 20 (twenty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.

In the event that results of any tests conducted under this Clause 6.9 establish any Defects or deficiencies in the Works, the Contractor shall carry out remedial measures and furnish a report to the Engineer-in-charge in this behalf. The Engineer-in-charge shall require the Contractor to carry out or cause to be carried out tests to determine that such remedial measures have brought the Works into compliance with the Specifications and Standards, and the procedure shall be repeated until such Works conform to the Specifications and Standards. For the avoidance of doubt, the cost of such tests and remedial measures in pursuance thereof shall be solely borne by the Contractor.

6.10 Examination of Work Before Covering Up

In respect of the work which the Engineer-in-charge is entitled to examine, inspect, measure and/or test before it is covered up or put out of view or any part of the work is placed thereon, the Contractor shall give notice to the Engineer-in-charge whenever any such work is ready and before it is covered up. The Engineer-in-charge shall then either carry out the examination, inspection or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer-in-charge does not require to do so. Provided, however, that if any work is of a continuous nature where it is not possible or prudent to keep it uncovered or incomplete, then Contractor shall notify the schedule of carrying out such work to give sufficient opportunity, not being less than 3 (three) business days' notice, to the Engineer-in-charge to conduct its inspection, measurement or test while the work is continuing. Provided further that in the event the Contractor receives no response from the Engineer-in-charge within a period of 3 (three) business days from the date on which the Contractor's notice hereunder is delivered to the Engineer-in-charge, the Contractor shall be entitled to assume that the Engineer-in-charge would not undertake the said inspection.

6.11 Rejection

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or workmanship is found to be defective or otherwise not in accordance with the provisions of this Agreement, the Engineer-in-charge shall reject the Plant, Materials, Design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the Defect and ensure that the rejected item complies with the requirements of this Agreement.

If the Engineer-in-charge requires the Plant, Materials, Design or workmanship to be retested, the tests shall be repeated under the same terms and conditions, as applicable in each case. If the rejection and retesting cause the Employer to incur any additional costs, such cost shall be recoverable by the Employer from the Contractor; and may be deducted by the Employer from any monies due to be paid to the Contractor.

6.12 Remedial work

6.12.1 Notwithstanding any previous test or certification, the Engineer-in-charge may instruct the Contractor to:

- a. remove from the Site and replace any Plant or Materials which are not in accordance with the provisions of this Agreement;
- b. remove and re-execute any work which is not in accordance with the provisions of this Agreement and the Specification and Standards; and
- c. Execute any work which is urgently required for the safety of the Project Works, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 14 shall apply.

If the Contractor fails to comply with the instructions issued by the Engineer-in-charge under this Clause 6.12.1, within the time specified in the Engineer-in-charge's notice or as mutually agreed, the Engineer-in-charge may advise the Employer to have the work executed by another agency. The cost so incurred by the Employer for undertaking such work shall, without prejudice to the rights of the Employer to recover Damages in accordance with the provisions of this Agreement, be recoverable from the Contractor and may be deducted by the Employer from any money due to be paid to the Contractor.

6.13 Royalties

6.13.1 Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:

- a. natural Materials obtained from outside the Site, and
- b. the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.

6.14 Delays during construction

6.14.1 In the event the Contractor does not achieve any of the Project Milestones or the Engineer-in-charge shall have reasonably determined that the rate of progress of Works is such that Completion of the Project Works is not likely to be achieved by the end of the Scheduled Completion Date, it shall notify the same to the Contractor, and the Contractor shall, within 7 (seven) days of such notice, by a communication inform the Engineer-in-charge in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.

6.15 Suspension of unsafe Construction Works

6.15.1 Upon recommendation of the Engineer-in-charge to this effect, the Employer may by notice require the Contractor to suspend forthwith the whole or any part of the Works if, in the reasonable opinion of the Engineer-in-charge, such work threatens the safety of

the Users and pedestrians.

The Contractor shall, pursuant to the notice under this Clause 6.15.1, suspend the Works or any part thereof for such time and in such manner as may be specified by the Employer and thereupon carry out remedial measures to secure the safety of suspended works, the Users and pedestrians. The Contractor may by notice require the Engineer-in-charge to inspect such remedial measures forthwith and make a report to the Employer recommending whether or not the suspension hereunder may be revoked. Upon receiving the recommendations of the Engineer-in-charge, the Employer shall either revoke such suspension or instruct the Contractor to carry out such other and further remedial measures as may be necessary in the reasonable opinion of the Employer, and the procedure set forth in this Clause 6.15.1, shall be repeated until the suspension hereunder is revoked.

Subject to the provisions of Clause 14 [Force Majeure], all reasonable costs incurred for maintaining and protecting the Works or part thereof during the period of suspension (the “**Preservation Costs**”), shall be borne by the Contractor; provided that if the suspension has occurred as a result of any breach of this Agreement by the Employer, the Preservation Costs shall be borne by the Employer.

If suspension of Works is for reasons not attributable to the Contractor, the Engineer-in-charge shall determine any Time Extension to which the Contractor is reasonably entitled.

7. Commencement, Delays and Suspension

7.1 Commencement of Work

The commencement date shall be within the time specified in the Contract Data Sheet.

7.2 Time for Completion

The Contractor shall complete the whole of the Works, and each Section complete in itself (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- a. Achieving the passing of the Tests on Completion, and
- b. Completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking over.

7.3 Delay Damages

7.3.1 If the Contractor fails to comply with time for completion of project, the Contractor shall subject to penalty as specified per delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data Sheet, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages as stated in the Contract Data Sheet.

7.3.2 These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

7.4 Suspension of Work

- 7.4.1 The Engineer-in-charge may at any time instruct the Contractor to suspend progress of part or all of the Works. The Engineer-in-charge may also notify the cause for the suspension.
- 7.4.2 During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.
- 7.4.3 The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty Design, workmanship or materials, or of the Contractor's failure to protect, store or secure.

7.5 Tests on Completion

- 7.5.1 At least 15 (fifteen) days prior to the likely completion of the Project Works, or a Section thereof, the Contractor shall notify the Engineer-in-charge of its intent to subject the Project Works or a Section thereof, to Tests. The date and time of each of the Tests shall be determined by the Contractor in consultation with the Engineer-in-charge and notified to the Employer who may designate its representative to witness the Tests.
- 7.5.2 Contractor shall submit the testing plan and procedure for Engineer-in-charge's approval three months before the scheduled tests.
- 7.5.3 Provisioning of all electricity, equipment, fuel, instruments, labour, materials and suitably qualified and experienced staff shall be made available by the Contractor.
- 7.5.4 Contractor shall carry out the tests properly and maintain formal test records of start, duration, finish, test pressure, witness along with weather conditions and observations.
- 7.5.5 The Engineer-in-charge shall observe, monitor and review the Tests conducted by the Contractor and review the results of the Tests to determine compliance of the Project Works or a Section there of, with Specifications and Standards.
- 7.5.6 If it is reasonably anticipated or determined by the Engineer-in-charge during the course of any Test that the performance of the Project Works or Section or any part thereof, does not meet the Specifications and Standards, it shall have the right to suspend or delay such Test and require the Contractor to remedy and rectify the Defect or deficiencies.
- 7.5.7 For the avoidance of doubt, it is expressly agreed that the Engineer-in-charge may require the Contractor to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Project Works or Section thereof with the Specifications and Standards.

7.6 Delayed Tests

- 7.6.1 If the Tests on Completion are being unduly delayed by the Contractor, the Engineer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.
- 7.6.2 If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

7.7 Retesting

- 7.7.1 If the Works, or a Section, fail to pass the Tests on Completion, the Engineer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

7.8 Failure to Pass Tests on Completion

- 7.8.1 In the event Tests on Completion demonstrate that the Work has failed to pass Tests on Completion, the Contractor shall have 3 months from the date of expiry of the relevant Time for Completion (unless such period is extended in accordance with this Contract) to achieve Required Output Standards or, at a minimum, the minimum permissible Output Standards from the facilities.
- 7.8.2 If the Works, or a Section, again fail to pass the Tests on Completion repeated under Clause 7.7 [*Retesting*], the Engineer shall be entitled to:
- a. Order further repetition of Tests on Completion.
 - b. Reject the Works or Section (as the case may be) if the failure deprives the Employer of substantially the whole benefit of the Works or Section.

8. Taking Over

8.1 Taking Over

- 8.1.1 "Taking Over" shall not mean physical taking over of the works by the Employer. The Employer shall be deemed to have taken over the Construction Works on the date when the trial run and the Tests on Completion would have been completed and duly informed so by the Contractor to the Employer in writing unless refuted by the Employer within 14 days.
- 8.1.2 Contractor shall carry out the Operation and Maintenance during Defect Liability Period without any additional cost to Employer.
- 8.1.3 The operator shall handover to Employer, the entire CETP in good working condition on expiry of contract period. The inventory of the material and plant which was handed over to the operator will have to hand over back to Employer in good working condition by the operator.

8.2 Handover of Plant for Operation and Maintenance

- 8.2.1 All the civil structures, equipment, machineries, motors, pumps etc. will be handed over to operator 'as is where is basis' and its inventory will be prepared which will be signed by Employer representative and operator both in token of acceptance of the same. During the period of operation and maintenance, operator will have to periodically desludge all the structures and tanks in CETP and maintain all aeration system, diffuser and all machineries motors in good working condition with due repairs

MIDC, Division Office, Nagdongri, Revas Road, Alibag, Dist.Raigad-402 201
Tel. 02141- 222242 / 222257 (P) e-mail – eealibaug@midcindia.org

By RPAD/Hand Delivery

WORK ORDER

No. MIDC/ABG/TC/IFMS-C98958/of' 2019

Date : 09/09/2019

To,

M/s. R&B Infra Project Pvt.Ltd. Hydroair Tectonics (PCD) Ltd.(JV),
B-1, Neela Apartment,
Opp. Mandpeshwar Indl.
Estate, S.V.P. Road,
Borivali(W), Mumbai-400092
E-mail : tender@rathoregroup.co
Vendor No. 01603

Sub :- Design, Build and Commissioning including Rehabilitation and Up-grade on DB basis with Operation and Maintenance of 22.5 MLD Common Effluent Treatment Plant (CETP) at Roha Industrial Area. (2nd Call)

Ref :- 1) E- Tender Notice No.27 of 2018-2019 (Mumbai)
2) 1st envelope of online tender is opened through WMS at S.E.(K) Panvel on 21.01.2019
3) 2nd envelope of online tender is opened through WMS at S.E.(K) Panvel on 11.02.2019
4) This office letter No. ABG/TC/IFMS-C91776 dtd.03.09.2019
5) Your letter No. -NIL- dtd.09.09.2019

Dear Sir,

Since you have paid performance security deposit amounting to Rs.90,00,000/- (Rs. Ninety Lakhs only) in the form of Bank Guarantee (B.G.No.00061NBGF190244 valid upto 08.12.2021) of Bharat Co-op. Bank (Mumbai) Ltd., Borivali Branch, Mumbai and completed the tender agreement formalities, your offer for the above subject work is hereby finally accepted as detailed below.

- | | |
|-----------------------------------|---|
| 1. Name of Work | : Design, Build and Commissioning including Rehabilitation and Up-grade on DB basis with Operation and Maintenance of 22.5 MLD Common Effluent Treatment Plant (CETP) at Roha Industrial Area. (2nd Call) |
| 2. Accepted Rate (Part-I) | : Rs.45,00,00,000.00 |
| 3. Accepted Rate (Part-II) | : Rs.23.40 per cum |
| 4. Date of Commencement | : From the date of handing over of CETP by society/RIA |
| 5. Time Limit (Part-I) | : 18 months |

--- 2

6. **Time Limit (Part-II)** : **78 months (including initial period of 18 months for design build base work).**
7. **Date of Completion** : **78 months from date of commencement.**
8. **Agreement No.** : **C-1 for 2019-2020**

You should take up the work for execution under the supervision of the Deputy Engineer, Sub-Dn., Roha immediately and complete the same within stipulated time limit. **You should abide by all the directions/ instructions /orders issued by MPCB/CPCB/NGT time to time. You should test the effluent samples of CETP(Inlet/Outlet) from MOEF approved/NABL accredited lab once in a fortnight. You should also ensure that the inlet & outlet parameters to CETP does not violate the prescribed disposal norms during the rehabilitation & up-gradation period and accordingly planning shall be done.** Please note that your request for extension of time limit for completion of work will not be considered under any circumstances and compensation will be levied as per the provisions contained in the accepted tender, if the work is delayed beyond the stipulated date of completion.

Your accepted tender has been assigned number as **C-1 for 2019-2020** which should be quoted in all future correspondence. In this regard, please note that the letters/correspondence under references and reply to the queries (if any) will form part parcel of the accepted agreement.

You are requested to contact the labour commissioner and fulfill the condition of contract labour Act-1970 and produce the Certificate of Registration within 15 days from the date of receipt of this letter. If you fail to comply the same within the period mentioned above, action as per clause on page No.P4/38 of accepted agreement will be taken. You are also requested to take out necessary Insurance Policy from Directorate of Insurance Maharashtra State, Mumbai, immediately, if you fail to comply the same, action as per tender clause on page No.P4/51 will be taken, this may please be noted.

You have to execute agreement with MIDC & also enter into tripartite agreement with MIDC & effluent generating units/association and the terms & conditions of tripartite agreement are binding upon you.

One copy of the accepted tender vide agreement No.**C-1 for 2019-2020** along with correspondence as part and parcel of the agreement is enclosed herewith for your information please.

Thanking you,

Yours faithfully



Executive Engineer
M.I.D.C. Division, Alibag

DA : One copy of accepted tender
Agreement No. C-1 for 2019-2020



ANNEXURE-4

RBIPL & HYDROAIR (JV) 1179

Comm.Add: 302. Concorde Premises. Plot No.66A. Sector 11. C B D Belapur. Navi Mumbai-400614

Phone.No: 022-49245642 /43/ 44

Ref: RBIPLHYD/ROHA/45/2019-20

Date: 26.09.2019

To,
The Executive Engineer,
MIDC Division office,
Nagdongri Revas Road,
Alibag,
Dist.Raigad -402201

Sub: C-1 for 2019-2020; Design, Build and Commissioning including Rehabilitation and Upgrade on DB basis with Operation and Maintenance of 22.5 MLD Common Effluent Treatment Plant (CETP at Roha Industrial Area (2nd Call)

Ref: 1) Meeting with MIDC SE, CE,EE, Dy.E, Roha Industry Associaton, CH2M-Consultant and RBIPL & Hydroair on 24.09.2019
2) Work Order No. MIDC/ABG/TC/IFMS-C98958/of 2019
3) Letter of Intent no. MIDC/ABG/TC/IFMS-C91776/of 2019

Dear Sir,

With reference to the above subject we received the Letter of Intent from Executive Engineer of MIDC, Alibag Division on 03.09.2019. We submitted the Bank Guarantee no. 00061NBGF190244 dated 09.09.2019 of Rs.90 Lakh as performance Security Deposit valid till 08.12.2025, while it is mentioned in Work Order as 08.12.2021 as validity date. Kindly rectify and confirm.

Kindly note as per tender Contract Data Sheet of Part 2 P-24 the project start date will be as per Reference clause Vol.1(Condition of Contract) clause 7.1 mention it as date of issue of letter of award (Work Order)by the employer 09.09.2019. The site possession date as per Vol.1part 2 Contract data sheet ie p-24,is immediately after award of work for O & M and D&B



Comm. Add: 302. Concorde Premises. Plot No.66A. Sector 11. C B D Belapur. Navi Mumbai-400614

Phone.No: 022-49245642 /43/ 44

Base Part1 works ie with in ten days by the formal request by the Contractor.

Hence we are making formal request through this letter kindly give us site within in 10 days from the date of award of work possession immediately so that we can start the work of O &M and DB base Part 1 and complete with in stipulated time 18 Months for part 1 and 78 Months O&M including initial period of Design and Build base work.

Hence we once again request as per agreement C-1for 2019-2020 and work order dated 09.09.2019, kindly give possession of site so that we can proceed further for O&M and project implementation.

We informed this fact in the meeting at RIA office at Roha on 24.09.2019 that the possession of site should be made immediately. We also provided the soft copy and hard copy of tripartite agreement so that we can take up the site work of characterization of waste water of plant inlet out let as well as individual industry which will form basis of performance improvement .This should be done within 15 days of issue of award of the work order in respect of PH, SS, BOD, COD parameter which will be deciding factor for improvement mentioned on page 15 Part 4 Condition of Contract.

Kindly appreciate this part can be under taken by us only after due possession of site. which is within 10 days of Award of work which is already lapsed .

As per Agreement and tender the Pilot Plant set up shall be submitted to MIDC within 7 days of work order and shall be constructed & commissioned in 60 days from the date of Work Order.



RBIPL & HYDROAIR (JV) 1181

Comm.Add: 302. Concorde Premises. Plot No.66A. Sector 11. C B D Belapur. Navi Mumbai-400614

Phone.No: 022-49245642 /43/ 44

Hence we will abide by this condition of tender. Kindly give the possession of site with O&M and DB so that we can start the work without any further delay. This is in the interest of project and timely completion.

Thanking you
Yours faithfully

For RBIPL Hydroair (JV)

H B Singh

Cc :

- 1) SE (K) ,MIDC ,Konkan Circle ,Panvel
- 2) DE Roha ,MIDC
- 3) DyCEO Andheri, MIDC
- 4) Jacobs ,Umesh Bhutkar

RIA - CETP

CO - OPERATIVE SOCIETY LIMITED

(Regn. No. RGD/RHA/GNL/(0)904/94 dtd 7.9.94)

RIRC Bldg., Plot No. 6, M.I.D.C. Dhatav, Roha - Raigad - 402 116.

Tel. : 02194 - 263599, Fax : 264594

MOM for Meeting held Between MIDC, RIA For CETP Handover,

A meeting was held on 26th November, 2019 to discuss modalities and concerns for handing over of RIA CETP to MIDC. Following parties represented

- 1) MIDC: team was led by Mr. Sonje, Mr. Zanzad, Mr. Wankhede, Mr. S.B. Patil, along with Exe. Engr., Dy. Engr and other officials
- 2) RIA: Mr. Bardeskar, Mr. Kedia, Mr. Naik, Mr. Satpute, Mr. Murugan and other industry members
- 3) HydroAir: Mr. Singh & team
- 4) CH2M:

Following points were discussed during the meeting,

- 1) Mr. Bardeskar raised the query whether the assumptions made during designing of tender which was almost more than a year back, are valid particularly in view of changed inlet and outlet parameters. He informed that inlet COD is well below 3000 ppm and outlet parameters are now near compliant. Members also raised doubts if an investment of Rs. 45 Cr. is really required in case of reduced load and the distinct improvements in the treatment. Mr. Sonje informed that apart from COD, a BOD level of 30 ppm is also required to be achieved which existing plant is incapable of achieving, hence investment is being made.
- 2) RIA members impressed upon need to install and operate pilot plant first to validate the suitability of proposed treatment scheme to achieve specified parameters. MIDC informed that the contractor is required to install and operate a pilot plant immediately after take over and no change in treatment scheme will be made till the confirmation of the pilot plant results. These results would be witnessed and approved by MIDC and the Stake Holders for the go ahead of the project.
- 3) All parties discussed at length about TDS content in CETP inlet. MIDC informed that MPCB has agreed to a limit of 4000 ppm. RIA informed that such low level of TDS is not possible and avg. value would be around 11000 ppm. O&M contractor should take a note of it and confirm now itself whether he can achieve desired results with such TDS content. No excuses on non performance would be admissible afterwards. MIDC confirmed that the treatment scheme has no provision to address the issue of TDS. It was also mentioned that TDS in will be TDS out. It was agreed to mention the same in the tripartite agreement.
- 4) MIDC informed that treatment charges would be Rs. 23.40/- per M³ + 15% ETP charges. The effluent quantity calculated would be 55% of water consumption. Charges are fixed for a period of 5 years and any revision would be subject to discussion with member Industries. RIA will be devising a charging formula for individual industries based on the graded discharge as agreed by MIDC. Mr. Naik from Clariant pointed out higher burden on industries due to higher hydraulic load. MIDC suggested that formula could be based on compliance level of industries.

RIA - CETP**CO - OPERATIVE SOCIETY LIMITED**

(Regn. No. RGD/RHA/GNL/(0)904/94 dtd 7.9.94)

RIRC Bldg., Plot No. 6, M.I.D.C. Dhatav, Roha - Raigad - 402 116.

Tel. : 02194 - 263599, Fax : 264594

- 5) Member Industries also demanded that M/S Sudarshan Chemicals must be part of agreement and must contribute to project cost and accept treatment charges which are being devised by RIA. RIA is of opinion that feasibility of this project would be lost if Sudarshan cease to be a member. MIDC concurred with the opinion of Viability of the project by the members and informed that matter is being discussed at CEO level and would be sorted out separately. In fact the very basis of the agreement of handing over the CETP to MIDC was on the basis of All the plot holders will join the project and share the CAPEX and OPEX.
- 6) RIA also requested MIDC to help in recovering long pending dues from some of the members on account of treatment and project cost. MIDC asked for list of members and a resolution from RIA to this effect so that they would recover the dues from such members.
- 7) RIA demanded that O&M operator or his personnel appointed should operate only within battery limits of CETP. They will not visit/sample member industries. RIA would ensure that composite value of COD for incoming effluent is maintained at 2500 ppm, max. RIA current vigilance team would keep sampling member industries and the existing ETP lab would be retained by RIA for testing purpose. In case of any dispute, a committee designated by CETP would look into it. MIDC has accepted the suggestion.
- 8) Mr. Sonje assured that MIDC is open to discuss all issues at regular intervals so as to ensure smooth completion and functioning of the project. He specifically mentioned that Mr. Zanzad and SE Konkan would be contact points for discussions on any issues arising.
- 9) It was also decided by RIA members present that a full fledged meeting be called to finalize contents of tripartite agreement along with MIDC.
- 10) MIDC suggested that CETP be handed over by 15th December. RIA suggested that it be handed over by 1st of January 2020 as notices to existing contractor needs to be given. O&M contractor confirmed that he would absorb the existing plant operating personnel.
- 11) It had been an experience that the Compressor for Diffused Aeration used to make Very high level of noise. Therefore RIA has bought Six Floating Aerators. These are being installed so as to increase the DO level. Consequently the present treatment will improve and could become compliant as far COD is concerned. The payment of which is yet to be effected. MIDC suggested to include this payment in the creditors list. The recovery from the over dues would enable RIA to pay these creditors.
- 12) MIDC will consider new equipments purchased under asset/liability register.



P. P. BARDEKAR
HON. CHAIRMAN

MINUTES OF MEETING

A meeting was convened on 07/01/2020 under a Chairmanship of Chief Engineer(Nagpur) and Nodal Officer (CETP) @ SE(K) office, Khanda Colony, Panvel to discuss the issue of handing over of CETP at Roha to MIDC by M/s . RIA CETP Co-Op Soc. Ltd.

List of representative of RIA CETP Co-Op Soc. Ltd. and MIDC present during meeting is as under.

RIA-CETP Co-Op Soc. Ltd.

1. Shri. P. P Bardeskar – Chairman
2. Shri. D. G. Nandgaonkar.
3. Shri. D. D. Galam.
4. Shri. R. S. Kedia.
5. Shri. S. R. Satpute.

MIDC

1. Shri. R. S. Zanzad – Chief Engineer(Nagpur) & Nodal Officer (CETP)
 2. Shri N. G. Wankhede – Superintending Engineer (Konkan)
 3. Shri M. S. Nimbalkar – Deputy Engineer (Roha)
- 1) The Chief Engineer(Nagpur) briefed the purpose of meeting and explained the need to take over the CETP at Roha Industrial Area for up gradation and operation and maintenance.
 - 2) Shri. P. P. Bardeskar stated that they will have a meeting of members of M/s. RIA CETP Co-Op Soc. Ltd. for amendment in the tripartite agreement and will communicate the draft to MIDC within a week. After finalisation of the draft the agreement will be executed possibly upto 20th Jan 2020. The agreement will be executed between four parties i.e. Concerned Plot Holder, M/s. RIA CETP Co-Op Soc. Ltd., M/s. R & B Infra Projects Pvt. Ltd. and MIDC.

..2/-

..2..

- 3) The issue of treatment charges was also discussed in the meeting. It is stated that M/s. RIA CETP Co-Op Soc. Ltd. will decide the proportionate of hydraulic charges as well as organic charges of treatment. M/s. RIA CETP Co-Op Soc. Ltd. will communicate the same to MIDC.
- 4) It is agreed by Mr. Bardeskar, Chairman, M/s. RIA CETP Co-Op Soc. Ltd. that the CETP will be handed over to MIDC on 1st Feb 2020, positively.
- 5) MIDC will levy the treatment charges and CAPEX in the water bills of Feb 2020. It is requested by RIA CETP members that, CPAEX shall be recovered from 1st March 2020 in 12 equal instalments.
- 6) M/s. RIA CETP Co-Op. Soc. Ltd., requested to recover some amount from industries through treatment charges bill to meet their monthly maintenance expenses. It is agreed by MIDC.

The meeting was concluded with vote of thanks to chair.

y. s. s. 9.1.20
 Superintending Engineer,
MIDC, Konkan Circle, Panvel.

No/SE(K)/DE(O)/ A-12317 /of' 2020,
 Office of the Superintending Engineer(K),
 MIDC, Konkan Circle, Panvel-Raigad
 Date : 09/01/2020

Copy submitted to Chief Engineer(HQ) & Dy. CEO(Env), MIDC, Mumbai for favour of information please.

Copy submitted to Chief Engineer(N) & Nodal Officer(CETP), MIDC, Nagpur for favour of information please.

Copy f.w.cs to Shri S. B. Patil OSD(Env) , MIDC, Mumbai for favour of information please.



ANNEXURE-6
MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION
(A Government of Maharashtra Undertaking)

1186

Office of the Executive Engineer, MIDC, Alibag Division, Nagdongri, Rewas Road,
Tal-Alibag, Dist Raigad 402201.

Tel- 02141-222257/222242

Email- eealibaug@midcindia.org

NO/EE (Alibag)/A40331 /of 2020

Date :- 29/01/2020

To,
M/s. RIA-CETP Co-Op Society. Ltd,
Plot No.6, MIDC,
Roha Indl. Area
Roha.

Sub :- Handing over of RIA-CETP for up gradation and O&M to MIDC.

Ref :- 1. MPCB's directions B. 962 dtd. 06/03/2017
2. Meeting at SE (K) office, Panvel dtd 07/01/2020

Dear Sir,

As per above refereed directions of MPCB, it was decided to take over the RIA-CETP for up gradation and O&M. You are well aware that the expert agency was also finalized. But still the taking over is not materialized. Please refer the meeting, in reference. In this meeting you have assured to handover the CETP on 1st of Feb 2020. It is therefore requested to keep ready the inventory of CETP for handing over to MIDC. Representative from Deputy Engineer MIDC Roha office along with the representative of expert agency appointed for this work M/s. R&B infra project Pvt. Ltd. will approach CETP office at 10.00 am on 1st Feb 2020 to take over the CETP. The tripartite agreement will be executed in due course after finalization and approval from competent authority.

Your Co-operation is highly solicited to abide by the MPCB's directions.

Thanking you,

Your's faithfully,

(R. P. Patil)
Executive Engineer,
MIDC Division, Alibag

1. Copy Submitted to the Dy. CEO (Env) for information please.
2. Copy Submitted to Superintending Engineer (K), MIDC Konkan Circle, Panvel for information please.
3. Copy f.w.c.s.to Executive Engineer (E&M), MIDC Mahad for information please.
4. Copy f.w.c.s.to Regional Officers Raigad, MPCB for information please.
5. Copy f.w.c.s.to R&B Infra project Pvt. Ltd. for necessary action please.
6. Copy to Deputy Engineer Roha for necessary action please.
7. Copy to guard file.

ANNEXURE-7

MIDC



1187

Date :01/02/2020.

Sub:- Handing Over of CETP at Roha Industrial Area...

Ref:- 1. Direction of MPCB vide B -962 dt 06/03/2017.
2. The Ex.Engineer, MIDC, Division Alibag letter No A-40331,
Dt 29/01/2020.

As per the directions of MPCB, the CETP at Roha Industrial Area, which is in possession of M/s. RIA CETP Co Op society Ltd is handed over to Deputy Engineer, MIDC, Sub-Division, Roha and further the same is handed over to M/s. R & B Infra Projects Pvt. Ltd. Hydroair Tectonics (PCD) Ltd.(JV) for upgradation and O &M. The inventory of structures/ installations in the CETP premises is as per annexure-I enclosed.

Date: 01/02/2020.

Place: Roha.

Encl - Annexure-I.

Handed Over by

M/s. RIA-CETP
Co Op Soc. Ltd.

C/o. : R.I.R.C., Plot No. 6,
MIDC, Dhatav-Roha,
Dist. Raigad, 402116

Deputy Engineer
MIDC Sub-Dn. Roha
Deputy Engineer.

M.L.D.G. Sub-Division Roha

Taken Over by

R & B Infra Project Pvt Ltd
Hydroair Tectonics (PCD) Ltd.(JV)



Copy Submitted to the Executive Engineer, MIDC, Division Alibag
in favour of information please.

- 2) Copy f.w.cs to the Chairman, RIA CETP Co Op Soc Ltd., Plot No. P-6, MIDC, Roha Indl area, Dhatav Roha for information.
- 3) Copy f.w.cs to M/s R & B Infra Project Pvt Ltd. Hydroair Tectonics (PCD) Ltd.(JV) for information.
- 4) Copy to Guard File.

RESPONSIBILITIES FOR RIA CETP FROM 1 ST FEB 2020

MIDC

1. MIDC will collect the CAPEX contribution of 25 % of the project cost, from all plot holders proportionate to water consumption of individual industry.
2. MIDC will recover monthly treatment charges from all plot holders as per statement submitted by RIA-CETP. (mutually agreed by MIDC & RIA CETP) based on the total amount to be recovered and water consumption informed by MIDC.
3. MIDC will recover certain amount from industries along with treatment charges bill to meet monthly maintenance expenses of RIA -CETP.
4. MIDC will grant higher volume of water supply to industries on their individual request / application after following due process and approval of competent authority.
5. MIDC will help to recover outstanding dues of RIA-CETP from its member industries.
6. Taking / handing over of CETP to MIDC is inclusion of all plot holders including Sudarshan Chemical Industries Limited and all other similar plot holders from Roha Industrial Area.

CONTRACTOR

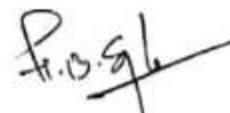
7. As per tender agreement, contractor will install pilot plant and operate it to the satisfactorily results to prove the treatment scheme with desired results. These results will be witnessed by MIDC and RIA-CETP.
8. Contractor will work in battery limit i.e. within the CETP premises, unless instructed by MIDC.



M/s. RIA-CETP
Co-Op Soc Ltd
RIA-CETP CO-OP. SOCIETY LTD.
C/o. : R.I.R.C., Plot No. 6,
MIDC, Dhatav-Roha,
Dist. Raigad. 402116.



Deputy Engineer
MIDC Sub-Dn. Roha
Deputy Engineer
M.I.D.C. Sub-Division Roha



R & B Infra Project Pvt Ltd
Hydroair Tectonics (PCD) Ltd.(JV)





- 9. In case COD of influent crosses 3000 ppm, Contractor will report to RIA-CETP and MIDC to take further action. Any consequence for that purpose from MPCB/CPCB/NGT will be RIA-CETP's responsibility.
- 10. Contractor will not sample / monitor any of the member industry without permission of MIDC.

RIA-CETP (i.e. RIA-CETP Co-op. Society)

- 11. RIA-CETP will operate Testing Laboratory for monitoring effluent quality of member industries and verifying influent quality on daily basis.
- 12. RIA-CETP will collect samples of effluent being discharged from member industries as vigilant sampling. Quality of these samples will form a parameter for determining treatment charges, which will be decided by RIA-CETP & MIDC.
- 13. RIA-CETP and MIDC can review the treatment scheme based on the pilot plant operation and its success.
- 14. RIA-CETP will submit monthly treatment charges statement to MIDC based on water consumption and quality of effluent.
- 15. Exception shall not be provided to any of the plot holder with respect to treatment charges formula/e as decided between RIA-CETP and MIDC
- 16. It will be sole responsibility of RIA-CETP to meet the designed parameters (consented by MPCB) of effluent at the inlet of CETP.

Date : 01/02/2020

Place : Roha

[Handwritten Signature]

M/s. RIA-CETP
 RIA-CETP Co-op. Soc. Ltd.
 Clo. : R.I.R.C., Plot No. 5,
 MIDC, Dhatarv-Roha,
 Dist. Raigad, 402112

[Handwritten Signature]

Deputy Engineer
 MIDC Sub-Dn. Roha
 Deputy Engineer
 M.L.D.C. Sub-Division Roha

[Handwritten Signature]

R & B Infra Project Pvt Ltd
 Hydroair Tectonics (PCD) Ltd.(JV)



**MAIN CLIENT: ROHA INDUSTRIAL
ASSOCIATION ROHA/ MIDC**

RBIPL & HYDROAIR (JV)

**GEOTECHNICAL INVESTIGATIONS
REPORT**

FOR

**REHABILITATION & UPGRADE OF 22.5 MLD
CETP AT ROHA INDUSTRIAL AREA, ROHA
MAHARASHTRA**

Report No.: GSL-865

JANUARY 2020

BY

GEO SCIENCE

**MAIN CLIENT: ROHA INDUSTRIAL
ASSOCIATION ROHA/ MIDC**

RBIPL & HYDROAIR (JV)

**GEOTECHNICAL INVESTIGATIONS
REPORT
FOR
REHABILITATION & UPGRADE OF 22.5 MLD
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MAHARASHTRA**

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JANUARY 2020

BY

GEO SCIENCE

| | | |
|-------------------------|--------------|----------------------|
| | | |
| 0 | Jan 20, 2020 | Final Report |
| Report Issue No. | Date | Report Status |

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1. INTRODUCTION

Maharashtra Industrial Development Corporation, has proposed to rehab, upgrade and modify 22.5 MLD CETP at Roha. For the design of foundations for the proposed facility, geotechnical investigations were planned which are necessary for deciding the type of foundation system and to decide their design parameters. This report covers the borelogs and lab test results for the subsoil at proposed building.

Client decided to carry out geotechnical investigation work to determine foundation design parameters. The work of Geotechnical Investigations was awarded to M/s Unique Geosolutions and Surveys. M/s Unique Geosolutions and Surveys carried out the fieldwork in the months of December 2019 and January 2020. Laboratory testing on the selected soil and rock samples was also carried out and the foundation design report is prepared.

This report has been prepared by the undersigned for M/s Unique Geosolutions and Surveys. Report covers data collected in fieldwork of three investigation boreholes and analysis of field and laboratory test results.

2. SCOPE OF WORK

Mobilization of machinery and manpower along with drilling rigs, water pump, testing tools, accessories, etc. to carry out Geotechnical investigation work comprising

- Boring / Drilling three boreholes in soil and rock up to a maximum termination depth below existing ground level / finished ground level as per the instruction of Engineer In-charge.
- Conducting Standard Penetration Tests.
- Collection of disturbed and undisturbed soil samples from the boreholes.
- Packing, labeling and dispatching the soil and rock samples to carry out various laboratory tests as per the technical specification.
- Preparation and submission of the Geotechnical report.

3. MOBILISATION

3.1 Positioning Equipment

3.2 Geotechnical Equipment

- Calyx Drilling Rig

- Drill Pipes
- NX casings
- Drill Rods
- NX single tube core barrels
- NX Rock Coring Bits
- SPT system
- Core Boxes
- Other Tools & Tackles as required

4. METHODOLOGY OF INVESTIGATION

The boreholes are carried out at the locations proposed by M/s RBI HYDROAIR JV /RIA. The investigation was planned to obtain subsurface stratification and collect soil, rock and ground water samples for laboratory testing to decide the foundation design parameters. Bore holes were planned to penetrate through the overburden soils and go into the hard strata / rock strata.

A brief methodology of geotechnical investigation is as follows:

- Geotechnical investigation was planned to obtain the subsoil stratification in the proposed project area and collect soil, rock and ground water samples for laboratory testing to determine the engineering properties such as shear strength, compressibility, along with basic engineering classification of the subsurface stratum as well as the pile capacities and safe bearing capacities (SBC) for shallow foundations. This information will be used to decide the foundation design parameters.
- Location of boreholes were selected in consultation with client. Data and results obtained from this investigation will be used in the design of the proposed structures.
- For geotechnical investigation work, standard rotary type drilling rig was used. This rig is coupled with diesel engine and has tripod and all drilling accessories. Drilling rig deployed is suitable for and has arrangement for driving as well as extracting casing, boring drilling by mud circulation method, conducting Standard Penetration

Test (SPT) collection of Undisturbed Soil Sample (UDS) and Disturbed or wash Soil Sample (DS) including obtaining rock cores.

- Drilling rig was installed at the specified bore hole location. Rig was stabilised by making level ground. Initially casing of adequate diameter to suit boring of 100 mm hole was lowered and boring was commenced.
- Sampling in the bore hole was carried out generally as per the guidelines given in the IS 1892 code. Disturbed soil samples were to be collected and SPTs were conducted at regular intervals.
- Standard Penetration Tests (SPT) were conducted in bore holes to obtain the 'N' values i.e. no. of blows of 63.5 kg hammer falling through 75 cm, required to penetrate 30 cm of SPT split spoon. This test was conducted as per IS-2131. The 'N' values are correlated with the relative density of non-cohesive soils and consistency of saturated cohesive soils. The test also collected samples in the split spoon assembly, which are treated as disturbed samples. SPTs were taken at 1.50 m interval.
- When the rock was encountered, size of bore hole was changed to Nx. i.e. 76mm diameter. A core barrel and NX sized diamond bit fitted to double tube core barrel was used for drilling and recovering rock cores. The recovered rock cores were numbered serially and preserved in wooden core boxes. The core recovery and Rock Quality Designation (RQD) were computed for every run length drilled. Rock samples have been selected based on the probable founding elevation of the proposed structure.
- Generally bore holes are terminated after drilling in rock for about 4 meter in rock in order to check continuity of rock mass. In bore hole, consistent rock recovery was observed. The depth of borehole termination is 12.0m. On completion of bore hole selected rock samples were taken to the laboratory for testing.

Seven numbers of boreholes were decided to drill in order to investigate the subsurface conditions at the site. The details of the boreholes are given in table 1.

Table 1 Borehole details

| Sr. No. | Bore Hole No. | Depth of Borehole, m | Rock depth, m | Ground water table, m |
|---------|---------------|----------------------|---------------|-----------------------|
| 1 | BH-1 | 12.0 | 1.6 | 1.0 |
| 2 | BH-2 | 12.0 | 3.0 | 0.8 |
| 3 | BH-3 | 12.0 | 2.5 | 0.7 |
| 4 | BH-4 | 12.0 | 3.0 | 0.3 |
| 5 | BH-5 | 12.0 | 2.0 | 1.4 |
| 6 | BH-6 | 12.0 | 1.4 | 0.9 |
| 7 | BH-7 | 12.0 | 3.5 | 0.9 |

Wherever weathered rock / hard strata was encountered, rotary core drilling was carried out using single tube NX core barrel. The coring in rock strata was advanced using diamond core bits and tungsten carbide bits. The data obtained from coring has been used for foundation design, geotechnical investigation and geological correlation purposes. The rock specimen were restored in aluminium core boxes (as per IS Standard) with core no., run no. and depth marked. The core samples thus obtained were logged, preserved properly and carefully transported to the laboratory for testing.

The drill run was generally restricted to 1.5m. Core recovery and RQD (Rock Quality Designation) were computed based on the cores retrieved. Typical rock cores from the weathered and hard rock strata were selected for strength, water absorption, porosity and density tests. Logs of these bore holes are presented in Annexure II.

4.1 Rock Core Measurements

The quantitative description of natural fracture state of rock masses are indicated on the borehole logs using a number of indices as determined from the borehole cores. These indices are described as CR and RQD.

Core Recovery (CR) is the percentage ratio of core recovered (whether solid, intact with full diameter, or non-intact) to the total length of core run.

Rock Quality Designation (RQD) is a quantitative index based on core recovery procedure that incorporates only those pieces of core which are 100mm or more in length. It is the total length of solid core pieces, each greater than 100mm between natural fractures, expressed as a percentage of the total length of core run. It is also a measure of drill core quality and it disregards the influence of orientation, continuity, joint thickness and gauge.

| Fracture State (IS 11315-Part 11) | |
|-----------------------------------|--------------|
| RQD (%) | Core Quality |
| 0 - 25 | Very Poor |
| 25 - 50 | Poor |
| 50 - 75 | Fair |
| 75 - 90 | Good |
| 90 - 100 | Excellent |

4.2 In-situ Testing

4.2.1 Standard Penetration Test (SPT)

Conventional SPTs were carried out in the soil stratification. The split spoon sampler was lowered with the help of SPT / 'A' rods to the bottom of the bore hole and seated 15cm by giving blows using the hammer of 63.5kg weight falling through 75cm. Thereafter, the split spoon sampler was further driven by 30cm. The number of blows to effect each 15cm of penetration was recorded. The total number blows required for the last 30 cm of penetration is termed as the penetration resistance, denoted by 'N'.

4.2.2 Borehole logging

Borehole logging was done as per the IS-1892 standards and was done by an experienced Geotechnical Engineer. Bore logs were prepared indicating location co-ordinates, in-situ test results, strata description, etc.

4.2.3 Water depth measurements

The depth of the water table has been observed to be varied from 0.5m to 1.1m below the existing ground level.

4.2.4 Preserving and Protection of samples

On recovery of cores, the samples were extruded for logging. Selected samples were sealed and sent for laboratory testing. Samples and cores were protected from direct sunlight and were stored in a place suggested by the client representative.

4.3 Laboratory Testing

The selected soil/rock samples sent to the laboratory were tested to determine the properties to supplement the information obtained in the field to determine the soil/rock parameters for engineering recommendations on foundation. The following tests were conducted in the laboratory:

Soil:

- Grain Size Analysis (Sieve analysis)
- Liquid and Plastic Limit of soil

Rock:

- Uniaxial compressive strength
- Point Load Index
- Unit Weight
- Water Absorption
- Porosity

4.4 Laboratory Test Procedure for Soil Specimen

4.4.1 Grain size analysis by sieving:

Take oven dried representative sample and weigh it to 100 grams (or any weight, if sufficient quantity of sample is not available). Arrange the standard sizes of sieves in increasing order upward one over the other. Put the dry soil in top sieve; fix the set of sieves and shake the sieves. Carefully weigh the soil retained in each sieve and an to 0.01 g, enter the values in tabular form. Calculate the percent passing through each sieve.

4.4.2 Liquid limit of soil:

Take about 120 gm of oven dried sample passing through 425 micron sieve. Add some water in the sample to make a paste. A paste is then placed in a cup of liquid Limit

apparatus and spread into the position. The soil in the cup is then divided using a suitable type of grooving tool. The cup is then dropped by turning the crank at the rate of two revolutions per second until the two halves of the soil cake come in contact with bottom of the groove along a distance of about 12 mm. The no. of drops required to cause the groove close are recorded. The test is repeated with some addition of water for at least five trials. The moisture content of soil in each trial is determined using oven dry method. The semi-logarithmic plot of moisture content Vs no of blows in each trial is plotted. The moisture content corresponding to 25 blows is read from the plot and is reported as the liquid limit of that soil. Some soil samples show non-plastic behaviour initially and such samples shall be soaked in water for 24 hour and tried again for liquid limit test.

4.5 Lab Test Procedure for Rock Specimen:

4.5.1 Uniaxial Compressive Test:

The unconfined compression test is the most commonly used strength test on rocks. For accurate results, the test should be performed carefully. The specimen should be in the form of a cylinder of length to width ratio varying from 2 to 3. The ends of the specimen should be flat, smooth and parallel. The ends should be exactly perpendicular to the axis of the cylinder. Cores obtained during explorations are usually trimmed for this purpose. The specimen is subjected to compression between the cross-head and the platen of a compression testing machine. The specimen should preferably have a diameter of 45 mm. In no case, the diameter should be less than 35mm. The load should be applied continuously with a stress rate of 0.5 to 1.0 MPa per second. The compressive strength (q_u) is determined from the relation

$$q_u = P / A$$

Where "P" is the peak load and "A" is the initial cross-sectional area of the specimen.

4.5.2 Point Load Strength:

The point load strength is frequently used to estimate the strength of the rock. In this test, a rock specimen is loaded between hardened steel cones till failure occurs by the development of tensile cracks parallel to the axis of loading. The point load strength or point load index (I_s) is given by :

$$I_s(50) = P / D^2$$

where P is the failure load, D is the core diameter

4.5.3 Unit Weight:

The mass density (ρ) of a rock is the mass per unit volume. It is expressed as kg/m^3 . In rock mechanics, the term unit weight is commonly used. The unit weight (γ) is the weight per unit volume. It is expressed as gm/cc . Sometimes, the term density is also used for unit weight.

4.5.4 Porosity:

The porosity (n) of a rock is defined as the ratio of the void space to the total volume in the rock. It is expressed as a percentage. Thus

$$n = (V_a / V) \times 100$$

where V_a is the volume of voids (of pores) and V is the total volume.

4.6 Geomechanics RMR Classification

Geomechanics Rock Mass Rating (RMR) classification is based upon the 1989 version of the classification (Bieniawski, 1989).

The following six parameters are used to classify a rock mass using the RMR system:

1. Uniaxial compressive strength of rock material.
2. Rock Quality Designation (RQD).
3. Spacing of discontinuities.
4. Condition of discontinuities.
5. Groundwater conditions.
6. Orientation of discontinuities.

In applying this classification system, the rock mass is divided into a number of structural regions and each region is classified separately. For calculations of the rating, following graphs & tables were used.

A Classification parameters and rating

| Parameters | | Range of values | | | | | | |
|----------------------------------|---|--|---|---|---|---|-----|----|
| Strength of intact rock material | Point load strength index (MPa) | > 10 | 4-10 | 2-4 | 1-2 | For this low range uniaxial compressive strength is preferred | | |
| | Uniaxial compressive strength (MPa) | >250 | 100-250 | 50-100 | 25-50 | 5-25 | 1-5 | <1 |
| Rating | | 15 | 12 | 7 | 4 | 2 | 1 | 0 |
| Dill core quality RQD (%) | | 90-100 | 75-90 | 50-75 | 25-50 | <25 | | |
| Rating | | 20 | 17 | 13 | 8 | 3 | | |
| Spacing of discontinuity | | >2m | 0.6-2 m | 200-600 mm | 60-200 mm | <60 mm | | |
| Rating | | 20 | 15 | 10 | 8 | 5 | | |
| Condition of discontinuity | | Ver rough surfaces Not continuous No seperation Unweathered wall rock | Slightly rough surface Seperation < 1 mm Slightly weathered walls | Slightly rough surface Seperation < 1 mm Highly weathered walls | Slickensided surfaces or Gouge < 5mm thick or Seperation 1-5 mm Continuous | Soft gouge> 5mm thick or seperation > 5mm Continuous | | |
| Rating | | 30 | 25 | 20 | 10 | 0 | | |
| Groundwater | Inflow per 10m tunnel length (L/min) | None | <10 | 10-25 | 25-125 | >125 | | |
| | Joint water pressure/Major principal stress | 0 | <0.1 | 0.1-0.2 | 0.2-0.5 | >0.5 | | |
| General condition | | Completely dry | Damp | Wet | Dripping | Flowing | | |
| Rating | | 15 | 10 | 7 | 4 | 0 | | |

B Rating adjustment for discontinuity orientations

| Strike and Dip orientation of discontinuity | | Very Favorable | Favorable | Fair | Unfavorable | Very Unfavorable |
|---|-------------------|----------------|-----------|------|-------------|------------------|
| Rating | Tunnels and Mines | 0 | -2 | -5 | -10 | -12 |
| | Foundations | 0 | -2 | -7 | -15 | -25 |
| | Slopes | 0 | -5 | -25 | -50 | -60 |

C Rock mass classes determined from total rating

| | | | | | |
|-------------|----------------|-----------|-----------|-----------|----------------|
| Rating | 100-81 | 80-61 | 60-41 | 40-21 | <20 |
| Class No. | I | II | III | IV | V |
| Description | Very good rock | Good rock | Fair rock | Poor rock | Very poor rock |

D Meaning of rock mass classes

| Class No. | I | II | III | IV | V |
|---------------------------------------|---------------------|--------------------|-------------------|-----------------------|---------------------|
| Average stand-up time | 20yr. for 15-m span | 1yr. for 10-m span | 1wk. for 5-m span | 10hrs. for 2.5-m span | 30min. for 1-m span |
| Cohesion of the rock mass (kpa) | >400 | 300-400 | 200-300 | 100-200 | <100 |
| Friction angle of the rock mass (deg) | >45 | 35-45 | 25-35 | 15-25 | <15 |

5. GEOTECHNICAL APPRAISAL

The borehole data obtained in these geotechnical investigations for the proposed residential building were reviewed and the results of laboratory tests on selected rock samples were also studied. Based on the outcome of geotechnical investigation work subsurface strata have been broadly generalized as mentioned below;

Layer I: Backfilled soil

Layer II: Greyish clay

Layer III: Highly weathered rock

Layer IV: Greyish Amygdaloidal Basalt

Layer I: Backfilled soil

First layer of subsoil stratification is backfilled material. This layer is present in all the bore hole locations. The thickness of this layer is 0.30 m. No SPT is carried out in this layer. No laboratory testing has been carried out in this layer.

Layer II: Greyish clay

The second layer of subsoil stratification is Greyish clay. This layer is present in all the boreholes. The thickness of this layer is varying from 1.05 m to 3.15 m. The standard penetration test (SPT) has been carried out in this layer with field N values ranging from 6 to 36.

Layer III: Highly weathered rock

The third layer of subsoil stratification is highly weathered rock. This layer is present in all the boreholes. The thickness of this layer is varying from 1.45 m to 3.15 m. The standard penetration test (SPT) has been carried out in this layer is showing Refusal ($N > 50$). Rock core recovery obtained in this layer is varying from 32% to 76%. The rock quality designation (RQD) in this layer is varying from 0% to 74%.

Layer IV: Greyish Amygdaloidal Basalt

The next layer of subsoil stratification is Greyish fresh Amygdaloidal Basalt. This layer is observed in all the boreholes. The thickness of this layer is varying from 6.00 m to 8.50 m which is limited by the depth of the borehole. Rock core recovery obtained in

this layer is varying from 80% to 100%. The rock quality designation (RQD) in this layer is varying from 69% to 100%.

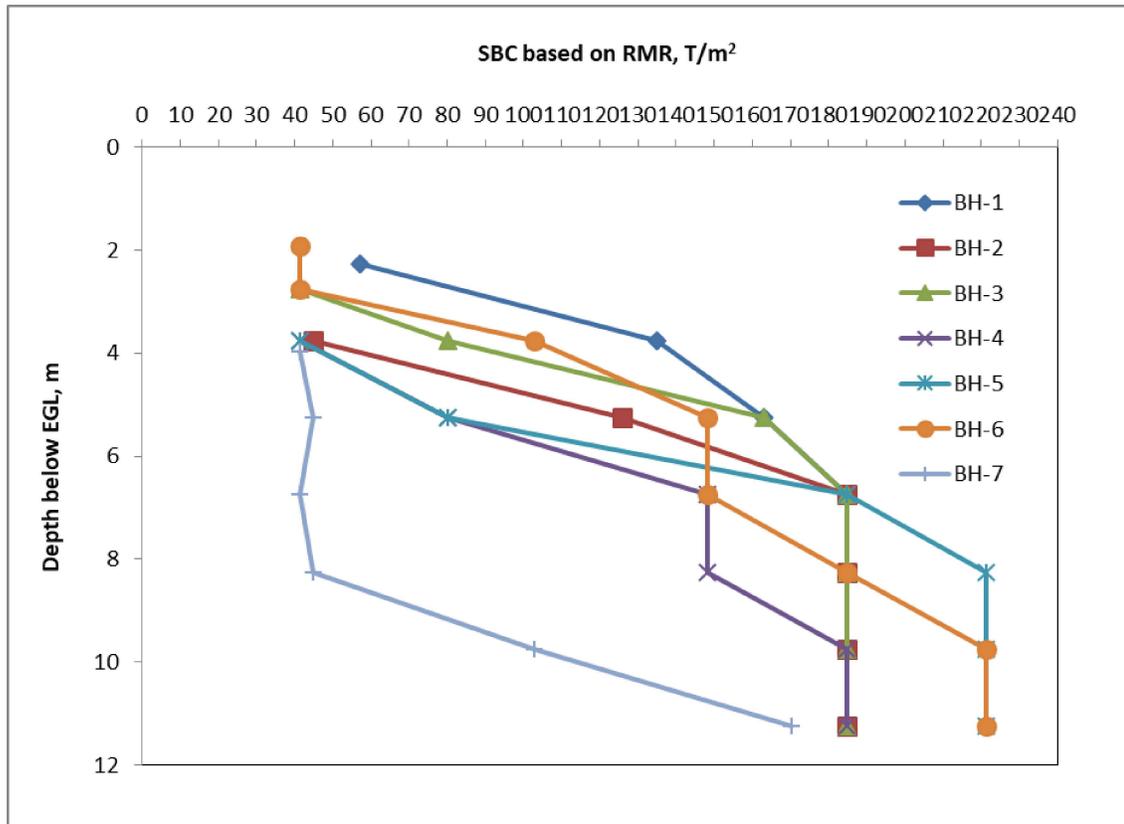
6. DISCUSSIONS AND RECOMMENDATIONS

- After considering sub surface stratification at different borehole locations, shallow foundation is recommended. The foundations can rest on the recommended founding strata as per this report.
- As per the stratification, rock is encountered at a depth varying from 1.50 m in BH-1, to 3.5 m in BH-7 below the existing ground level (EGL).
- The shallow foundation is recommended to rest at a minimum founding depth as per table 2 at each borehole location. The net safe bearing capacity (SBC) at founding level based on the rock mass rating (RMR) shall be considered as per table 2.

Table 2 Founding depth and SBC

| Sr. No. | Bore Hole No. | Minimum founding depth, m | Rock Mass Rating (RMR) | Allowable safe bearing capacity, T/m ² |
|---------|---------------|---------------------------|------------------------|---|
| 1 | BH-1 | 1.6 | 23 | 55 |
| 2 | BH-2 | 3.0 | 20 | 45 |
| 3 | BH-3 | 2.5 | 15 | 41 |
| 4 | BH-4 | 3.0 | 15 | 41 |
| 5 | BH-5 | 2.0 | 15 | 41 |
| 6 | BH-6 | 1.4 | 15 | 41 |
| 7 | BH-7 | 3.5 | 15 | 41 |

- The safe bearing capacity (SBC) for the shallow foundations are calculated based on Rock Mass Rating (RMR). The RMR and corresponding SBC values are evaluated for each core run for all the boreholes. The variation of SBC along the depth is also shown in figure below. The detailed RMR values for each core run are enclosed in Annexure IV.



- As the permissible settlement of foundation on rock is considered as 12mm (0.012m), the modulus of subgrade reaction shall be considered as SBC/settlement e.g for BH-1 subgrade modulus = $55/0.012 = 4583 \text{ T/m}^3$.
- Lightly loaded foundations can rest at the level shallower than that mentioned in table 2. The net safe bearing capacity for such foundation at different founding depths, varying footing size and at different borehole locations is as mentioned in table 3. The net safe bearing capacity has been calculated considering the 25mm permissible settlement.

Table 3 Net safe bearing capacity for foundations resting on soil

| Bore Hole No. | Footing size, m | Founding depth, m | Net safe bearing capacity, T/m ² |
|---------------|-----------------|-------------------|---|
| BH-1 | 1 x 1 | 1.0 | 30 |
| | 2 x 2 | | 30 |
| | 3 x 3 | | 30 |
| BH-2 | 1 x 1 | 1.0 | 10 |
| | 2 x 2 | | 5 |
| | 3 x 3 | | 4 |
| | 1 x 1 | 2.0 | 22 |
| | 2 x 2 | | 17 |
| | 3 x 3 | | 16 |
| BH-3 | 1 x 1 | 1.0 | 1* |
| | 2 x 2 | | 1* |
| | 3 x 3 | | 1* |
| | 1 x 1 | 2.0 | 1* |
| | 2 x 2 | | 1* |
| | 3 x 3 | | 1* |
| BH-4 | 1 x 1 | 1.0 | 10 |
| | 2 x 2 | | 5 |
| | 3 x 3 | | 4 |
| | 1 x 1 | 2.0 | 22 |
| | 2 x 2 | | 17 |
| | 3 x 3 | | 16 |
| BH-5 | 1 x 1 | 1.0 | 17 |
| | 2 x 2 | | 14 |
| | 3 x 3 | | 14 |
| BH-6 | 1 x 1 | 1.0 | 30 |
| | 2 x 2 | | 30 |
| | 3 x 3 | | 30 |
| BH-7 | 1 x 1 | 1.0 | 1* |
| | 2 x 2 | | 1* |
| | 3 x 3 | | 1* |
| | 1 x 1 | 2.0 | 2* |
| | 2 x 2 | | 2* |
| | 3 x 3 | | 2* |

Note: * Net SBC values are considering 40mm permissible settlement.

- The bottom of the excavation at the founding level shall be compacted and cleaned properly after removing all the loose material. It is advisable to inform M/s Geo Science for site inspection of founding strata and for reconfirmation of bearing capacities before laying the foundations.

-
- Proper cleaning of loose soil and rock particles at founding level shall be carried out before concreting operation.
 - As the ground water table is encountered at very shallow depth i.e. 0.3 m below EGL, suitable dewatering arrangement shall be adopted either by pumping or by well point method to keep the ground water level temporarily below the depth of the excavation. The location of dewatering wells shall be outside the boundary of excavation and all around the periphery at suitable intervals.
 - The ground water level shall be considered at finished grade level or existing ground level whichever is higher during structural designing of the foundations considering the full effect of buoyancy. Suitable provision shall be made in the substructure or the basement raft during construction stage to prevent uplifting of partly constructed basement structure due to the buoyancy.
 - During the deep excavations, properly designed shoring arrangement shall be done in the form of sheet piles or shore piles to retain the sides of the excavation.

Sample calculation of bearing capacity of shallow foundation resting on rock at depth of 1.6m in BH-1

a) Based on Rock Mass Rating (RMR)

Rock mass rating for hard rock is calculated using five parameters viz. strength of rock, RQD, joint spacing and groundwater condition. Following rating is considered for individual parameter:

- i) Strength of intact rock: 7 (for UCS of 90.95 MPa)
- ii) RQD: 8 (for RQD value of 27%)
- iii) Joint spacing: 8 (for joint spacing of 60-200 mm)
- iv) Joint condition: 0 (for soft gauge >5mm thick)
- v) Groundwater: 7 (wet)
- vi) Rating adjustment: -7 (for fair condition of discontinuity for foundation)

The total RMR value based on above rating is 23.

The allowable bearing capacity based on RMR is estimated from the following table (IS: 12070-1987)

Net Safe Bearing Pressure Based on RMR

| Classification No | I | II | III | IV | V |
|--|-----------|---------|---------|--------|-----------|
| Description of Rock | Very Good | Good | Fair | Poor | Very Poor |
| RMR | 100-81 | 80-61 | 60-41 | 40-21 | 20-0 |
| Allowable Bearing Capacity (T/m ²) | 600-448 | 440-288 | 280-141 | 135-48 | 45-30 |

Thus, by interpolation the allowable bearing capacity is 57.16 T/m² say 55 T/m².

b) Based on core strength

The evaluation safe bearing pressure based on the core strength of rock is based on the assumption that the rock mass has favorable characteristics that is, rock surface is parallel to the base of the foundation, the load has no tangential component, the rock mass no open discontinuities.

The safe bearing = $q_c \cdot N_j$

where q_c = min. compressive strength of rock core
= 90.95 Mpa = 909.5 kg/cm²

N_j = empirical coefficient depending on the spacing of discontinuity
= 0.1 for discontinuity spacing of 30-100cm

The safe bearing = 909.5 x 0.1
= 90.95 kg/cm²
= 909.5 t/m²

Correction factor for rock with continuous joints with opening 1 to 5mm wide and filled with clay
= 0.5

Hence safe bearing = 909.5 x 0.5
= 454.75 t/m²

The minimum value of SBC at 1.6 m depth is 55 T/m² based on RMR.

7. REFERENCES

7.1 Codes

- IS 1498: Classification and Identification of Soils for General Engineering Purposes
- IS 1892: Code of Practice for Site Investigations for Foundations
- IS 1904: Code of Practice for Design and Construction of Foundations in Soils: General Requirements.
- IS 2131: Method of Standard Penetration Test for Soils
- IS 2720: Method of Test for Soil (relevant Parts)
- IS 5313: Guide for Core Drilling Observations
- IS 6926: Code of practice for Diamond Core Drilling for Site Investigations
- IS 8764: Method for the determination of point load strength index of rocks
- IS 9143: Method for the determination of unconfined compressive strength of rock materials
- IS 12070: Design and Construction of Shallow Foundation on Rock
- IS 13030: Method of test for laboratory determination of water content, porosity, density and related properties of rock material
- IS 13365 (Part-I) : Quantitative classification system of rock mass - Guidelines, Part 1: RMR for predicting of engineering properties

JANUARY 2020

Technical Head
GEO SCIENCE



**TOPOGRAPHIC SURVEYS
FOR REHABILITATION & UPGRADE OF
22.5 MLD CETP AT ROHA INDUSTRIAL
AREA ROHA FOR
RBIPL & HYDROAIR (JV)**



**TOPOGRAPHIC SURVEYS FOR REHABILITATION &
UPGRADE OF ROHA 22.5 MLD CETP AT ROHA
INDUSTRIAL AREA ROHA ,MAHARASHTRA**

FOR

**RBIPL & HYDROAIR (JV)/ RIA
MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION**

SURVEY REPORT

FOR

TOPOGRAPHIC SURVEYS

**DOCUMENT No. UGS/RBILLP-HYDROAIR/TS
(Rev.0)**

| | | | | | | | |
|-----|------------|---------------|----------|---------|----------|------------------------|---------------------|
| | | | | | | | |
| 0 | 11/01/2019 | Survey Report | SM | SAM | RSP | | |
| REV | ISSUE DATE | DESCRIPTION | PREPARED | CHECKED | APPROVED | CONTRACTOR Approval | COMPANY Approval |

| | | |
|---|---|--|
|  | TOPOGRAPHIC SURVEYS FOR REHABILITATION & UPGRADE OF 22.5 MLD CETP AT ROHA INDUSTRIAL AREA ROHA FOR RBIPL & HYDROAIR (JV) |  |
|---|---|--|

| Project Information | |
|-------------------------------|---|
| Project : | TOPOGRAPHIC SURVEYS |
| Client : | RBIPL & HYDROAIR(JV) |
| Client Reference No. : | EHPL DATED 28TH NOVEMBER ' 2019 |
| UGS Project No. : | UGS/102/ 2019 |
| UGS Document No: | UGS/RBILLP-HYDROAIR/TS (Rev. 0) |

| Issued To: RBIPL & HYDROAIR (JV) | |
|----------------------------------|---|
| For the Attention of : | |
| Address : | RBIPL & HYDROAIR (JV) |
| | Concorde Premises Plot No 66A ,Sector 11 |
| | CBD Belapur ,Navi Mumbai - 400614 |
| Tel : | |
| Fax : | |
| Email: | |

| Issued By: UNIQUE GEOSOLUTIONS & SURVEYS | |
|--|--|
| Project Manager : | Mr. Sabir mujawar |
| Address : | UNIQUE GEOSOLUTIONS & SURVEYS . |
| | 438 NEO CORPORATE PLAZA, RAMCHANDRA LANE EXTN |
| | OPP KAPOL HALL, KANCHPADA, MALAD WEST MUMBAI 400064 |
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**TOPOGRAPHIC SURVEYS
FOR REHABILITATION & UPGRADE OF
22.5 MLD CETP AT ROHA INDUSTRIAL
AREA ROHA FOR
RBIPL & HYDROAIR (JV)**



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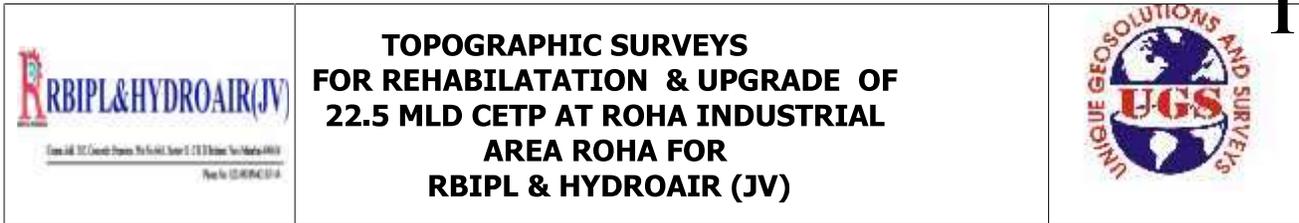


Figure 1 Location Map

1 INTRODUCTION AND SCOPE OF WORK

1.1 GENERAL

The Roha Industrial Association, Roha Maharashtra Under Maharashtra Industrial development corporation, plan to rehabilitation & upgrade of 22.5 MLD CETP at Roha industrial Area at Roha. The work is awarded to RBIPL & Hydroair (JV). Topographic Survey is awarded to M/S Unique Geosolutions & Survey by RBIPL & Hydroair (JV)

These survey services comprised of the provision of suitable personnel and equipment in order to obtain, interpret and report on topographic surveys. Total station is used for carrying out topographic surveys.

| | | |
|---|--|--|
|  <p>RBIPL & HYDROAIR (JV) <small>Joint Venture of RBIPL & Hydroair (JV) For the Rehabilitation & Upgrade of 22.5 MLD CETP at Roha Industrial Area, Roha.</small></p> | <p>TOPOGRAPHIC SURVEYS FOR REHABILITATION & UPGRADE OF 22.5 MLD CETP AT ROHA INDUSTRIAL AREA ROHA FOR RBIPL & HYDROAIR (JV)</p> |  <p>UNIQUE GEOSOLUTIONS AND SURVEYS UGS</p> |
|---|--|--|

This survey report **UGS (Rev.0)** deals with topographic surveys of REHABILITATION, & Upgrade of Roha CETP 22.5 MLD CETP at Roha Industrial Area, Roha.

1.2 SCOPE OF WORK

Detailed Survey for Existing Features:

The features have picked up during the survey are included as following:

- All over ground utilities such as electricity, overhead cable rack , Tank , overhead water tank water supply pipelines, various old tank, underground pipe lines, pump houses, DG Sets, existing roads, pathways, drains & other structure present on site along with details of sizes, and levels. Also this drawing covers proposed structures like office, sludge thickener, anoxic tank, mcc room, blowers, substation building, primary sludge pump house, distributions chambers etc

Deliverables:

- i) Drawing in AutoCAD format:
 - The Drawing is prepared in AutoCAD by showing all features as per standard. The Drawing is prepared in Scale 1:500

2 RESOURCES OF WORK

TOPOGRAPHIC SURVEYS

Personnel

| PERSONNEL | FUNCTION |
|---------------------------|-------------------|
| Topographic Survey | |
| S Mondal | 1 x Land Surveyor |
| R K Maurya | 1 x Asst Surveyor |

Table 1 List of personnel



**TOPOGRAPHIC SURVEYS
FOR REHABILITATION & UPGRADE OF
22.5 MLD CETP AT ROHA INDUSTRIAL
AREA ROHA FOR
RBIPL & HYDROAIR (JV)**



2.2 Progress Report

While on location, survey Party Chief reported daily progress report to Client's representative

2.3

Safety

Safety is observed on the site while carrying out the topographic Surveys according to UGS HSE plan.

2.4 Data Quality Control

RBIPL & HYDROAIR (JV). has fully documented Quality Assurance and Health, Safety and Environmental System procedures. The experienced person from RBIPL & HYDROAIR (JV) constantly monitor the data quality as the survey progresses.

3 SURVEY OPERATIONS

3.1 TOPOGRAPHIC SURVEYS

RBIPL & HYDROAIR (JV) representative, in liaison with Party Chief are work out the actual survey program in accordance with specifications.

Topographic Surveys operation had been carried out during day light hours. Total station was deployed for carrying out land survey.

4 REPORTING

4.1 Data Processing and Interpretation

All required final data (digitally acquired or otherwise) processing, interpretation and reporting is carried out at Mumbai. Post plot positioning map(s) are done via UGS integrated software/plotting system, operating on work-stations and HP Drafting A-0 sized Plotters.

| | | |
|--|--|---|
|  <p>RBIP&HYDROAIR(JV) Consulting, Design, Planning, Project Management, Survey & Construction Services Pune-411 004 (INDIA)</p> | TOPOGRAPHIC SURVEYS FOR REHABILITATION & UPGRADE OF 22.5 MLD CETP AT ROHA INDUSTRIAL AREA ROHA FOR RBIP & HYDROAIR (JV) |  <p>UNIQUE GEOSOLUTIONS AND SURVEYS UGS</p> |
|--|--|---|

Reporting format and schedules are maintain in accordance to RBIP & HYDROAIR , as well as those outlined by CH2M , in their estimate of the work schedules contained in the '*Project Schedule*' of this Proposal.

A comprehensive final report including all maps, cross section for the site are delivered to RBIP & HYDROAIR (JV) office within the time frame specified in RBIP & HYDROAIR schedule..

All cartography and general presentations are confirmed to the technical specifications, or general industry standards.



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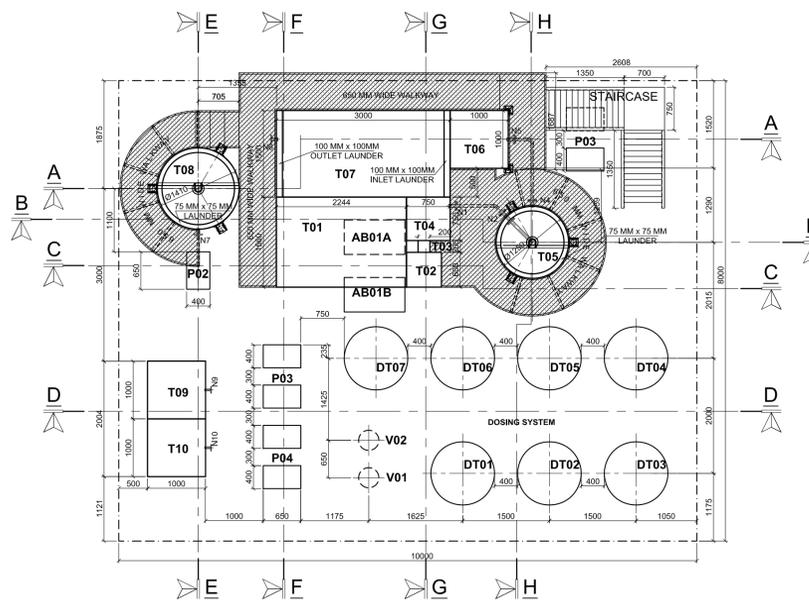
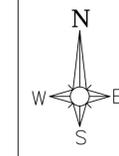
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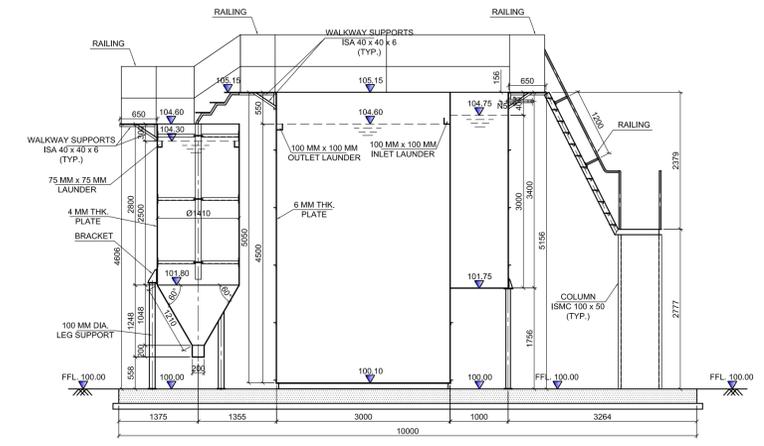


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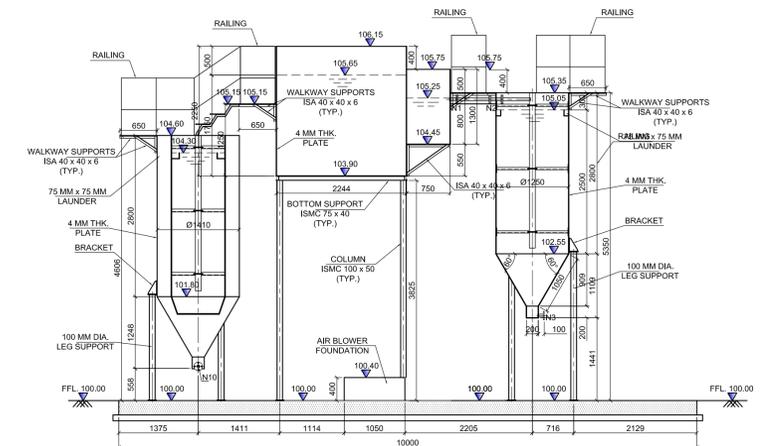




PLAN



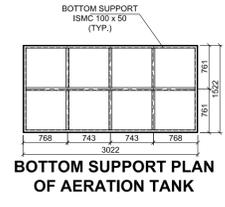
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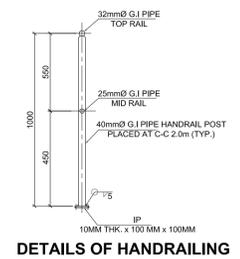
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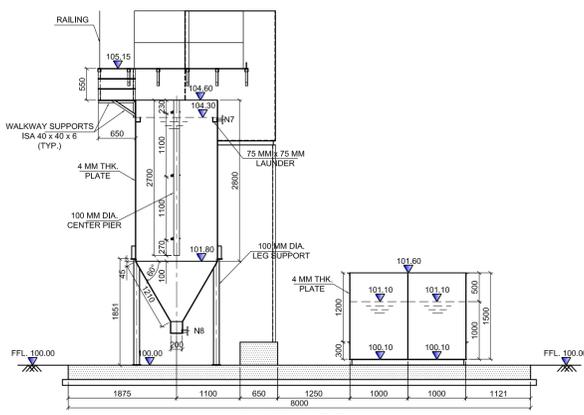
BOTTOM SUPPORT PLAN



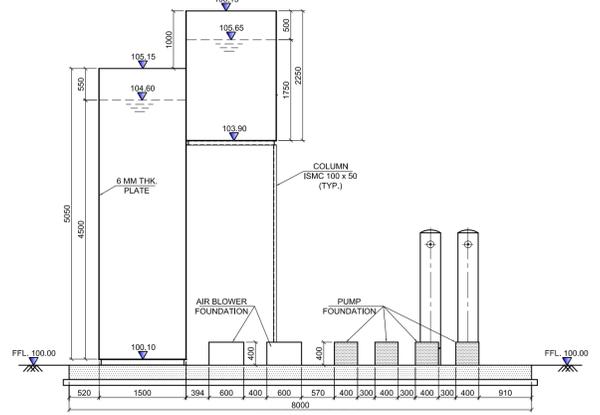
BOTTOM SUPPORT PLAN OF AERATION TANK



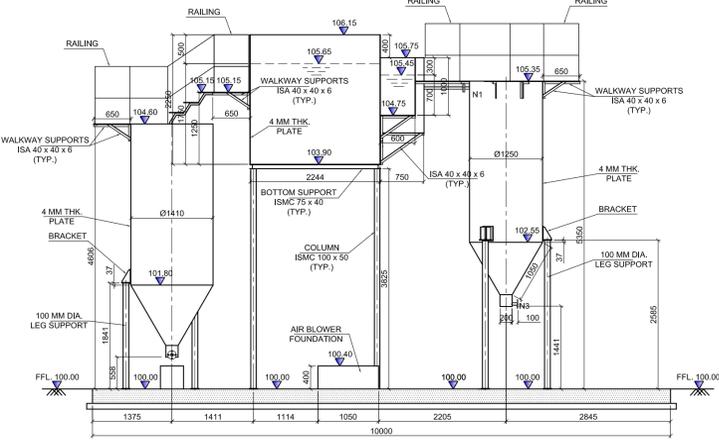
DETAILS OF HANDRAILING



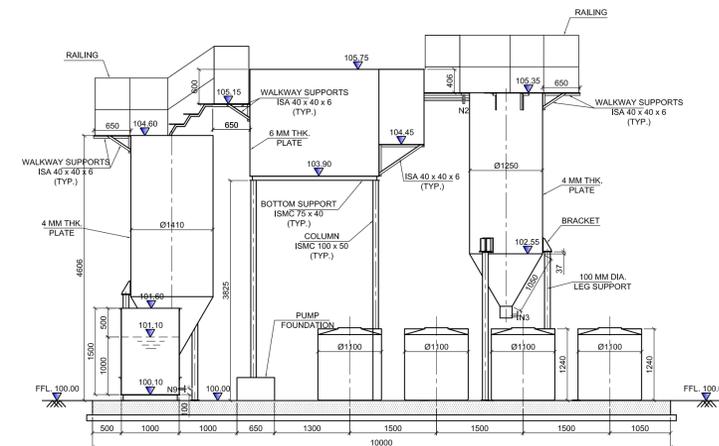
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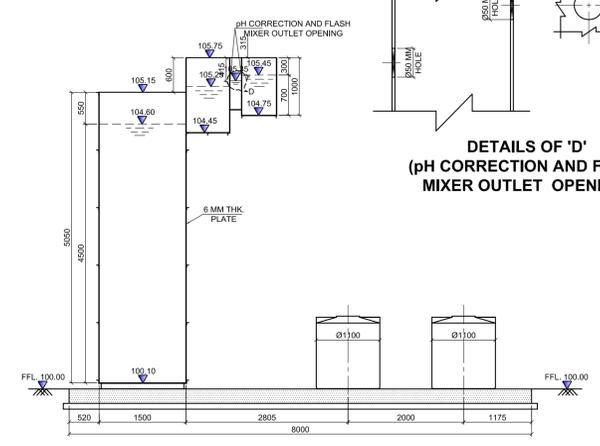
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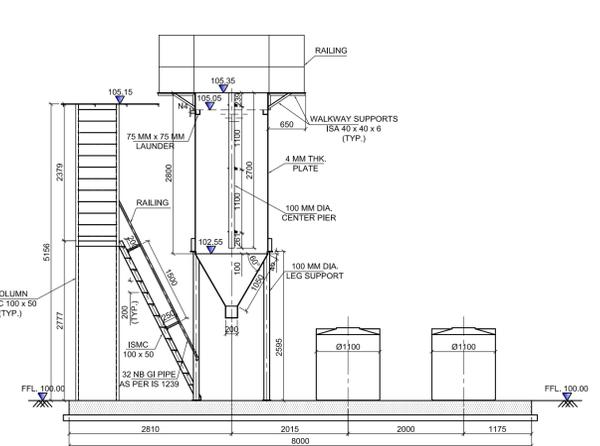
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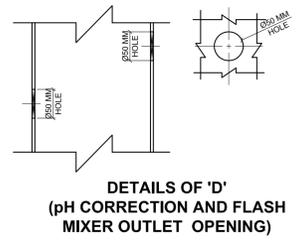
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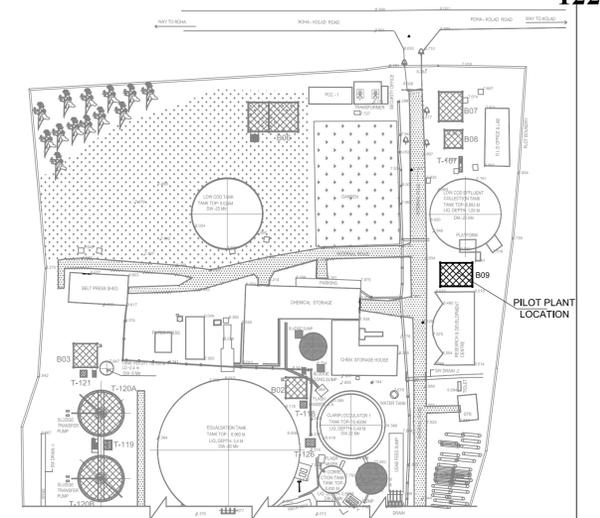
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SECTION:H-H



DETAILS OF 'D' (pH CORRECTION AND FLASH MIXER OUTLET OPENING)



KEY PLAN

| S. N. | Unit Name | Tag. No. | Qty. | MOC | Dimensions | | | |
|------------|------------------------------|----------|------|------|--|-------|--------|------------|
| | | | | | Length | Width | LD/SWD | Free Board |
| | | | | | m | m | m | m |
| 1 | Equalization Tank (High COD) | T01 | 1 | MSEP | 2.24 | 1.56 | 1.75 | 0.50 |
| 2 | pH Correction Tank | T02 | 1 | MSEP | 0.60 | 0.60 | 0.70 | 0.30 |
| 3 | Flash Mixer | T03 | 1 | MSEP | 0.20 | 0.20 | 0.50 | 0.40 |
| 4 | Flocculator | T04 | 1 | MSEP | 0.75 | 0.75 | 0.80 | 0.60 |
| 5 | Primary clarifier | T05 | 1 | MSEP | 1.25 | 2.50 | 3.00 | 0.30 |
| 6 | Anoxic Tank | T06 | 1 | MSEP | 1.00 | 1.00 | 3.00 | 0.50 |
| 7 | Aeration Tank | T07 | 1 | MSEP | 3.00 | 1.50 | 4.50 | 0.50 |
| 8 | Secondary Clarifier | T08 | 1 | MSEP | 1.41 | 2.50 | 3.00 | 0.30 |
| 9 | Intermediate Tank | T09 | 1 | MSEP | 1.00 | 1.00 | 1.00 | 0.30 |
| 10 | PSF | V01 | 1 | MSEP | 0.35 | 2.00 | | |
| 11 | ACF | V02 | 1 | MSEP | 0.35 | 2.00 | | |
| 12 | Treated Effluent Tank | T10 | 1 | HDPE | 1.00 | 1.00 | 1.00 | 0.30 |
| 13 | Lime Dosing Tank | DT01 | 1 | HDPE | 1.10 | 1.10 | 1.10 | 0.14 |
| 14 | FeSo4 Dosing Tank | DT02 | 1 | HDPE | 1.10 | 1.10 | 1.10 | 0.14 |
| 15 | Alum Dosing Tank | DT03 | 1 | HDPE | 1.10 | 1.10 | 1.10 | 0.14 |
| 16 | Poly Dosing Tank | DT04 | 1 | HDPE | 1.10 | 1.10 | 1.10 | 0.14 |
| 17 | NaOH Dosing Tank | DT05 | 1 | HDPE | 1.10 | 1.10 | 1.10 | 0.14 |
| 18 | H3PO4 Dosing Tank | DT06 | 1 | HDPE | 1.10 | 1.10 | 1.10 | 0.14 |
| 19 | Hypo Dosing Tank | DT07 | 1 | HDPE | 1.10 | 1.10 | 1.10 | 0.14 |
| Equipments | | | | | | | | |
| 19 | High COD Transfer Pump | P01A/B | 2 | CI | 1.0 m ³ /hr @ 10 head | | | |
| 20 | Air Blower | AB01A/B | 2 | CI | 35.0 m ³ /hr @ 0.5 kg/cm ² | | | |
| 21 | Sludge Recirculation Pump | P02A/B | 2 | CI | 1.0 m ³ /hr @ 10 head | | | |
| 22 | Filter Feed Pumps | P03A/B | 2 | CI | 1.0 m ³ /hr @ 20 head | | | |
| 23 | Filter Backwash pump | P04 | 1 | CI | 3.0 m ³ /hr @ 20 head | | | |
| 24 | Low COD Transfer pump | P05A/B | 2 | CI | 0.5 m ³ /hr @ 10 head | | | |
| 25 | Recycle Pump AT | P06A/B | 2 | CI | 2.0 m ³ /hr @ 10 head | | | |
| 26 | Lime Dosing Pump | DP01 | 1 | PP | 0-20 LPH @ 10 kg/cm ² H | | | |
| 27 | FeSO4 Dosing Pump | DP02 | 1 | PP | 0-20 LPH @ 10 kg/cm ² H | | | |
| 28 | Alum Dosing Pump | DP03 | 1 | PP | 0-20 LPH @ 10 kg/cm ² H | | | |
| 29 | Poly Dosing Pump | DP04 | 1 | PP | 0-20 LPH @ 10 kg/cm ² H | | | |
| 30 | NaOH Dosing Pump | DP05 | 1 | PP | 0-20 LPH @ 10 kg/cm ² H | | | |
| 31 | H3PO4 Dosing Pump | DP06 | 1 | PP | 0-20 LPH @ 10 kg/cm ² H | | | |
| 32 | Hypo Dosing Pump | DP07 | 1 | PP | 0-20 LPH @ 10 kg/cm ² H | | | |

| S. N. | Nozzle Description | Nozzle Tag | MOC | Pipe Dia. (NB) |
|-------|--------------------------------|------------|-----|----------------|
| 1 | Flocculator Outlet Pipe | N1 | MS | 50 |
| 2 | Primary Settling Inlet Pipe | N2 | MS | 50 |
| 3 | Primary Settling Outlet Pipe | N3 | MS | 50 |
| 4 | Primary Sludge Outlet Pipe | N4 | MS | 80 |
| 5 | Anoxic Tank Inlet Pipe | N5 | MS | 50 |
| 6 | Aeration Outlet Pipe | N6 | MS | 50 |
| 7 | Secondary Settling Outlet Pipe | N7 | MS | 50 |
| 8 | Secondary Sludge Outlet Pipe | N8 | MS | 80 |
| 9 | Intermediate Outlet | N9 | MS | 50 |
| 10 | Treated Outlet | N10 | MS | 50 |

GENERAL NOTE:
1. ALL DIMENSION ARE IN MM AND LEVELS ARE IN METER.

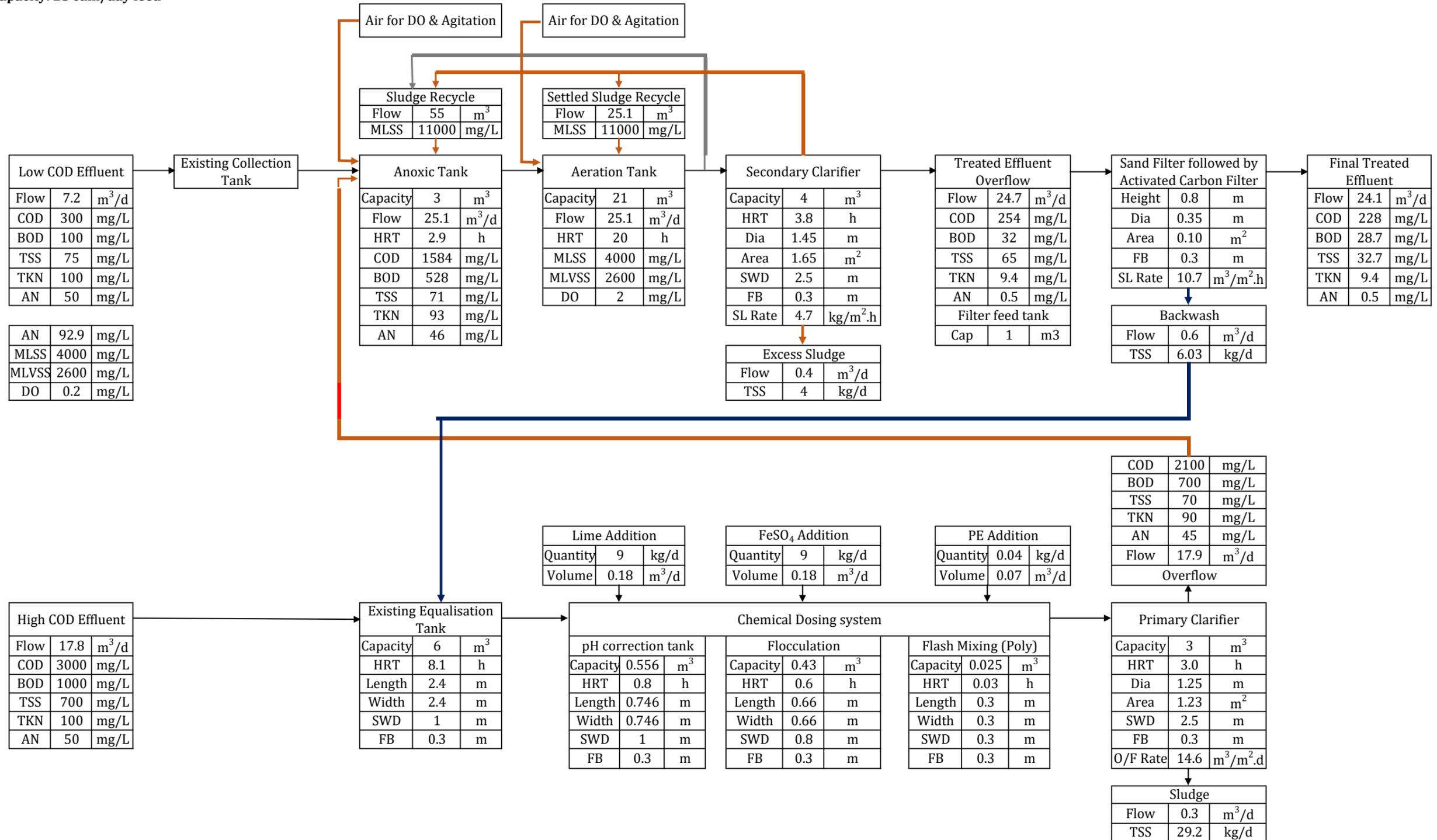
NOTE:
1. ALL HANDRAILS AND UPRIGHTS SHALL BE AS PER RESPECTIVE TYPE.
2. ALL M.S. TUBES AND FITTINGS SHALL CONFORM TO IS:1239.

| REV. | DATE | DESCRIPTION | SS | HS |
|------|------------|----------------------|----|----|
| R1 | 02.04.2020 | REVISED SOME CHANGES | SS | HS |
| R0 | 20.10.2019 | FOR APPROVAL | SS | HS |

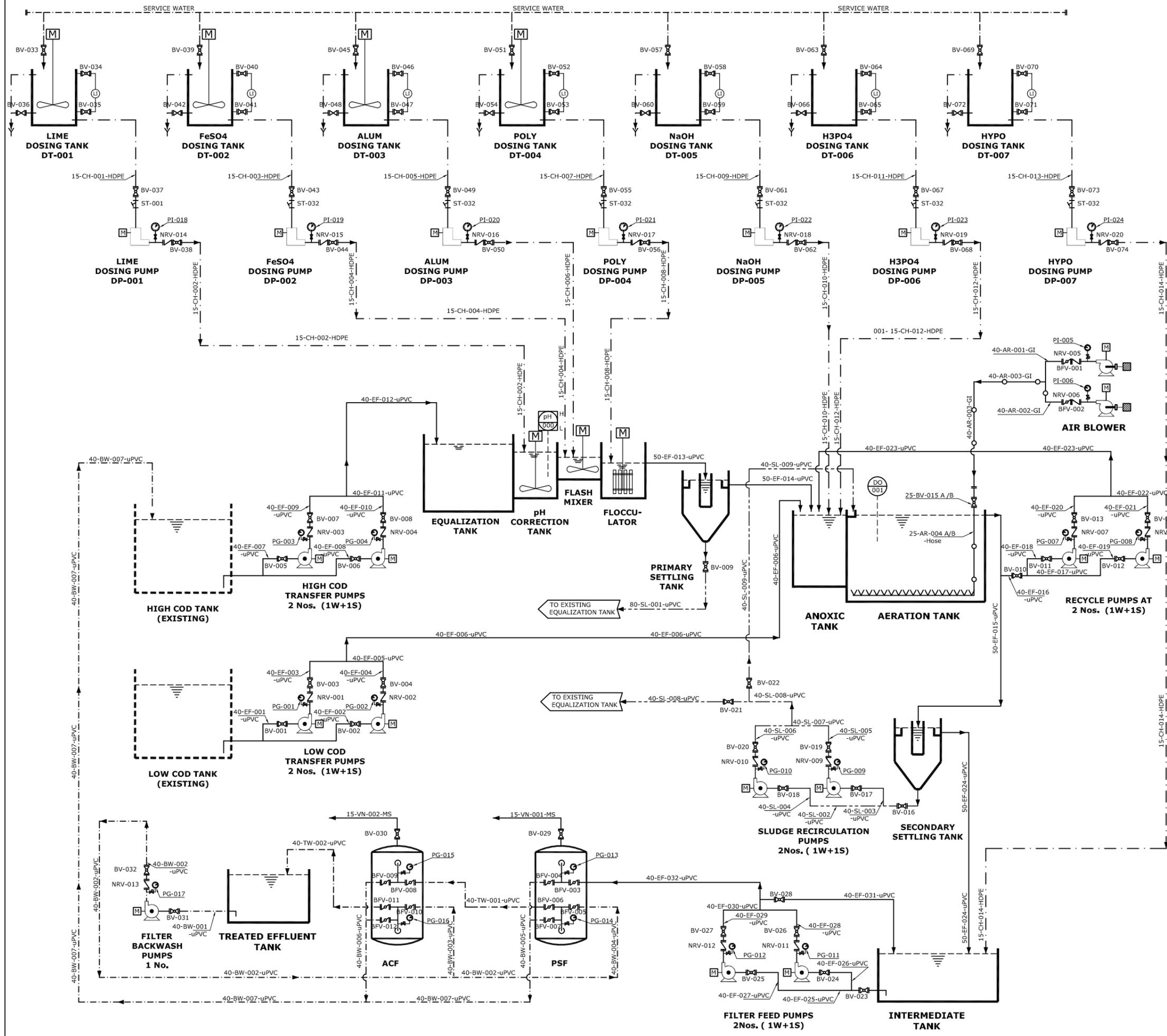
| | | | |
|----------------|---------|---|--|
| MATL. ~ | CLIENT | MIDC | RBIPL & HYDRO AIR (JV) |
| DSG. HS | | | |
| DRN. SS | | | |
| CHD. HS | | | |
| APPD. HS | PROJECT | Rehab, Upgrade & modification of ROHA CETP 22.5 MLD | |
| SCALE - 1 : 50 | | TITLE | LAYOUT WITH GA. DRAWING OF PILOT PLANT |
| | | DATE | 20.10.2019 |
| | | DRG NO. | HRTL-CETP-ROHA-G-LAY-03 |
| | | SHT | 1 of 1 |
| | | Rev. No. | R1 |

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Capacity: 25 cum/day feed



| | | | |
|-------------|--|-------------|--|
| Prepared By | | Reviewed By | |
| Signature | | Signature | |
| Name | | Name | |
| SBB | | H B Singh | |



| S.N. | Unit Name | Tag. No. | Qty. | MOC | Dimensions | | | Free Board |
|-------------------|------------------------------|----------|------|-------|-------------------------|---------------------------|---------|------------|
| | | | | | Length/Dia | Width | LD/ SWD | |
| 1 | Equalization Tank (High COD) | DT01 | 1 | MSEP | 2.24 | 1.56 | 1.75 | 0.50 |
| 2 | pH Correction Tank | DT02 | 1 | MSEP | 0.60 | 0.60 | 0.70 | 0.30 |
| 3 | Flash Mixer | DT03 | 1 | MSEP | 0.20 | 0.20 | 0.50 | 0.40 |
| 4 | Flocculator | DT04 | 1 | MSEP | 0.75 | 0.75 | 0.80 | 0.60 |
| 5 | Primary clarifier | DT05 | 1 | MSEP | 1.25 | 1.25 | 2.50 | 0.30 |
| 6 | Anoxic Tank | DT06 | 1 | MSEP | 1.00 | 1.00 | 3.00 | 0.50 |
| 7 | Aeration Tank | DT07 | 1 | MSEP | 3.00 | 1.50 | 4.50 | 0.50 |
| 8 | Secondary Clarifier | DT08 | 1 | MSEP | 1.41 | 1.41 | 2.50 | 0.30 |
| 9 | Intermediate Tank | DT09 | 1 | MSEP | 1.00 | 1.00 | 1.00 | 0.30 |
| 10 | PSF | V01 | 1 | MSEP | 0.35 | | 2.00 | |
| 11 | ACF | V02 | 1 | MSEP | 0.35 | | 2.00 | |
| 12 | Treated Effluent Tank | T10 | 1 | PE/PP | 1.00 | 1.00 | 1.00 | 0.30 |
| 13 | Lime Dosing Tank | DT01 | 1 | PE/PP | 1.10 | | 1.10 | 0.14 |
| 14 | FeSO4 Dosing Tank | DT02 | 1 | PE/PP | 1.10 | | 1.10 | 0.14 |
| 15 | Alum Dosing Tank | DT03 | 1 | PE/PP | 1.10 | | 1.10 | 0.14 |
| 16 | Poly Dosing Tank | DT04 | 1 | PE/PP | 1.10 | | 1.10 | 0.14 |
| 17 | NaOH Dosing Tank | DT05 | 1 | PE/PP | 1.10 | | 1.10 | 0.14 |
| 18 | H3PO4 Dosing Tank | DT06 | 1 | PE/PP | 1.10 | | 1.10 | 0.14 |
| 19 | Hypo Dosing Tank | DT07 | 1 | PE/PP | 1.10 | | 1.10 | 0.14 |
| Equipments | | | | | | | | |
| 20 | High COD Transfer Pump | P01A/B | 2 | CI | 1.0 m ³ /hr | @ 10 head | | |
| 21 | Air Blower | AB01A/B | 2 | CI | 35.0 m ³ /hr | @ 0.5 kg/cm ² | | |
| 22 | Sludge Recirculation Pump | P02A/B | 2 | CI | 1.0 m ³ /hr | @ 10 head | | |
| 23 | Filter Feed Pumps | P03A/B | 2 | CI | 1.0 m ³ /hr | @ 20 head | | |
| 24 | Filter Backwash pump | P04 | 1 | CI | 3.0 m ³ /hr | @ 20 head | | |
| 25 | Low COD Transfer pump | P05A/B | 2 | CI | 0.5 m ³ /hr | @ 10 head | | |
| 26 | Recycle pump AT | P06A/B | 2 | CI | 2.0 m ³ /hr | @ 10 head | | |
| 27 | Lime Dosing Pump | DP01 | 1 | PP | 0-20 LPH | @ 10 kg/cm ² H | | |
| 28 | FeSO4 Dosing Pump | DP02 | 1 | PP | 0-20 LPH | @ 10 kg/cm ² H | | |
| 29 | Alum Dosing Pump | DP03 | 1 | PP | 0-20 LPH | @ 10 kg/cm ² H | | |
| 30 | Poly Dosing Pump | DP04 | 1 | PP | 0-20 LPH | @ 10 kg/cm ² H | | |
| 31 | NaOH Dosing Pump | DP05 | 1 | PP | 0-20 LPH | @ 10 kg/cm ² H | | |
| 32 | H3PO4 Dosing Pump | DP06 | 1 | PP | 0-20 LPH | @ 10 kg/cm ² H | | |
| 33 | Hypo Dosing Pump | DP07 | 1 | PP | 0-20 LPH | @ 10 kg/cm ² H | | |

LEGEND :-

- INSULATED LINE
- GATE VALVE
- NON RETURN VALVE
- BUTTERFLY VALVE
- BALL VALVE

LINE SERVICE IDENTIFICATION

- CH - CHEMICAL
- IL - INSTRUMENT
- EF - EFFLUENT WATER
- SL - SLUDGE LINE
- TW - TREATED WATER
- AR - AIR LINE
- BW - BACKWASH LINE
- FW - FILTRATE WATER

INSTRUMENTATIONS ABBREVIATIONS

- PI - PRESSURE INDICATOR
- LI - LEVEL INDICATOR
- ULT - ULTRASONIC LEVEL TRANSMITTER

REFERENCE DOCUMENTS/DRAWING

| S.N. | DRAWING NAME | DRAWING NUMBER | REV. |
|------|---------------------------------------|--------------------------|------|
| 1 | PROCESS FLOW DIAGRAM | HTPL-CETP-ROHA-G-PFD-001 | R1 |
| 2 | HYDRAULIC FLOW DIAGRAM | HTPL-CETP-ROHA-G-HFD-002 | R1 |
| 3 | LAYOUT WITH GA DRAWING OF PILOT PLANT | HTPL-CETP-ROHA-G-LAY-003 | R1 |

LINE NUMBER IDENTIFICATION

00-SL-000-MS

- PIPING MATL. SPEC.
- LINE NUMBER
- FLUID LEGEND/SERVICE IDENT.
- LINE SIZE IN MM

VALVE NUMBER IDENTIFICATION

BV-000

- VALVE NUMBER
- VALVE TYPE

NOTE:-

| REV. | DATE | FOR APPROVAL | SS | HS |
|------|------------|--------------|------|----|
| R0 | 03.04.2020 | | | |
| | | REVISIONS | | |
| DRN | | DRN | CHD. | BY |

MATL. - CLIENT: MIDC

DSG. HS

DRN. SS

CHD. HS

APPD. HS

PROJECT: Rehab, Upgrade & modification of ROHA CETP 22.5 MLD

SCALE - N.T.S.

TITLE: P & I DIAGRAM OF PILOT PLANT

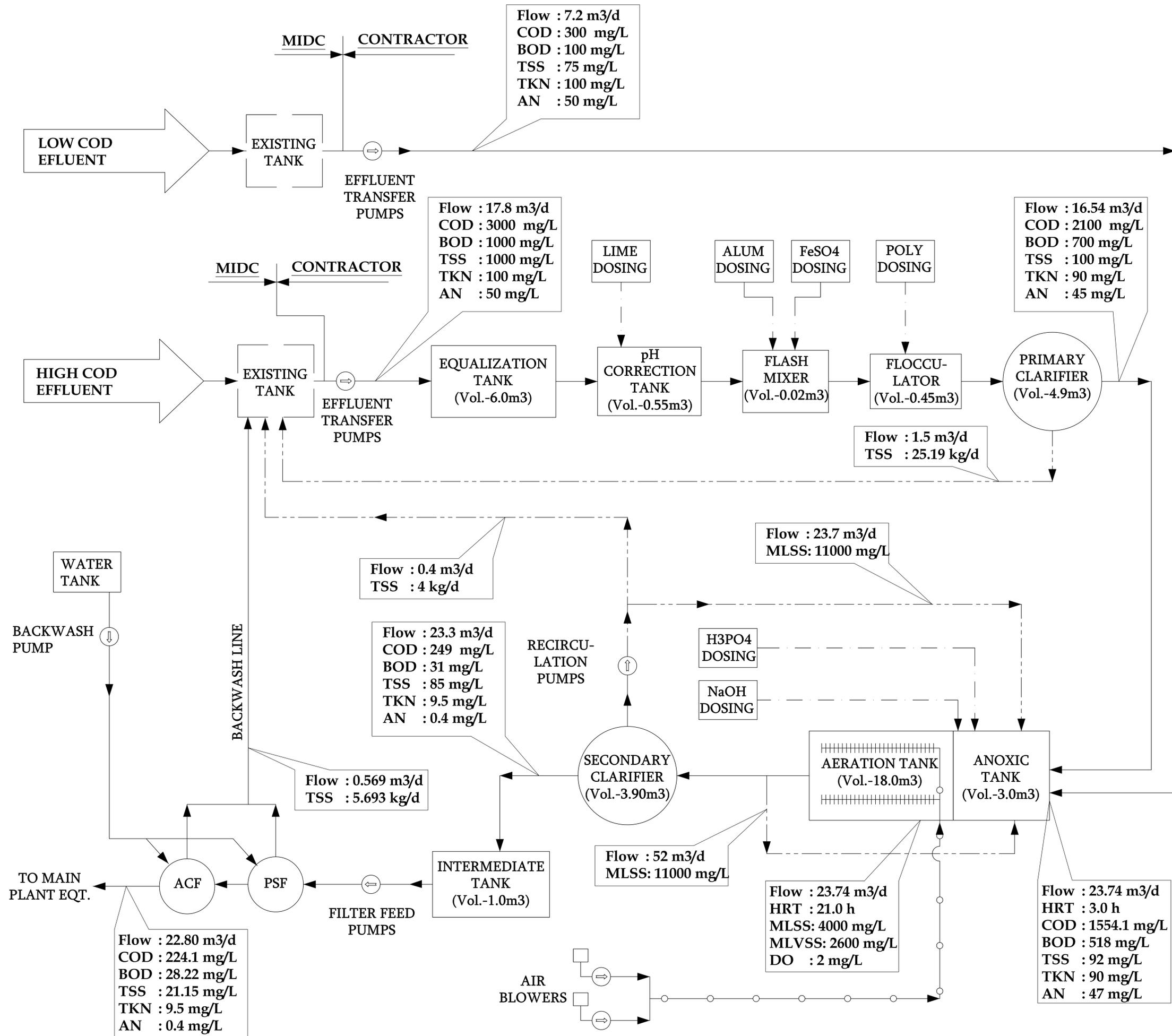
DATE: 03.04.2020

DRG NO: 00958/13/PR/PID/1001/01

SHT: 1 of 1

Rev. No: R0

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LINE SERVICE IDENTIFICATION

- CHEMICAL
- EFFLUENT WATER
- - - SLUDGE & RECYCLE
- AIR

NOTE:- 1) ALL DIMENSION ARE IN MM.

| | | | | |
|--------------------------------|------------|-------------------------|--|---------|
| R1 | 31.03.2020 | REVISED SOME CHANGES | S.S. | HBS |
| R0 | 25.02.2020 | FOR APPROVAL | S.S. | HBS |
| REV. | DATE | REVISIONS | DRN | CHD. BY |
| MATL. | ~ | CLIENT | MIDC | |
| DSG. | HS | PROJECT | Rehab,Upgrade & modification of ROHA CETP 22.5 MLD | |
| DRN. | SS | | RBIPPL & HYDRO AIR (JV) | |
| CHD. | HS | | | |
| APPD. | HS | | | |
| SCALE - N.T.S. | | | | |
| TITLE | | DATE : 25.02.2020 | SHT :1 of 1 | |
| PROCESS FLOW WITH MASS BALANCE | | DRG NO :- | Rev. No | |
| DIAGRAM OF PILOT PLANT | | HTPL-CETP-ROHA-G-PPD-01 | R1 | |

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|--------------------------------|--|------------|-------------------------|
| RBIPPL&HYDROAIR(JV) | Report on Pilot Plant Set up at Roha CETP | | MIDC 1232 |
| Document no | Revision | Date | Sheet 1 of 21 |
| 98958/13/PR/RPT/1001/01 | 00 | 06.04.2020 | |

Report on Pilot Plant Set up at Roha CETP

Design, Build and Commissioning including Rehabilitation and Upgrade of 22.5 MLD CETP on DB basis with Operation and Maintenance at Roha Industrial Area

| Revision | Date | Description | Prepared By SBB | Reviewed By H B Singh |
|----------|------------|---------------------|--|---|
| 00 | 06.04.2020 | Issued for approval |  |  |
| | | | | |
| | | | | |

| | | | |
|--------------------------------|--|------------|------------------|
| RBIPPL&HYDROAIR(JV) | Report on Pilot Plant Set up at Roha CETP | | MIDG 1233 |
| Document no | Revision | Date | Sheet 2 of 21 |
| 98958/13/PR/RPT/1001/01 | 00 | 06.04.2020 | |

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| 3 | Proposed Treatment Scheme | 6 |
| 4 | Design Basis | 9 |
| 5 | Process design calculations | 10 |
| 6 | Unit and Equipment List | 18 |
| 7 | Pilot Plant Layout | 21 |

| | | | |
|--------------------------------|--|------------|------------------|
| RBIPPL&HYDROAIR(JV) | Report on Pilot Plant Set up at Roha CETP | | MIDG 1234 |
| Document no | Revision | Date | Sheet 3 of 21 |
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1 Introduction

The tender stipulates that a Pilot Plant replicating the critical processes of the main CETP is to be installed in the premises.

The pilot plant will be set up and operated parallel to the rehabilitation and upgrade works of the main plant and any design modifications if required will be studied and implemented in the main plant.

Capacity of the Pilot Plant proposed is 25 m³/day and the major units incorporated are primary treatment with chemical dosing by dosing pumps, anoxic and aerobic biological system and tertiary treatment in the form of Pressure sand filter and activated carbon filter.

All necessary equipment and arrangements like air blowers, anoxic recycle pumps, filter back wash pump, pH meter etc. will be provided and the Pilot shall be operated continuously.

This report presents the Pilot Plant details, starting from the treatment philosophy, process description, design basis, design criteria and process design, unit and equipment sizing and basic drawings like process flow diagram, mass balance and layout and GA drawings.

| | | | |
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| RBIPPL&HYDROAIR(JV) | Report on Pilot Plant Set up at Roha CETP | | MIDG 1235 |
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2 Treatment Philosophy

The Pilot Plant follows the treatment philosophy recommended in the tender.

Effluent will be pumped in the ratio for high/low COD in line with the main plant on daily basis from the main plant for real time testing of the functioning of Pilot Plant.

Sizing is done for major units based on the main plant sizing and size of the primary treatment follows HRT in pH correction, flash mixer and flocculator and clarifier and surface overflow rates in the clarifiers.

For the biological treatment the anoxic and aerobic basins are sized based on the main plant HRTs and secondary settling tanks are based on similar surface overflow rates and solids loading rates.

Operational process parameters like chemicals and dosages in primary treatment, F/M ratios, dissolved O₂ in aeration tank, sludge age, MLSS recycle will be as per the main plant design. Tertiary treatment in the form of Pressure sand filter and Activated carbon filters is also followed in the pilot plant. Thickening and filter press are not proposed to be included in the pilot plant set up. All effluents and sludges generated from the pilot plant will be returned to the main plant high COD equalization tank.

Daily analysis will be done as per main plant protocol and the following will be monitored

- COD balance
- TSS balance
- Nitrogen balance

| | | | | |
|--------------------------------|--|------------|---------------|-------------|
| RBIPPL&HYDROAIR(JV) | Report on Pilot Plant Set up at Roha CETP | | MIDG | 1236 |
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- Phosphorous balance

At some places the MOC may be compromised due to limited availability in high end materials for the minimal size of equipment.

| | | | |
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| RBIPPL&HYDROAIR(JV) | Report on Pilot Plant Set up at Roha CETP | | MIDG 1237 |
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3 Proposed Treatment Scheme and Process Description

The Pilot plant is designed in line with the process at the existing CETP.

The low COD effluent will be pumped directly to the anoxic tank from low COD collection tank in CETP.

The high COD effluent will be collected from high COD equalization tank and pumped to an equalization tank within the Pilot plant

Primary Treatment

Collection and Equalization Tank for high COD

The Equalization Tank shall be provided with suitable hydraulic retention time to avoid shock loads on downstream operations. In this tank air is provided through Air Purging Grid for proper mixing & homogenization.

pH correction tank, Flash Mixer Tank (FMT), Flocculation Tank Followed by Primary Clarifier (PC)

The effluent will be pumped to pH correction tank, wherein lime will be dosed to increase pH, then by gravity to Flash Mixer Tank where Alum/ FeSO₄ will be dosed followed by Flocculation Tank where polyelectrolyte will be dosed. Thus as per requirement, chemical (coagulant & flocculants) shall be added. Overflow of this unit by gravity is passed to Primary Clarifier for separation of solid & liquid. The overflow of primary clarifier will go to the Anoxic Tank. Sludge will be disposed back to the main plant Equalisation tank/sludge disposal of main plant.

| | | | |
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Secondary Biological Treatment

Anoxic Tank (AxT)

In Anoxic Tank Anoxic Mixers are used in de-nitrification basins in ETP. The process involves the de-nitrification of Effluent through the use of bacteria which breaks down the nitrate in the waste to use as an oxygen source (energy source).

Aeration Tank (AT)

Secondary Biological treatment consists of Aeration Tank followed by Secondary Clarifier. The Aeration Tank oxidizes the organic matter in effluent into CO₂& H₂O by the aeration principle. Aeration Tank is provided with air diffusers of suitable capacity to provide necessary dissolved oxygen mixed in the effluent. Blowers for oxidation provides the aeration. In Aeration Tank MLSS of 4000 to 5000 mg/lit & Dissolved Oxygen (DO) of 2mg/lit are maintained. The biological system has to be operated continuously for 24 hours and there by the constant feed of effluent is required.

Secondary Clarifier

The Overflow from Aeration Tank enters the Secondary Clarifier for separation of sludge and liquid. At the end of the aeration period the wastewater biological mass mixture (mixed liquor) reaches the effluent end of the chamber and flows by gravity to the secondary settling tank. Here the suspended solids (MLSS) and liquid are separated by gravity. The separated solids are returned to the aeration compartment as return sludge while the liquid overflows over weir into Filter Feed Tank (FFT) for further treatment.

The Clarified water flows from the outlet launder of Secondary Clarifier & are then collected in the intermediate (filter feed) tank.

| | | | |
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Tertiary Treatment

The overflow from Secondary Clarifier is collected into Filter Feed Tank. The clarified water is given dose of Hypo Solution which helps in disinfection of the treated water. The treated effluent will be pumped through the Pressure Sand & Activated Carbon Filter, which polishes the water before the final discharge. It basically removes any residual suspended matter & trace organic matter present in the water. Outlet of ACF is treated water.

This treated water will be sent back to the main plant equalization tank.

| | | | |
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| RBIPPL&HYDROAIR(JV) | Report on Pilot Plant Set up at Roha CETP | | MIDG 1240 |
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4 Design Basis

Raw and treated effluent characteristics for design.

| S. No | Parameter | Unit | High COD Inlet | Low COD Inlet | Outlet to be achieved |
|-------|--------------------|---------------------|---------------------|---------------------|-----------------------|
| 1 | Flow (combined) | m ³ /day | 25 | | ~25 |
| 2 | Flow distribution* | | 17.78 | 7.22 | ~25 |
| 3 | Operating hrs. | hr | 24 | 24 | 24 |
| 4 | pH | | 6 to 9 | 6 to 9 | 6 to 9 |
| 5 | COD | mg/L | 3000 | 300 | ≤ 250 |
| 6 | BOD | mg/L | 1000 | 100 | ≤ 30 |
| 7 | TSS | mg/L | 800 | 75 | ≤ 100 |
| 8 | TDS | mg/L | As per MPCB consent | As per MPCB consent | As per MPCB consent |
| 9 | Oil and grease | mg/L | 50 | 10 | ≤ 10 |
| 10 | TKN | mg/L | 100 | 100 | ≤ 50 |
| 11 | Ammoniacal N | mg/L | As per MPCB consent | As per MPCB consent | ≤ 50 |
| 12 | Total P | mg/L | 20 | 20 | ≤ 5 |

All values are based on tender document.

*Flow distribution is based on the proposed main CETP flow distribution of 16000 m³/day high COD and 6500 m³/day Low COD effluent.

The ratio of the effluents is maintained in the same proportion as main plant, thus

Low COD effluent main plant= 6500/22500= 0.288

Low COD effluent pilot plant=0.288 × 25= 7.22 m³/day

High COD effluent main plant = 16000/22500 = 0.711

High COD effluent Pilot Plant= 0.711 × 25 = 17.78 m³/day

| | | | |
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5 Process Design Criteria and calculations

| PILOT PLANT DESIGN CRITERIA | | | | | |
|-----------------------------|-------------------------------|--------------------|-----------------|----------------|-----------------|
| A | Inlet Quality (as per tender) | | | | |
| | Inlet Quality | Unit | High COD Stream | Low COD Stream | Combined stream |
| | Flow | m ³ /d | 17.78 | 7.22 | 25.00 |
| | Flow | m ³ /hr | 0.74 | 0.30 | 1.04 |
| | pH | | 6.0 to 9.0 | 6.0 to 9.0 | |
| | COD | mg/L | 3000.00 | 300 | <250 |
| | BOD | mg/L | 1000.00 | 100 | <30 |
| | SS | mg/L | 800.00 | 75 | <100 |
| | TKN | mg/L | 100.00 | 100 | <50 |
| | P | mg/L | 20.00 | 20 | <5 |

Inlet to Anoxic-Aerobic treatment(as per tender)

| | Unit | High COD stream | Low COD stream. | | |
|-----|------|-----------------|----------------------|-------------------------------------|---------------------------------------|
| | | After primary | No primary envisaged | Combined feed to Anoxic(calculated) | Combined feed to Anoxic as per tender |
| pH | | 7- 7.2 | 6.0 to 9.0 | 6.5 - 8.5 | ~7 |
| COD | mg/L | 2100.00 | 300 | 1538.4 | 1390 |
| BOD | mg/L | 700.00 | 100 | 512.8 | 461 |
| SS | mg/L | 80.00 | 75 | 78.44 | 78 |
| TKN | mg/L | 90.00 | 100 | 94 | 94 |
| P | mg/L | | 20 | 10 | 10 |

| | | | |
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| A Pumping from main Plant (CETP) | | | | |
|---|-----------------------------|------------------------------|--------------------|----------------------|
| 1 | Low COD feed transfer pumps | | | |
| | Details | Value | Unit | Remarks |
| | No of pumps | 2.00 | nos | |
| | Capacity | 0.3 | m ³ /hr | |
| | Type of pumps | Hz Centrifugal | | Self-Priming type |
| | 2 | High COD feed transfer pumps | | |
| No of pumps | | 2 | | |
| Capacity | | 0.75 | m ³ /hr | |
| Type | | Hz Centrifugal | | Self priming type |

| B Low COD collection tank | | | | |
|----------------------------------|--|--------------|-------------------|----------------|
| 1 | Equalisation tank | | | |
| | Details | Value | Unit | Remarks |
| | Inlet flow | 7.22 | m ³ /d | |
| | No of tanks | 1.00 | nos | |
| | Low COD effluent will be pumped to anoxic tank | | | |

| C High COD Stream Design | | | | |
|--|----------------------|--------------|-------------------|--|
| COLLECTION AND PRELIMINARY TREATMENT | | | | |
| 2 | Equalisation tank | | | |
| | Details | Value | Unit | Remarks |
| | Inlet flow | 17.78 | m ³ /d | |
| | No of tanks | 2.00 | no | |
| | HRT desired | 6 | hours | Since equalised effluent is pumped from CETP, HRT is reduced to 6 hours |
| | Volume of tank | 4.45 | m ³ | |
| | Liquid Depth of tank | 1.5 | m | |
| | Square side | 1.72 | m | |
| Provide additional tank size 2.24m x 1.56m x 1.75m LD +0.5m free board | | | | |

| | | | |
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| PRIMARY TREATMENT | | | |
|-------------------|--|--------------|-------------------|
| 3 | pH correction tank | | |
| | Details | Value | Unit |
| | Design flow | 17.78 | m ³ /d |
| | Nos | 1.00 | nos |
| | Hydraulic retention time | 20.00 | mins |
| | Volume required | 0.25 | m ³ |
| | Liquid Depth | 0.70 | m |
| | Square side | 0.59 | m |
| | Provide tank size 0.6m x 0.6m x 0.7m LD +0.3m free board | | |
| | Equipment | | |
| | Agitator of 100 rpm with SS 316 MOC will be provided | | |

| 4 | | Existing | | |
|---|--|--------------|-------------------|-------------------|
| | Flash mixer tank | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 17.78 | m ³ /d | |
| | Hydraulic retention time | 1.50 | mins | As per main plant |
| | Volume required | 0.02 | m ³ | |
| | Liquid Depth | 0.50 | m | |
| | Square side | 0.19 | m | |
| | Provide size 0.2m x 0.2m x 0.5m liquid depth +0.4m free board. | | | |
| | Equipment | | | |
| | Agitator of 100 rpm with SS 316 MOC will be provided | | | |

| 5 | | New/Existing | | |
|---|--|--------------|-------------------|-------------------|
| | Flocculator tank | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 17.78 | m ³ /d | |
| | HRT required | 35.00 | mins | As per main plant |
| | Volume required | 0.43 | m ³ | |
| | Liquid Depth | 0.80 | m | |
| | Square side | 0.73 | m | |
| | Provide flocculator of 0.75m x 0.75m x 0.8m +0.6m free board | | | |
| | Equipment | | | |
| | Agitator of 35 rpm with SS 316 MOC will be provided | | | |

| | | | |
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| | | | | |
|----------|---|--------------|-------------------|-------------------|
| 6 | Primary settling tank | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 17.78 | m ³ /d | |
| | HRT of Clarifier zone | 3.00 | hrs | As per main plant |
| | Volume of clarifier zone | 2.22 | m ³ | |
| | Liquid depth | 2.50 | m | Straight height |
| | Diameter | 1.25 | m | |
| | Hopper bottom angle min 60 deg to horizontal | | | |
| | Provide Primary settling tank 1.25m dia x 2.5 liquid depth +hopper bottom | | | |

| | | | | | |
|----------|---|---------------|-------------------|-----------------|-------------|
| 7 | Chemical dosing system | | | | |
| | Details | Value | Unit | Remarks | |
| | Design Flow | 17.78 | m ³ /d | | |
| | Following soln preparation systems are proposed | | | | |
| | | Unit | Max dose | Day tank | Unit |
| | Lime dosing | mg/l | 250 | 1000.00 | L |
| | Alum/FeSO ₄ dosing | mg/l | 200 | 1000.00 | L |
| | Poly dosing | mg/l | 2 | 1000.00 | L |
| | NaOH dosing | mg/l | 2 | 1000.00 | L |
| | H ₃ PO ₄ | mg/l | 2 | 1000.00 | L |
| | NaOCL | Mg/L | 5 | 100 | L |
| | Equipment | | | | |
| | Lime, alum and poly dosing systems will be provided with agitators | | | | |
| | All tanks will be provided with 1 working dosing pump and store standby common pump | | | | |
| | Dosing Pumps | | | | |
| | Details | Value | Unit | Remarks | |
| | Type | Metering type | | | |
| | Capacity | 0-20 | lph | | |
| | Nos | 5+1 | Nos | 1 Store standby | |

| | | | | |
|----------|--------------------|--------------|-------------------|--------------------------|
| 8 | Anoxic tank | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 25.00 | m ³ /d | |
| | HRT | 3.00 | h | As per main plant design |
| | Volume | 3.13 | m ³ | |

| | | | |
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| | | | |
|---|------|---|--|
| Liquid Depth | 3.00 | m | |
| Square side | 1.02 | | |
| Provide Anoxic tank 1.0m x 1.0m x 3.0 Liquid depth +0.5m free board | | | |

| | | | | |
|---|--|--------------|---|--------------------------|
| 9 | Aeration tank | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 25.00 | m ³ /d | |
| | HRT | 20.00 | hours | As per main plant design |
| | Volume of tank | 20.83 | m ³ | |
| | Liquid depth | 4.50 | m | |
| | L:B | 1:2 | | |
| | B | 1.52 | m | |
| | L | 3.04 | m | |
| | Provide aeration tank of 3m x 1.5m x 4.5m Liquid depth | | | |
| | Air calculations for Pilot Plant | | | |
| | Details | Value | Unit | |
| | Flow | 25.00 | m ³ /d | |
| | BOD inlet to aeration tank | 526.72 | mg/L | |
| | BOD load | 13.17 | kg/day | |
| | Oxygen required for BOD removal | 1.20 | kg O ₂ /kg BOD | |
| | Total oxygen required for BOD removal | 15.80 | kg/day | |
| | | | | |
| | Nitrogen inlet to aeration tank | 94.00 | mg/L | |
| | Nitrogen load | 2.35 | kg/day | |
| | Total Oxygen requirement for nitrogen | 4.60 | kgO ₂ /kg NO ₃ -N | |
| | Oxygen credit due to denitrification (50%) | 2.30 | kgO ₂ /kg NO ₃ -N | |
| | Net oxygen required for Nitrogen | 2.30 | kg | |
| | | | | |
| | Total std oxygen required for BOD and Nitrogen | 18.10 | kg/day | |
| | DO in aeration tank | 2.00 | mg/L | |
| | Oxygen transfer correction factor | 0.95 | | |
| | Salinity surface tension correction factor | 0.65 | | |

| | | | |
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| | | | |
|--|--------|---------------------|--|
| Immersion depth | 4.30 | m | |
| Actual oxygen requirement | 37.51 | kg/day | |
| Safety factor for Oxygen requirement | 1.20 | as per tender | |
| Corrected actual oxygen requirement | 45.02 | | |
| Oxygen percentage in air | 23.20 | % | |
| Density of air | 1.20 | kg/m ³ | |
| Actual oxygen transfer efficiency | 0.24 | | |
| Fouling factor for diffuser | 0.80 | | |
| Air quantity required | 842.18 | m ³ /day | |
| Each Air Blower capacity | 35.09 | m ³ /hr | |
| Nos | 2.00 | nos | |
| Provide 2 nos blowers 35 cum/hr and 0.5 kg/ cm ² pressure | | | |

| | | | | |
|-----------|-------------------------------------|--------------|--------------------|-------------------|
| 10 | Sludge recirculation Pumps | | | |
| | Details | Value | Unit | Remarks |
| | Flow | 1.00 | m ³ /hr | As per main plant |
| | Head | 10.00 | m | |
| | Recycle pumps to anoxic tank | | | |
| | Flow | 2.00 | m ³ /hr | As per main plant |
| | Head | 10.00 | m | |

| | | | | |
|-----------|--|--------------|-----------------------------------|--------------------------|
| 11 | Secondary clarifier | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 25.00 | m ³ /d | |
| | Surface overflow rate | 16.00 | m ³ /m ² /d | As per main plant design |
| | Area | 1.56 | m ² | |
| | Diameter | 1.41 | m | |
| | Side water depth | 2.50 | m | |
| | Hopper bottom angle min 60 deg to horizontal. | | | |
| | Provide Sec Settling tank 1.41m dia x 2.5m liquid depth +hopper bottom | | | |

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| | | | | |
|-----------|---|--------------|-------------------|---------------------------|
| 12 | Filter feed tank (intermediate tank) | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 25.00 | m ³ /d | |
| | HRT | 1.00 | hour | Main plant HRT is 30 mins |
| | Volume | 1.04 | m ³ | |
| | Liquid depth | 1.00 | m | |
| | Square side | 1.00 | m | |

| | | | | |
|-----------|--|---------------------------------|--------------------|----------------|
| 13 | Pressure sand filter feed pumps | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 25.00 | m ³ /d | |
| | Capacity of pumps | 1.04 | m ³ /hr | |
| | Provide filter feed pumps | 1m ³ /hr 20m head | | |
| | Nos | 2.00 | nos | |

| | | | | |
|-----------|--|--------------|-------------------|-------------------|
| 14 | Pressure sand filter | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 25.00 | m ³ /d | |
| | Filtration rate | 11.00 | m/hr | As per main plant |
| | Nos | 1.00 | nos | |
| | Area of filter | 0.09 | m ² | |
| | Diameter | 0.35 | m | |
| | Provide Pressure sand filter 0.35m dia x 2m height | | | |
| | Media specs as per tender | | | |

| | | | | |
|-----------|---|--------------|-------------------|-------------------|
| 15 | Activated Carbon filter | | | |
| | Details | Value | Unit | Remarks |
| | Design flow | 25.00 | m ³ /d | |
| | Design rate | 11.00 | m/hr | As per main plant |
| | Nos | 1.00 | nos | |
| | Area of filter | 0.09 | m ² | |
| | Diameter | 0.35 | m | |
| | Provide Activated carbon filter 0.35m dia x 2m height | | | |
| | Media specs as per tender | | | |

| | | | |
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| | | | | |
|-----------|------------------------------|--------------|------------------------------------|-------------------|
| 16 | Filter backwash pumps | | | |
| | Details | Value | Unit | Remarks |
| | Filter area | 0.09 | m ² | |
| | Backwash velocity | 30.00 | m ³ /m ² /hr | As per main plant |
| | Backwash pump capacity | 2.84 | m ³ /hr | |
| | Head | 20.00 | m | |
| | Nos | 1.00 | no | |

The following discharges from the pilot plant will be taken back to the main plant Equalisation tank

- a) Treated effluent outlet
- b) Primary sludge from primary settling tank
- c) Excess sludge from secondary settling tank
- d) Backwash effluent from filters

| | | | |
|-------------------------|----------|------------|----------------|
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6 List of Units and Equipment of Pilot Plant

A) List of Units

| S.N | Name of Unit | Nos | Dimension in Meter | Free Board | Liquid Volume | MOC | Remarks |
|-----|----------------------------|-----|--------------------|------------|---------------|------|---|
| 1 | High COD equalisation tank | 1 | 2.24 x 1.56 x 1.75 | 0.5 | 6 | MSEP | |
| 2 | pH correction tank | 1 | 0.6 x 0.6 x 0.7 | 0.3 | 0.252 | MSEP | |
| 3 | Flash Mixer tank | 1 | 0.2 x 0.2 x 0.5 | 0.3 | 0.02 | MSEP | |
| 4 | Flocculator tank | 1 | 0.75 x 0.75 x 0.8 | 0.6 | 0.42 | MSEP | |
| 5 | Primary Settling tank | 1 | 1.25 dia x 2.5 | 0.3 | 3 | MSEP | With hopper bottom min 60 Deg slope |
| 6 | Anoxic tank | 1 | 1 x 1 x 3 | 0.3 | 3 | MSEP | |
| 7 | Aeration tank | 1 | 3 x 1.5 x 4.5 | 0.5 | 20.83 | MSEP | |
| 8 | Secondary Settling tank | 1 | 1.41 dia x 2.5 | 0.3 | 3.85 | MSEP | With hopper bottom min 60 Deg slope |
| 9 | Filter feed tank | 1 | 1 x 1 x 1 | 0.3 | 2+1 | MSEP | Partitioned to collect filtered treated effluent for backwash |

B) List of Equipment

| S.N | Name of Equipment | Nos | Brief Specs | MOC | Remarks |
|-----|--|-----|--|------|-------------|
| 1 | High COD effluent transfer pump to Pilot plant | 2 | 1 m ³ /hr; 10m head. Hz Centrifugal/ Peristaltic pump | CI | |
| 2 | Low COD effluent transfer pump to anoxic tank | 2 | 0.5 m ³ /hr; 10m head. Hz Centrifugal/ Peristaltic pump | CI | |
| | High COD Equalised effluent transfer pumps | 2 | 1 m ³ /hr; 8m head. Hz Centrifugal/ Peristaltic pump | CI | |
| 3 | Flash Mixer tank mixer | 1 | 100 rpm turbine type mixer vertical shaft agitator | MSEP | |
| 4 | Flocculator tank mixer | 1 | 30-40 rpm paddle type vertical shaft agitator | MSEP | |
| 5 | Primary Settling | 1 | 1.25 dia x 2.5 | MSEP | With hopper |

| | | | |
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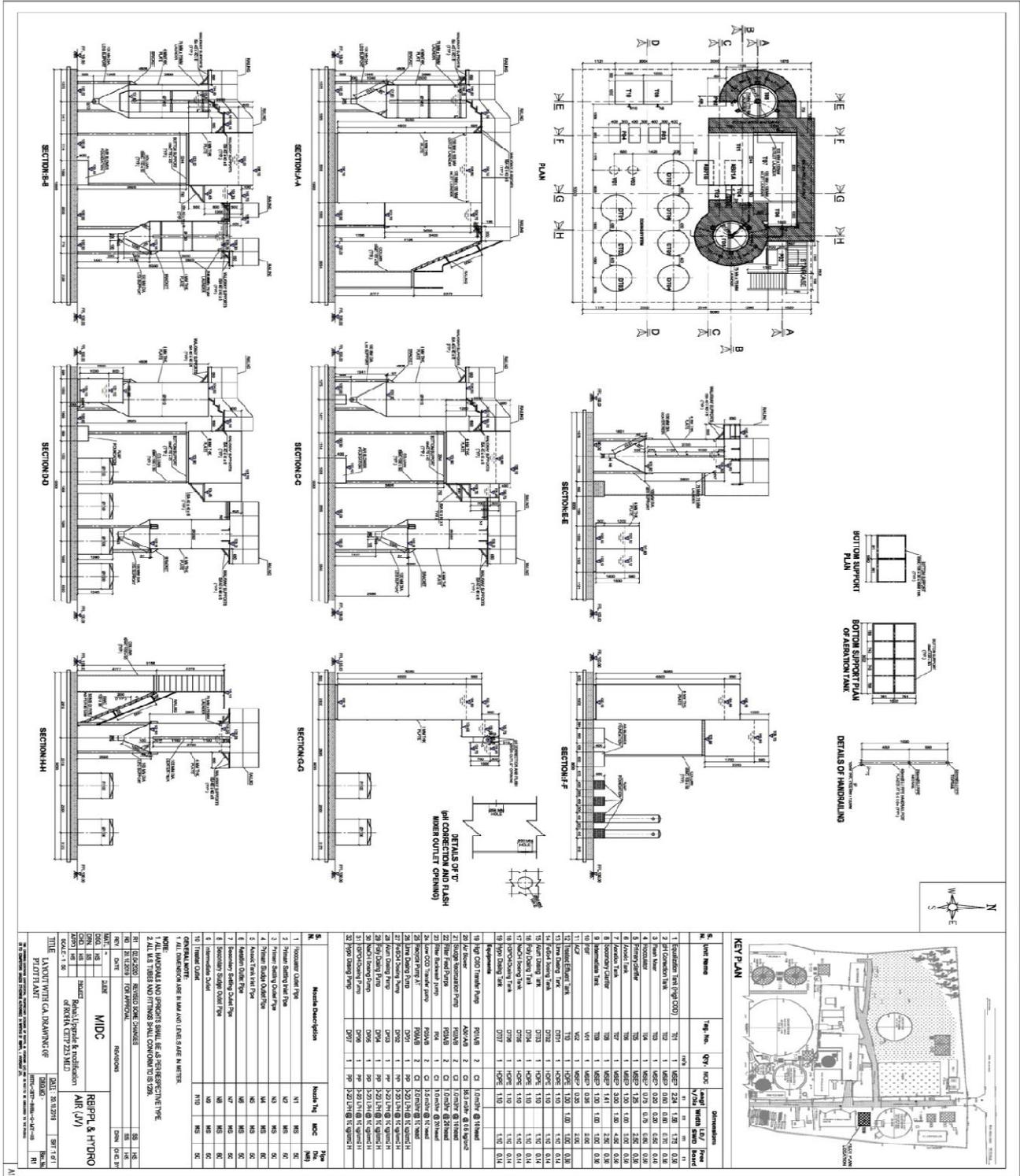
| | | | | | |
|----|---|-----|--|--|---|
| | tank | | | | bottom min 60 Deg slope |
| 6 | Anoxic tank mixer | 1 | 200 rpm mixer | MSEP | |
| 7 | Aeration tank air blowers | 2 | 35 m ³ /hr; 0.5 kg/cm ² . Twin Lobe compressor | CI | |
| | Membrane air diffusers | 4 | 1m long tubular type fine bubble air diffusers | Silicon membrane with SS clamps. SS drop pipes | |
| 8 | Recirculation /Waste sec sludge pumps | 2 | 1 m ³ /hr; 8m head;Hz Centrifugal/ Peristaltic pump | CI | |
| | Aeration to anoxic sludge recycle pumps | 2 | 2.5 m ³ /hr; 8m head;Hz Centrifugal/ Peristaltic pump | CI | |
| 9 | Filter feed pumps | 2 | 1 m ³ /hr; 20m head;Hz Centrifugal/ Peristaltic pump | CI | Partitioned to collect filtered treated effluent for backwash |
| 10 | Chemical soln preparation tanks for | | Capacity of all tanks: 1000L | | |
| a | Lime | 1 | MSEP agitator, 100 rpm | HDPE for all tanks | |
| b | Alum/FeSO ₄ | 1 | MSEP agitator, 100 rpm | | |
| c | Poly | 1 | MSEP agitator, 100 rpm | | |
| d | H ₃ PO ₄ | 1 | - | | |
| e | NaOH | 1 | - | | |
| f | NaOCl | 1 | - | | |
| 11 | Chemical dosing pumps | 6+1 | 0-20 lph, electronic metering pumps | PP | One common store standby |
| 12 | Piping and valves | Lot | | PVC/PP with PP ball valves Blower piping in SS304 | |
| 13 | Pressure sand filter | 1 | 0.35m dia x 2m height | MS/FRP | |
| 14 | Activated Carbon filter | 1 | 0.35m dia x 2m | MS/FRP | |

| | | | |
|--------------------------------|--|------------|------------------|
| RBIPPL&HYDROAIR(JV) | Report on Pilot Plant Set up at Roha CETP | | MIDG 1251 |
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C) List of Instruments

| S. No | Name of Instrument | Nos | Brief Specs | Location | Remarks |
|-------|---------------------------|-----|--|------------------------------|---------|
| 1 | pH meter | 1 | Probe type local display | Outlet of pH correction tank | |
| 2 | DO meter in aeration tank | 1 | Suitable for installation in aeration tank | Inside aeration tank | |

7 Drawings





RBIPPLHYD/ROHA/49/2019-20

Date: 11.03.2020

To,
Deputy Engineer,
MIDC Sub Division
Roha

Sub: Points to be discussed in the review meeting with MIDC & CH2M

Sir,

- 1) Please note that 2500 KVA is required Power supply at present, and 1250 KVA is the existing load. To increase this load we have to make arrangement. Kindly give us permission and authority letter from MIDC to us.
- 2) Kindly give break up for civil items for payment purpose required in tender.
- 3) Kindly allow us to use the existing laboratory and the other equipments as the plant is handed over to us with staff. RIA has objection for the use of this Lab and they are telling us to make new Lab which is not as per the scope of tender, please sort out the issue.
- 4) Plant was handed over to us on 1st Feb 2020 but physical possession with staff is being given to us on 25th February as per enclosed letter excluding the staff for Lab testing and sampling. Please note till 12th February we were given the stock statement of material at Plant and list of labour, contractor labour, gardening labour, house keeping labour, contract operator, contract maintenance, security etc. but the Lab chemist and operator is not following the instruction as there is confusion. Please sort out the issue. Consider the date of start of our work is 1st March 2020.
- 5) Anoxic tank requirement as mentioned in the tender is not justified as inlet Nitrogen and Ammoniacal Nitrogen and Nitrate Nitrogen is too low.



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Phone.No: 022-49245642 /43/ 44

- 6) The office construction of MIDC and Consultant can be accommodated in the existing office of RIA by providing proper partition. Kindly allow us to use the present office and do not insist on new office.

Thanking you,
Yours faithfully,
For RBIPPL AND HYDROAIR (JV)

Authorized Signatory

Cc to :-

- 1) Superintending Engineer MIDC ,Konkan Circle ,Panvel
- 2) Executive Engineer ,MIDC Alibag
- 3) CH2M, Consultants



RBIPPL & HYDROAIR (JV)

1255

Comm. Add: 302, Concorde Premises, Plot No.66A, Sector 11, C B D Belapur, Navi Mumbai-400614

Phone.No: 022-49245642 /43/ 44

19th March 2020

Ref: RBIPLHYD/ROHA/51/2019-20

To
The Executive Engineer
MIDC, Division Office, Nagdongri
Revas Road, Alibag

Subject : Agreement No- C-1 of 2019-202; 22.5 MLD CETP at Roha; Request for
Extension due to Lock down period

Ref : Work Order No. MIDC/ABG/TC/IFMS-C98958/of 2019

Dear Sir,

Please refer to the above subject we have been operating and maintaining the plant even during the lock down period. Kindly appreciate that we are unable to get permission from relevant authorities and transport the raw material, chemicals, spare parts etc. to maintain the plant. We were required to do many alteration in the plant to improve the performance, which could not be done.

Our operation and maintenance suffered during lock down due to following reasons

- a) Non availability of spare for gear box for aerators and agitators.
- b) Non availability of compressor oil for filter press compressor.
- c) Unable to transport expert of activated carbon filter and multi-grade sand filter for cleaning
- d) Dosing pumps spare parts and new dosing pumps were not able to procure.
- e) Expert from Mumbai could not travel to site for improving performance of plant.

As far Capex part of the project is concerned we could not start the fabrication of Pilot Plant and other related work due to following reason.

- a) Material is not available due to lock down.
- b) Structural Engineering detailing of the individual unit could not be carried out as the employees were not able to reach office for carry out the work.

Due to lock down no transport of man, material at site could be done which hampered the implementation process of the project and performance of plant could not be improved to that extent.

In view of the above you are requested to give us the time extension for at least three months so that we can complete the project smoothly.



RBIPPL & HYDROAIR (JV) ¹²⁵⁶

Comm. Add: 302, Concorde Premises, Plot No.66A, Sector 11, C B D Belapur, Navi Mumbai-400614

Phone.No: 022-49245642 /43/ 44

We have already completed during the lock down period, the documentation of design and drawing etc. of main plant, pilot plant, Topographical survey, soil Investigation etc. and got approved from the PMC

We were unable to start the work of material procurement for the fabrication of Pilot Plant due to lock down. We are in process of completion the other part of project like Civil drawing P &ID, Structural, piping and hydraulic drawing etc.

Kindly appreciate and provide us extension of three months for all the limit dates and oblige

Thanking you,
Yours faithfully,

For RBIPPL AND HYDROAIR (JV)

Harbhajan Singh

Cc:- 1) SE, MIDC Konkan 2) DE, MIDC, Roha



Ref: RBIPLHYD/ROHA/51/2020-21

12th June 2020

To
The Executive Engineer
MIDC, Division Office, Nagdongri
Revas Road , Alibag

Subject : Request for Extension till Covid-19 pandemic situation is normalized under Force Majeure for the work of Design, Build and Commissioning including Rehabilitation and Upgrade on DB basis with O & M of 22.5 MLD CETP at Roha

Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/of 2019
2) Tender Agreement No- C-1 of 2019-202

Dear Sir,

Please refer to above mentioned subject, in the wake of Covid-19 pandemic and lockdown situation prevailing all over India specially in State of Maharashtra, we are to inform you that our office and team has also been affected and disrupted critically. Considering the present force majeure condition , you are kindly requested to extend the time of completion of the project in proportion to the Lock down period or as announced by the government .

Kindly appreciate that in such adverse situation we have been operating and maintaining the plant during the lock down period. But the same time we also faced obstacles to carry out works of improvisation of plant and construction of pilot plant.

We are unable to get permission from relevant authorities and transport the raw material, chemicals, spare parts etc. to maintain the plant. We were required to do many alteration in the plant to improve the performance, which could not be done.

Performance could not be improved during lock down due to following reasons

- a) Non availability of spare for gear box for aerators and agitators.
- b) Non availability of compressor oil for filter press compressor.
- c) Unable to transport expert of activated carbon filter and multi-grade sand filter for cleaning
- d) Dosing pumps spare parts and new dosing pumps were not able to procure.
- e) Expert from Mumbai could not travel to site for improving performance of plant.



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Phone.No: 022-49245642 /43/ 44

As far Capex part of the project is concerned, we started the work but there was months of delay to start the fabrication of Pilot Plant and other related work due to following reason.

- a) Material is not available due to lock down.
- b) Structural Engineering detailing of the individual unit could not be carried out as the employees were not able to reach office for carry out the work.

Due to lock down no transport of man, material at site could be done which hampered the implementation process of the project and performance of plant could not be improved to that extent. VFD, we procured from Aurangabad was ready to dispatch since last two months, during lock down we tried to transport the item but the vehicle was returned from District Border.

In view of the above you are requested to give us the time extension for at least six months so that we can complete the project smoothly.

We have already completed during the lock down period, the documentation of design and drawing etc. of main plant, pilot plant, Topographical survey, soil Investigation etc. and got approved from the PMC

We are in process of completion the other part of project like Civil drawing P &ID, Structural, piping and hydraulic drawing etc.

Kindly appreciate and provide us extension of six months for all the limit dates, under the prevailing force majeure condition or as per government directive .

Thanking you,
Yours faithfully,

For RBIPPL AND HYDROAIR (JV)

Harbhajan Singh

Cc:- 1) Superintending Engineer, MIDC Konkan
2) Deputy Engineer, MIDC, Roha



Ref: RBIPLHYD/ROHA/52/2020-21

13th June 2020

To

The Executive Engineer
MIDC, Division Office, Nagdongri
Revas Road , Alibag

Subject : 22.5 MLD CETP at Roha; Plant performance of Roha CETP after taking over the plant

Ref :1) Work Order No. MIDC/ABG/TC/IFMS-C98958/of 2019

2) Tender Agreement No- C-1 of 2019-202;

Sir,

Please refer to the above subject, we would like to bring to your kind notice the following;

The plant when we took over has many problems which were to be rectified. Due to lock down condition our suppliers of spare parts and service person as well as experts from our Head office etc.were not able to reach the site and spare were not able to procure. This has seriously hampered the progress in improving the treated water results to achieve the target performance.

A. Few points are enumerated below for your kind consideration.

- 1) It was observed that the acid proof tiles were falling in the storage causing serious dosing problems in the plant. This require expert agency to repair, which was not available during lock down.
- 2) Filter cloth washing was required by expert agency which could not reach the site during lock down period causing serious solid accumulation in the clarifier hampering the improvement in clarifier performance.
- 3) Primary clarifier No (1) weir is broken and required repair and replacement which could not be done in lock down period as spare part provider was closed during the lock down period hampering the improvement in the Clarifier performance.
- 4) Primary Clarifier No (2) is having construction error, the short circuiting is taking place that was required to be repaired by external agency, the



experts could not reach the site during lock down hence the primary clarifier No(2) performance could not be improved.

- 5) It was observed the previous operators were recirculating the sludge from primary clarifier to flash mixer which was causing serious accumulation of solid and hindering the performance. This was to be rectified but could not undertake this as it require additional pump for sludge transfer to filter pres. The suppliers could not supply these pumps due to lock down and could not visit the site.
- 6) Ferrous Sulfate dosing pumps developed flow problem which were to be repaired by pumps supplier who could not visit and repair due to lock down hence the dosing system was not adequate hence plant performance was hampered.
- 7) The filter press pumps developed problems of inadequate follow due to ceramic seal failure causing further damage to impeller and poly propylene flanges. These pumps could not be repaired due to lock down as the supplier of seal and service engineer could not reach he site due to lock down. This created accumulation of solid hampering the improvement in performance of the plant.
- 8) The poly dosing system for both clarifiers were inadequate causing serious problems of settling the required to add additional dosing of poly lime with pumps which could not be arranged during lock down as supplier of the dosing system were closed.
- 9) Bioreactor feed pump are having faulty NRV which required to be repaired or replaced, which could not be done due to lock down period as the agency supplying NRV were closed due to lock down.
- 10) Secondary Clarifier Phase (1) is having NRV malfunctioning causing sludge accumulation of Secondary Clarifier hampering the performance of aeration tank. This could not be repaired as the agency and supplier were not ale to reach the site due to lock down period.
- 11) Filter media of ACF and PSF is chocked and required to be cleaned, serious problem of short circuiting and excursing suspended solid in the filtered water causing the reduction in performance of the



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Phone.No: 022-49245642 /43/ 44

plant. The supplier of ACF and PSF could not reach the site to clean the filters due to lock down period which has caused the hampering improvement in filter performance.

- 12) pH meter in flash mixer and pH correction tank are malfunctioning which require servicing by the specialized agency which has to come from Pune and could not reach the site due to lockdown. This has resulted in performance of the plant.
- 13) The staff and expert from Mumbai could not reach the site to do improvement in plant performance due to lock down period.
- 14) There are 12 nos of aerators but out of 12 only 9 are in working condition and remaining 3 aerators having problem in gear box. We approached to the experts and got information that after lock down is over we can get it repaired from Mumbai /Pune. This has created serious problem in plant performance as insufficient aeration is causing depletion of DO and hardening the aeration and COD/BOD removal.

In spite of all above hindrance we still operated the plant during the lock down period and tried to improve the performance of the plant with limited resources. Please appreciate and do not penalize us by deducting payments from our bills, which will cause great harm to us and the plant as we are gearing up to improve the plant performance in next three months.

Kindly appreciate, even during the lockdown our team worked and could complete the requirement of design and drawing of pilot plant and Mass Balance & Process diagram of main plant and Pilot Plant as listed below;

- 1) Topographical Survey Report & drawing
- 2) Soil Investigation Report
- 3) Mass Balance of Roha CETP
- 4) Design verification & Process Flow Diagram of Roha CETP
- 5) Report on Pilot Plant of Roha CETP
- 6) Mass Balance of Pilot Plant
- 7) P & I Diagram of Pilot Plant
- 8) G.A drawing and Layout of Pilot Plant



- 9) Process Flow Diagram of Pilot Plant
- 10) Layout of Site office
- 11) Roha Site layout (Submitted)
- 12) P & I Diagram for Roha CETP (Submitted)

B. Due to Nisarg cyclone following interruption in plant incurred
We started construction of civil work for pilot plant and supplied the required steel material for pilot plant but due to Nisarg Cyclone the progress is hampered as heavy damage has occurred at premises of civil agency and fabrication agency.

- 1) Further due to recent Nisarg Cyclone, the plant has suffered heavy damage. Due to cyclone filter press shed got damage very badly because of damage in shed water went in the electric panel and there is short circuit in panel and contactor and converter in the panel got damaged. And contactor and converter are not available in Roha so we have to arrange it from Mumbai which can be done after lock down is over.
- 2) Sludge dewatering pipe line is also got damaged hampering the dewatering process and causing accumulation of sludge in plant.
- 3) Too many leaves and leaf stalks clogged in the filter feed pump, aeration feed pump, sludge transfer pump's impeller and also in the sludge transfer pipe, we can't take the sludge out and we need to empty the primary clariflacculator tank to clean system which will take time in mean time plant performance will get effected.
- 4) PSF & ACF's pipe also having leakage problem due to misalignment, during cyclone heavy winds causing serious problem in filtering and hampering the plant performance
- 5) Primary clariflacculator phase -1 valve broken due to heavy winds and cyclone condition
- 6) All the tap water pipe line broken due to cyclone.



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- 7) DG set, MCC room, chemical house, filter press and R & D center's shed damaged very badly effecting the plant operation ultimately resulting plant performance.
- 8) The existing plant treatment is disturbed due to choking of pumps and pipe lines. We experience power shutdown during Nisargyclone of 3rd and 4th June and lot of silt, leave, branches of tree were mixed with the incoming effluent causing chocking of pumps & pipes and disturbing the Plant operation. We are trying to de-chock and rectify to put the plant in regular operation.
- 9) Many trees have fallen and roofs of many structures are damaged, cables disrupted causing stoppage of many activities of plant operation.

We will able to provide the improvement in the progress of plant after subsiding the natural calamity which created havoc in the CETP.

We have already requested the MIDC to extend the period of implementation for six months for all limit dates so that we can implement the project.

We assure you that we are putting in all efforts from our end to deliver a satisfactory project as stipulated in the tender and request your ongoing support to achieve the same.

Thanking you,
Yours faithfully,

For RBIPPL AND HYDROAIR (JV)

Authorized Signatory

- Cc:- 1) Superintending Engineer, MIDC Konkan
2) Deputy Engineer, MIDC, Roha
3) CH2M / Jacobs, The Consultant



Ref: RBIPLHYD/ROHA/56/2019-20

12th August 2020

To

The Executive Engineer
MIDC, Division Office, Nagdongri
Revas Road , Alibag
Dist Raigad -402201
Tel: 02141-222257/225116(P)
eealibaug@midcindia.org

Sub: Regarding non performance of RIA CETP

Ref: 1) MPCB Letter No- MPCB/SRO-II, TB-200723-FTS-0048 dated 23/07/2020
2) RIA CETP outlet JVS Results
3) NGT Applications and orders

Sir,

Please refer to the above subject and the references indicated as above. We have noticed the observation indicated by MPCB and would like to state that TDS observed on MPCB web portal is as high as 19143 mg/l on 15.06.2020 and 21365 mg/l on 04.02.2020.

Kindly note that if the TDS is so high then the Biological activity is hindered and the plant performance is highly effected.

In view of this high TDS, we would request you to ask member Industries to reduce the level so that the plant performance can improve.

We also refer to the correspondence of Ch2M about TDS, according to them the MPCB norm is 2100 mg/l and it will be pertinent to ask contributing Industries to bring down the level to less than 2100 mg/l individually.

The highest level of TDS acceptable can be ascertained using the pilot plant trial runs as mention by CH2M



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Phone.No: 022-49245642 /43/ 44

Consultant has further mentioned that the TDS concentration at the inlet should be restricted so as to mitigate TDS limit of 2100 mg/l at the outlet as per MPCB norms.

Similarly we observe that the inlet COD is much higher (3500 to 6000 mg/l) than MPCB consent norms which is 2500 mg/l. In view of these important parameters we request MIDC to involve (JV) operators to conduct the sampling and testing of the inlet effluent of contributing Industry as per tripartite agreement mentioned in the tender. M/s RIA has also left to MIDC to involve operator for vigilance sampling of the Industries.

MIDC is requested to send a letter in this respect to MPCB after obtaining the list of defaulter industry as desired by MPCB.

We hope MIDC will act accordingly in the spirit of tender and take appropriate action for permitting us to undertake the vigilance sampling as mentioned in the tender & Tripartite agreement

Thanking you

Yours faithfully

For RBIPPL & HYDROAIR (JV)

H B Singh



Comm. Add: 302. Concorde Premises. Plot No.66A. Sector 11. C B D Belapur. Navi Mumbai-400614

Phone.No: 022-49245642 /43/ 44

Date: 21.08.2020

RBIPPLHYD/ROHA/58/2020-21

To,
Deputy Engineer,
MIDC Sub Division
Roha

Sub: Analysis of Inlet and Outlet effluent of Roha CETP

Ref: Meeting held at Panvel MIDC office on 13.08.2020

Sir,

Please refer to the above subject, we would like to bring to your kind notice that as directed by MIDC, we have collected the samples of the inlet and outlet is as follow;

Inlet Analysis

On 24th Jul.2020 Inlet COD = 4000 mg/l , BOD= 1600 mg/l, TSS=760 mg/l, TDS=19100 mg/l

On 25th July 2020 Inlet COD= 3000 mg/l, BOD is 1200 mg/l, TSS= 680 mg/l TDS= 17200 mg/l

You will observe that the inlet COD is 4000 & 3000 mg/l and TDS is 17200 to 19100 mg/l, which is very high for plant as per tender, it should be below 2500 mg/l.

Kindly inform the RIA to find out defaulter to improve the plant performance.

Thanking you,
For RBIPPL & HYDROAIR (JV)

H B Singh

Enclosure : Aditya Lab Analysis Report

Cc: to 1) Executive Engineer MIDC Alibag
2)Superintending Engineer Konkan

RBIPPL HYDROAIR (JV)
Roha Industries Association CETP,
Roha-Datav Road

Water Reports- August 2020

| Sr. No | Inward No. | Collection Date | Receipt Date | Nature | Sample details | pH | COD mg/l | BOD mg/l | TSS mg/l | TDS mg/l |
|--------|------------|-----------------|--------------|----------|----------------|------|----------|----------|----------|----------|
| 1 | W-20/08/29 | 15-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.48 | 700 | 200 | 30 | NA |
| 2 | W-20/08/30 | 16-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.62 | 600 | 180 | 60 | NA |
| 3 | W-20/08/31 | 17-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.62 | 600 | 120 | 48 | NA |
| 4 | W-20/08/32 | 18-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.56 | 600 | 150 | 36 | NA |
| 5 | W-20/08/33 | 19-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.57 | 500 | 100 | 40 | NA |
| 6 | W-20/08/34 | 20-Jul-20 | 17-Aug-20 | Effluent | Outlet | 8.05 | 500 | 180 | 38 | NA |
| 7 | W-20/08/35 | 21-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.85 | 500 | 134 | 52 | NA |
| 8 | W-20/08/36 | 22-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.72 | 500 | 280 | 64 | NA |
| 9 | W-20/08/37 | 23-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.84 | 600 | 142 | 80 | NA |
| 10 | W-20/08/38 | 24-Jul-20 | 17-Aug-20 | Effluent | Inlet | 7.01 | 4000 | 1600 | 760 | 19100 |
| 11 | W-20/08/39 | 25-Jul-20 | 17-Aug-20 | Effluent | Inlet | 7.06 | 3000 | 1200 | 680 | 17200 |
| 12 | W-20/08/40 | 24-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.62 | 750 | 40 | 36 | NA |
| 13 | W-20/08/41 | 25-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.58 | 750 | 350 | 70 | NA |
| 14 | W-20/08/42 | 26-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.7 | 600 | 250 | 60 | NA |
| 15 | W-20/08/43 | 28-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.85 | 500 | 100 | 56 | NA |
| 16 | W-20/08/44 | 29-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.54 | 400 | 120 | 60 | NA |
| 17 | W-20/08/45 | 27-Jul-20 | 17-Aug-20 | Effluent | Outlet | 7.34 | 500 | 120 | 60 | NA |

NA: Not analysed.



RBIPPLHYD/ROHA/59/2020-21

To,

Date: 28.08.2020

The Deputy Engineer,
MIDC, Sub-Division, Roha.
+919552507747.
deroha@midcindia.org

Sub: Operation Maintenance of Roha CETP; Warning Notice dtd 21.08.2020

Ref: 1) Board Consent.

2) Visit of MPVB official to Industry dated 12.08.2020 & 18.08.2020

Sir,

Please refer to the above subject, we are surprised to receive the warning notice from MPCB. We would like to reiterate that after award of the work of up-gradation of CETP in September 2019, the site was handed over to us in month of February 2020 and the lock down started from 23rd March and subsequent to that there was Cyclone and heavy rains, which caused heavy damage to Clarifier, Aerators, Agitators etc. as roof of the R&D Centre was uprooted and fell into clarifier.

The repair and Maintenance work is further hampered due to non availability of spares, technician, transportation etc. The problem is still continuing and somehow we are managing the plant, so that effluent remains within limits as per MPCB consent.

Your observation about the plant is explained as below;

1. In the CETP there are two primary clarifiers and secondary clarifiers. At any time we are taking in operation only one primary clarifier and one secondary clarifier, because this plant is designed for 22.5 MLD flow but



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Phone.No: 022-49245642 /43/ 44

at present condition below 10 MLD effluent flow is incoming per day to CETP for which one primary and one secondary clarifier is adequate.

2. In Equalisation Tank there are two compartments but we are using only one because of low flow influent. Only three surface mixers are enough for one compartment, hence we are operating the plant as per requirement of influent flow.

We have also requested MIDC to involve us in vigilance sampling so that any ambiguity in inlet values can be verified in the interest of CETP functioning. We hope MIDC will advise us to involve us in sampling of individual industry's sampling in future to resolve the issue of incoming high COD & TDS value.

3. Please note that the plant Operation and Maintenance is as required in local condition and the result demonstrated on MPCB portal is satisfactory with in permissible limits of Consent. Sometime has COD as high as 4000 to 6000 mg/l while as per MPCB it should be below 2500 mg/l, TDS of the influent is also high & more than 19000 mg/l, which is disturbing the Biological activity and causes poor performance, as per MPCB norms TDS should be less than 2100 mg/l. we have informed MIDC these facts and expected MIDC to write to all industries to control their discharge of effluent, so that CETP can perform as stipulated.
4. In Aeration Tank no. 1, two Aerators are there in working condition and one is in under maintenance. In Aeration Tank no. 2, three aerators are in operation, which is adequate and DO level is above 1.5 mg/l which indicates aeration is proper.



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Phone.No: 022-49245642 /43/ 44

5. When you and field officer visited the CETP, all the three Continuous Monitoring Systems were in operation only one monitor for COD parameter was faulty which was to be repaired by supplier M/s Aaxisnano, but due to Covid-19 no one from Aaxisnano was able to come for calibration. Now they have come to site to set right the monitor for all parameters

Kindly note that we are upgrading the plant with anoxic process and as per tender it will take at least 18 months time to be entirely in operation. Till that period you may please consider our difficulty in operation and maintenance.

Thanking you

For RBIPPL & HYDROAIR (JV)

H B Singh

- Cc to 1) Executive Engineer Alibag
2) Superintending Engineer, Konkan

Enclosure:, M/s Aaxisnano mail dated 25.08.2020 reg; Online Monitoring System repairing

From: BINNY SHARMA [binny@aaxisnano.com]
Sent: Tuesday, August 25, 2020 8:24 PM
To: 'H B Singh'; tushar@aaxisnano.com; info@aaxisnano.com; quotes@aaxisnano.com; braj@aaxisnano.com; sangeeta@aaxisnano.com; projects@aaxisnano.com
Cc: ms@mpcb.gov.in; ropune@mpcb.gov.in; jdwater@mpcb.gov.in; ninad@rbhydro.com; srivastavahimanshu75@gmail.com
Subject: RE: Monitoring system Installed at Roha CETP & faults observed

Dear Sir,

Due to our service team in containment zone and transportation hassles in Maharashtra due to COVID19, we couldn't attend your site in recent past to maintain the system. Kindly note our senior technical engineer will attend your site on or before 27th August 20 and will attend the monitoring system for related periodic maintenance and sort out the inconvenience faced.

Thanks & Regards,

Binny Sharma

Mobile: 9810630375

Office: 0120-4159238/4178217

Email ID – binny@aaxisnano.com, Website – www.aaxisnano.com



Aaxis Nano Technologies Pvt Ltd.

Corporate Office -
 516, 5th Floor, KM Trade Tower, Radisson Blue, Kaushambi,
 Ghazalabad, Uttar Pradesh- 201010

Manufacturing Unit -
 B-46, Sector 59, Noida, Uttar Pradesh- 201301



From: H B Singh [mailto:hbsingh@rbhydro.com]

Sent: 25 August 2020 18:15

To: tushar@aaxisnano.com; info@aaxisnano.com; quotes@aaxisnano.com; braj@aaxisnano.com; binny@aaxisnano.com; sangeeta@aaxisnano.com; projects@aaxisnano.com

Cc: ms@mpcb.gov.in; ropune@mpcb.gov.in; jdwater@mpcb.gov.in; ninad@rbhydro.com; srivastavahimanshu75@gmail.com

Subject: Monitoring system Installed at Roha CETP & faults observed

Sir,

MPCB has visited Roha CETP and found that one of the Monitoring system was not working . they have given us show cause notice in this respect.



RBIPPLHYD/ROHA/60/2020-21

To,
The Deputy Engineer,
MIDC,Sub-Division, Roha.
+919552507747.
deroha@midcindia.org

Date: 05.09.2020

Sub: Design, Build and Commissioning including Rehabilitation and Upgrade on DB basis with Operation & Maintenance of 22.5 MLD Common Effluent Treatment Plant (CETP) at Roha Industrial Area

Ref: 1. Agreement No. C-1 for 2019-2020.
2.MPCB/SRO-T's letter No /TB-200821-FTS-0106 Dtd.-21-08-2020.
3. RBIPPL & HYDROAIR (JV) Letter dated 28.08.2020

Sir,

Please refer to above subject and references , we have sent you detailed letter on 28.08.2020 answering most of queries asked in your this letter.

We further like to point out to you that.

1. a) The primary clarifier No.1 had some leakage which is repaired and same will be in operation within two days.

b) Secondary Clarifier No.2 is under repair as it was heavily damaged due to the falling of roof material of R & D Centre during Nisarg Cyclone. This require major repair and we have got it inspected by the supplier, the outside agency and we will get it repaired very soon, however due to low flow only one clarifier is enough for the operation. This tank will also undergo rehabilitation work.
2. Equalization tank has two compartments and we are using only one compartment. The other compartment is to be emptied out for rehabilitation work and condition assessment. At present two numbers of surface agitator are enough for the Tank no.1
3. In aerator tank 1,2&3, three numbers of aerator have reached in the site after repair and same will be installed in two to three days. As discussed with Executive Engineer at his Alibag Office, Aerator Tank No.3 is not required for this low flow i.e less than 12 MLD. Aerator tank no.3 is to be upgraded hence required to be emptied for condition assessment.



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Phone.No: 022-49245642 /43/ 44

4. As explained in our earlier letter the monitoring system on inlet COD parameter is found to require repairing as inspected by the supplier which will take some time as the Factory at Noida is not working due to labour shortage in Covid-19 condition.

As discussed we have taken all the required measures to rectify equipments to ensure proper maintenance.

We have mentioned in our letter of 28.08.2020 to kindly ask the member industry to control TDS & COD as per MPCB norms so that plant can perform properly. In case of any difficulty kindly involve us in vigilance sampling of individual industry as mentioned in the work order agreement & Tripartite agreement.

Thanking you
For RBIPPL & HYDROAIR (JV)

H B Singh

Cc to 1) Executive Engineer Alibag
3) Superintending Engineer, Konkan

Enclosure : RBIPPL & HYDROAIR (JV) Letter to DE Roha dated 28.08.2020



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Phone.No: 022-49245642 /43/ 44

RBIPPLHYD/ROHA/59/2020-21

To,

Date: 10.09.2020

The Deputy Engineer,
MIDC,Sub-Division, Roha.
+919552507747.
deroha@midcindia.org

Sub: Operation Maintenance of Roha CETP; Warning Notice dtd 21.08.2020

Ref: 1)Board Consent.

2)Visit of MPCB official to Industry dated 12.08.2020 & 18.08.2020

3) Status Report dated 09.09.202020

Sir,

Please refer to the above subject, we are surprised to receive the warning notice from MPCB. We would like to reiterate that after award of the work of up-gradation of CETP in September 2019, the site was handed over to us in month of February 2020 and the lock down started from 23rd March and subsequent to that there was Cyclone and heavy rains, which caused heavy damage to Clarifier, Aerators, Agitators etc. as roof of the R&D Centre was uprooted and fell into clarifier.

The repair and Maintenance work is further hampered due to non availability of spares, technician, transportation etc. The problem is still continuing and somehow we are managing the plant, so that effluent remains within limits as per MPCB consent.

Your observation about the plant is explained as below;

1. In the CETP there are two primary clarifiers and secondary clarifiers. At any time we are taking in operation only one primary clarifier and one



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Phone.No: 022-49245642 /43/ 44

secondary clarifier, because this plant is designed for 22.5 MLD flow but at present condition below 10 MLD effluent flow is incoming per day to CETP for which one primary and one secondary clarifier is adequate.

2. In Equalisation Tank there are two compartments but we are using only one because of low flow influent. Only three surface mixers are enough for one compartment, hence we are operating the plant as per requirement of influent flow.

We have also requested MIDC to involve us in vigilance sampling so that any ambiguity in inlet values can be verified in the interest of CETP functioning. We hope MIDC will advise us to involve us in sampling of individual industry's sampling in future to resolve the issue of incoming high COD & TDS value.

3. Please note that the plant Operation and Maintenance is as required in local condition and the result demonstrated on MPCB portal is satisfactory with in permissible limits of Consent. Sometime has COD as high as 4000 to 6000 mg/l while as per MPCB it should be below 2500 mg/l, TDS of the influent is also high & more than 19000 mg/l, which is disturbing the Biological activity and causes poor performance, as per MPCB norms TDS should be less than 2100 mg/l. we have informed MIDC these facts and expected MIDC to write to all industries to control their discharge of effluent, so that CETP can perform as stipulated.
4. In Aeration Tank no. 1, two Aerators are there in working condition and one is in under maintenance. In Aeration Tank no. 2, three aerators are



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Phone.No: 022-49245642 /43/ 44

in operation, which is adequate and DO level is above 1.5 mg/l which indicates aeration is proper.

5. When field officer visited the CETP, all the three Continuous Monitoring Systems were in operation only one monitor for COD parameter was faulty which was to be repaired by supplier M/s Aaxisnano, but due to Covid-19 no one from Aaxisnano was able to come for calibration. Now they have come to site to set right the monitor for all parameters.
6. As per visit report of MPCB official on 02.09.2020, during visit plant was found in operation with all monitoring system is in operation.

Kindly note that we are upgrading the plant with anoxic process and as per tender it will take at least 18 months time to be entirely in operation. Till that period you may please consider our difficulty in operation and maintenance.

Thanking you

For RBIPPL & HYDROAIR (JV)

H B Singh

- Cc to 1) Executive Engineer Alibag
2) Superintending Engineer, Konkan

- Enclosure:, 1) M/s Aaxisnano mail dated 25.08.2020 reg; Online Monitoring System repairing
2) Status report of plant
3) Monthly report as pr tender format

From: BINNY SHARMA [binny@aaxisnano.com]
Sent: Tuesday, August 25, 2020 8:24 PM
To: 'H B Singh'; tushar@aaxisnano.com; info@aaxisnano.com; quotes@aaxisnano.com; braj@aaxisnano.com; sangeeta@aaxisnano.com; projects@aaxisnano.com
Cc: ms@mpcb.gov.in; ropune@mpcb.gov.in; jdwater@mpcb.gov.in; ninad@rbhydro.com; srivastavahimanshu75@gmail.com
Subject: RE: Monitoring system Installed at Roha CETP & faults observed

Dear Sir,

Due to our service team in containment zone and transportation hassles in Maharashtra due to COVID19, we couldn't attend your site in recent past to maintain the system. Kindly note our senior technical engineer will attend your site on or before 27th August 20 and will attend the monitoring system for related periodic maintenance and sort out the inconvenience faced.

Thanks & Regards,

Binny Sharma

Mobile: 9810630375

Office: 0120-4159238/4178217

Email ID – binny@aaxisnano.com, Website – www.aaxisnano.com



Aaxis Nano Technologies Pvt Ltd.

Corporate Office -
 516, 5th Floor, KM Trade Tower, Radisson Blue, Kaushambi,
 Ghazabad, Uttar Pradesh- 201010

Manufacturing Unit -
 B-46, Sector 59, Noida, Uttar Pradesh- 201301



From: H B Singh [mailto:hbsingh@rbhydro.com]

Sent: 25 August 2020 18:15

To: tushar@aaxisnano.com; info@aaxisnano.com; quotes@aaxisnano.com; braj@aaxisnano.com; binny@aaxisnano.com; sangeeta@aaxisnano.com; projects@aaxisnano.com

Cc: ms@mpcb.gov.in; ropune@mpcb.gov.in; jdwater@mpcb.gov.in; ninad@rbhydro.com; srivastavahimanshu75@gmail.com

Subject: Monitoring system Installed at Roha CETP & faults observed

Sir,

MPCB has visited Roha CETP and found that one of the Monitoring system was not working . they have given us show cause notice in this respect.

Equipment Status Report as on 09.09.2020

| S.N | Equipment Name | Reason For Breakdown | Date | Remark | Completion date |
|-----|--|--|------------|--------------------------------|--------------------|
| 1 | Equalization Tank (A) Mixer No.2 Equalization Tank (B) Mixer No 6 | Mixer removed (Gearbox problem) | 01.11.2019 | Quotation awaited | |
| 2 | Aerator No. 4 in Aeration tank-I | Gearbox Problem | 11.01.2020 | Repaired and received on site | waiting for dryday |
| 3 | Aerator No. 1 in in Aeration tank-II | Gearbox Problem | 25.03.2020 | Repaired and received on site | waiting for dryday |
| 4 | Aerator No.1 in in Aeration tank-III | Gearbox Problem | 30.03.2020 | Repaired and received on site | waiting for dryday |
| 5 | New Aeration Feed pump -02 | Motor Winding problem | 21.05.2020 | Repaired | 22.05.2020 |
| 6 | STP Pump No.1 | Sleev & Bearing Problem | 03.06.2020 | Repaired | 10.06.2020 |
| 7 | Filter Press Pump No-1 | Motor Winding problem | 22.05.2020 | Motor winding | 30.07.2020 |
| 8 | Secondary Clarifier mechanical Bridge | Scrapper & Bridge Problem | 12.06.2020 | to be repaired, Qote asked | |
| 9 | Primary Clarifier Mechanical Bridge | Scrapper Problem | 16.06.2020 | Scrapper welding | 19.06.2020 |
| 10 | Secondary Clarifier mechanical Bridge | Gear box and bearing problem | 17.06.2020 | repaired | 08.07.2020 |
| 11 | New Aeration Feed pump -03 | Sleev & Bearing Problem | 18.06.2020 | New Sleeve & bearing Installed | 10.08.2020 |
| 12 | Aerator No. 3 | Aerator gearboz problem | 26.06.2020 | Quote asked | |
| 13 | Primary Clarifier Bridge -02 | Scrapper problem | 28.06.2020 | Scrapper welding | 30.06.2020 |
| 14 | Lime Tank Agitator | Agitator Gearbox problem | 01.07.2020 | repaired | 16.07.2020 |
| 15 | SRP Pump-02 | Sleev & Bearing Problem | 21.07.2020 | New Sleeve & bearing Installed | 26.07.2020 |
| 16 | SRP Pump-01 | Bearing Problem | 26.07.2020 | repaired | 06.08.2020 |
| 17 | Aerator No.03 | Gear box and bearing problem | 27.07.2020 | repaired | 06.08.2020 |
| 18 | STP No-02 | Gland leakage & Bearing Problem | 04.08.2020 | Bearing and Gland Changed | 06.08.2020 |
| 19 | Raw Pump No-1 | Pump Suction NRV & Pump bearing problem | 06.08.2020 | NRV & New bearing installed | 08.08.2020 |
| 20 | Thickener Tank Agitator | Agitator distance piece break down | 08.08.2020 | New distance piece installed | 18.08.2020 |
| 21 | Primary Clarifier Mechanical Bridge | bridge wheel Break down | 10.08.2020 | Wheel Changed | 11.08.2020 |
| 22 | Primary Clarifier Mechanical Bridge | Gearbox oil seal & Motor winding problem | 10.08.2020 | motor rewinding | 06.09.2020 |
| 23 | Filter Press No-1 | Cloths washing | 10.08.2020 | Cloth washing completed | 22.08.2020 |
| 24 | Filter Press No-2 | Cloths washing | 10.08.2020 | Cloth washing completed | 17.08.2020 |
| 25 | Lime Pump No.2 | Lime pump bearing problem | 24.08.2020 | New bearing installed | 05.08.2020 |
| 26 | Filter Press feed pump No.2 | pump body damage problem, bearing and coupling problem | 31.08.2020 | repaired | 05.09.2020 |
| 27 | Raw Pump No-3 | pump body leakage problem | 24.08.2020 | New pump installed | 06.09.2020 |

Roha CETP- Daily Log Sheet ; August 2020

| Date | Inst. Flow reading (m3/hr)-High COD stream to pH Correction Tank | Inst. Flow reading (m3/hr)-Low COD stream to Oufall Chamber | Chemical Dosing | | | pH | | | | | | | TDS (mg/l) | | | BOD (mg/l) | | | | |
|-----------|--|---|-----------------|-----------|---------------|-------------------|----------------|------------|------------|-----------------|-----------------|------------|-------------------|----------------|------------|-------------------|----------------|------------|------------|------------|
| | | | Lime (Kg) | PAC (Ltr) | Polym er (Kg) | High COD Eq. Tank | Low COD Stream | PC1 outlet | PC2 outlet | Aeration Tank 1 | Aeration Tank 2 | SC1 outlet | High COD Eq. Tank | Low COD Stream | SC1 outlet | High COD Eq. Tank | Low COD Stream | PC1 outlet | PC2 outlet | SC1 outlet |
| 8/1/2020 | 8811 | 5520 | 1050 | 13200 | 5.2 | 7.40 | 7.81 | 7.66 | 7.81 | 7.78 | 7.91 | 7.81 | 14100 | 7500 | 6900 | 1200 | 121 | 683 | 385 | 225 |
| 8/2/2020 | 8769 | 5320 | 1050 | 13200 | 5.2 | 7.71 | 7.32 | 7.93 | 8.02 | 7.94 | 7.91 | 7.97 | 16000 | 6500 | 7400 | 1000 | 112 | 293 | 292 | 235 |
| 8/3/2020 | 9019 | 6320 | 1100 | 13500 | 5.4 | 7.13 | 8.07 | 7.51 | 7.69 | 7.65 | 7.51 | 7.51 | 15300 | 5600 | 7800 | 1200 | 135 | 376 | 340 | 223 |
| 8/4/2020 | 8739 | 7920 | 1050 | 13100 | 5.2 | 6.85 | 7.75 | 7.52 | 7.51 | 7.49 | 7.56 | 7.46 | 11000 | 3900 | 8900 | 1100 | 121 | 280 | 650 | 263 |
| 8/5/2020 | 12789 | 6200 | 1500 | 19000 | 7.5 | 7.63 | 7.80 | 7.53 | 7.71 | 7.64 | 7.75 | 7.7 | 10500 | 4300 | 8300 | 1500 | 98 | 376 | 356 | 238 |
| 8/6/2020 | 11348 | 7190 | 1350 | 17000 | 6.8 | 7.43 | 8.13 | 7.97 | 7.96 | 7.75 | 7.78 | 7.84 | 8900 | 5000 | 8500 | 1400 | 124 | 681 | 580 | 267 |
| 8/7/2020 | 8598 | 7500 | 1000 | 12800 | 5.1 | 7.74 | 7.70 | 7.59 | 7.6 | 7.43 | 7.42 | 7.53 | 9300 | 5500 | 6100 | 992 | 132 | 683 | 589 | 277 |
| 8/8/2020 | 12445 | 7920 | 1500 | 18600 | 7.4 | 7.43 | 7.87 | 7.82 | 7.71 | 7.63 | 7.86 | 7.92 | 15100 | 7500 | 6100 | 999 | 143 | 851 | 790 | 288 |
| 8/9/2020 | 12304 | 7120 | 1450 | 18400 | 7.3 | 7.79 | 7.90 | 7.96 | 7.49 | 7.52 | 7.64 | 7.82 | 11900 | 6000 | 5300 | 1200 | 90 | 683 | 385 | 256 |
| 8/10/2020 | 10167 | 6590 | 1200 | 15200 | 6.1 | 7.80 | 8.01 | 8.16 | 8.28 | 8.23 | 8.22 | 8.3 | 12700 | 6400 | 7500 | 836 | 112 | 530 | 782 | 275 |
| 8/11/2020 | 10848 | 7360 | 1300 | 16300 | 6.5 | | | | | | | | | | | | | | | |
| 8/12/2020 | 10481 | 7360 | 1250 | 15700 | 6.2 | 7.46 | 8.06 | 7.73 | 7.73 | 7.59 | 7.58 | 7.7 | 11000 | 5800 | 8500 | 1000 | 99 | 376 | 388 | 288 |
| 8/13/2020 | 9740 | 6260 | 1150 | 14600 | 5.8 | 7.29 | 8.01 | 8.04 | 8.15 | 7.88 | 7.89 | 8.14 | 10300 | 6800 | 9000 | 1300 | 101 | 293 | 292 | 290 |
| 8/14/2020 | 9731 | 6930 | 1150 | 14600 | 5.8 | 7.3 | 7.81 | 7.82 | 7.69 | 7.75 | 7.88 | 7.92 | 12300 | 6000 | 8200 | 1250 | 121 | 376 | 340 | 223 |
| 8/15/2020 | 9507 | 7390 | 1150 | 14300 | 5.7 | | | | | | | | | | | | | | | |
| 8/16/2020 | 9502 | 5920 | 1150 | 14200 | 5.7 | 7.61 | 7.95 | | 7.9 | 7.68 | 7.72 | 7.67 | 15600 | 6500 | 8800 | 1200 | 142 | | 398 | 212 |
| 8/17/2020 | 9417 | 7320 | 1150 | 14100 | 5.6 | 7.84 | 8.06 | | 7.89 | 7.79 | 7.83 | 7.92 | 14600 | 6400 | 8400 | 1100 | 66 | | 344 | 232 |
| 8/18/2020 | 9448 | 7520 | 1150 | 14100 | 5.6 | 7.33 | 8.08 | | 7.25 | 7.7 | 7.74 | 7.84 | 12200 | 6400 | 7100 | 1150 | 88 | | 288 | 265 |
| 8/19/2020 | 9667 | 6520 | 1150 | 14500 | 5.8 | 7.61 | 7.95 | | 7.9 | 7.68 | 7.72 | 7.67 | 14900 | 5600 | 9300 | 1100 | 56 | | 276 | 256 |
| 8/20/2020 | 9453 | 6920 | 1150 | 14100 | 5.6 | 7.84 | 8.06 | | 7.89 | 7.79 | 7.83 | 7.92 | 13100 | 6400 | 7700 | 1200 | 79 | | 299 | 245 |
| 8/21/2020 | 9547 | 7120 | 1150 | 14300 | 5.7 | 7.33 | 8.08 | | 7.25 | 7.7 | 7.74 | 7.84 | 12200 | 6600 | 7700 | 1150 | 85 | | 398 | 276 |
| 8/22/2020 | 9253 | 6280 | 1100 | 13800 | 5.5 | | | | | | | | | | | | | | | |
| 8/23/2020 | 8600 | 6260 | 1050 | 12900 | 5.1 | 8.10 | 7.89 | | 7.76 | 7.81 | 7.49 | 7.74 | 12800 | 5600 | 8700 | 1100 | 89 | | 389 | 286 |
| 8/24/2020 | 9326 | 7720 | 1100 | 13900 | 5.5 | 8.32 | 7.86 | | 8.1 | 7.43 | 7.89 | 7.6 | 11000 | 6800 | 7300 | 1200 | 76 | | 388 | 276 |
| 8/25/2020 | 9842 | 7920 | 1200 | 14700 | 5.9 | 8.40 | 8.23 | | 7.86 | 7.72 | 7.82 | 7.94 | 9800 | 5700 | 8500 | 1150 | 45 | | 377 | 289 |
| 8/26/2020 | 9524 | 6520 | 1150 | 14200 | 5.7 | 7.87 | 7.95 | | 7.58 | 7.56 | 7.59 | 7.85 | 9900 | 4900 | 8900 | 1000 | 65 | | 338 | 249 |
| 8/27/2020 | 6799 | 2990 | 850 | 10000 | 4 | 7.44 | 7.83 | | 7.83 | 7.72 | 7.63 | 7.5 | 11000 | 4400 | 6700 | 1100 | 87 | | 288 | 264 |
| 8/28/2020 | 8055 | 7120 | 950 | 12000 | 4.8 | 7.83 | 7.37 | | 7.5 | 7.74 | 7.89 | 7.46 | 12400 | 4500 | 6800 | 1120 | 88 | | 289 | 234 |
| 8/29/2020 | 8691 | 7720 | 1050 | 13000 | 5.2 | 7.56 | 7.83 | | 7.76 | 7.56 | 7.76 | 7.87 | 11600 | 4200 | 7200 | 1150 | 76 | | 279 | 243 |
| 8/30/2020 | 9993 | 7120 | 1200 | 14900 | 6 | 7.98 | 7.98 | | 7.63 | 7.37 | 7.49 | 7.63 | 10400 | 4900 | 8100 | 1100 | 68 | | 280 | 253 |
| 8/31/2020 | 11146 | 6260 | 1350 | 16700 | 6.6 | 7.86 | 8.01 | | 7.83 | 7.86 | 7.63 | 7.43 | 12300 | 5300 | 7400 | 1200 | 89 | | 258 | 276 |

| Date | COD (mg/l) | | | | | TSS (mg/l) | | | | | | | VSS (mg/l) | | DO (mg/l) | | Qty of dry sludge disposal to CHWTSDF (tonne) |
|-----------|-------------------|----------------|------------|------------|------------|-------------------|----------------|------------|------------|-----------------|-----------------|------------|-----------------|-----------------|-----------|-----|---|
| | High COD Eq. Tank | Low COD Stream | PC1 outlet | PC2 outlet | SC1 outlet | High COD Eq. Tank | Low COD Stream | PC1 outlet | PC2 outlet | Aeration Tank 1 | Aeration Tank 2 | SC1 outlet | Aeration Tank 1 | Aeration Tank 2 | AT1 | AT2 | |
| 8/1/2020 | 2824 | 695 | 1856 | 1820 | 556 | 1430 | 134 | 180 | 188 | 4752 | 4210 | 68 | 2745 | 2240 | 1.1 | 1.1 | |
| 8/2/2020 | 2043 | 626 | 1713 | 1878 | 526 | 1623 | 139 | 106 | 123 | 4586 | 3652 | 45 | 2635 | 2887 | 1.2 | 0.9 | |
| 8/3/2020 | 2501 | 624 | 2019 | 2121 | 556 | 1465 | 188 | 180 | 176 | 5210 | 4585 | 88 | 2897 | 2213 | 1.3 | 1.2 | |
| 8/4/2020 | 2034 | 444 | 1260 | 1422 | 572 | 1523 | 176 | 108 | 112 | 5023 | 4652 | 76 | 2568 | 2147 | 0.9 | 1.1 | |
| 8/5/2020 | 2979 | 652 | 1170 | 1441 | 552 | 1530 | 165 | 130 | 135 | 4986 | 4982 | 65 | 2698 | 2786 | 1.2 | 1.3 | 12.24 |
| 8/6/2020 | 2824 | 604 | 1126 | 1400 | 527 | 1269 | 155 | 100 | 97 | 5462 | 5123 | 34 | 2468 | 2807 | 1.2 | 1.1 | |
| 8/7/2020 | 2890 | 605 | 1073 | 1099 | 560 | 1277 | 146 | 140 | 156 | 5236 | 4987 | 56 | 2687 | 1987 | 1.3 | 0.9 | |
| 8/8/2020 | 2840 | 405 | 1291 | 1181 | 510 | 1980 | 187 | 190 | 197 | 5123 | 5210 | 49 | 2301 | 2101 | 0.9 | 1.1 | |
| 8/9/2020 | 2578 | 677 | 1224 | 1170 | 538 | 1360 | 176 | 190 | 177 | 5263 | 5020 | 39 | 3010 | 3140 | 1.2 | 1.3 | |
| 8/10/2020 | 2440 | 355 | 1013 | 1040 | 598 | 1290 | 155 | 179 | 189 | 5856 | 8260 | 52 | 1900 | 5040 | 1.2 | 0.9 | |
| 8/11/2020 | | | | | | | | | | | | | | | | | 12.57 |
| 8/12/2020 | 2212 | 645 | 1508 | 1616 | 579 | 1720 | 174 | 180 | 189 | 4999 | 6540 | 41 | 2720 | 3900 | 1.1 | 1.2 | |
| 8/13/2020 | 2686 | 675 | 1659 | 1795 | 578 | 1410 | 139 | 110 | 112 | 5101 | 7475 | 65 | 2600 | 4220 | 1.2 | 0.9 | |
| 8/14/2020 | 2985 | 605 | 1496 | 1578 | 512 | 1526 | 175 | 188 | 176 | 5478 | 6420 | 78 | 4580 | 3820 | 1.2 | 1.1 | |
| 8/15/2020 | | | | | | | | | | | | | | | 1.7 | 1.6 | |
| 8/16/2020 | 2387 | 675 | | 1465 | 526 | 1510 | 144 | | 225 | 5217 | 5534 | 31 | 2667 | 2768 | 1.6 | 1.5 | |
| 8/17/2020 | 2387 | 634 | | 1442 | 555 | 1546 | 156 | | 348 | 4890 | 5320 | 56 | 2230 | 2780 | 1.9 | 1.7 | |
| 8/18/2020 | 2611 | 634 | | 2219 | 494 | 1534 | 169 | | 256 | 4367 | 5420 | 68 | 2456 | 2537 | 1.6 | 1.8 | |
| 8/19/2020 | 2387 | 612 | | 1442 | 506 | 1489 | 187 | | 287 | 4736 | 5342 | 88 | 2236 | 2543 | 1.7 | 1.6 | |
| 8/20/2020 | 2615 | 634 | | 1219 | 428 | 1536 | 167 | | 267 | 4562 | 5560 | 76 | 2134 | 2435 | | | |
| 8/21/2020 | 2549 | 623 | | 1450 | 527 | 1670 | 149 | | 121 | 4589 | 5229 | 68 | 2230 | 2677 | 1.9 | 1.8 | |
| 8/22/2020 | | | | | | | | | | | | | | | 1.7 | 1.6 | |
| 8/23/2020 | 2729 | 697 | | 1599 | 477 | 1660 | 157 | | 145 | 4756 | 5526 | 58 | 2456 | 2879 | 1.9 | 1.8 | |
| 8/24/2020 | 2812 | 698 | | 2208 | 428 | 1685 | 166 | | 132 | 4623 | 5354 | 87 | 2366 | 2343 | 1.7 | 1.5 | |
| 8/25/2020 | 2120 | 654 | | 2010 | 440 | 1768 | 156 | | 165 | 4887 | 5480 | 69 | 2435 | 2754 | 1.9 | 1.6 | |
| 8/26/2020 | 2958 | 672 | | 2154 | 555 | 1698 | 176 | | 135 | 4987 | 5220 | 78 | 2476 | 2656 | 1.6 | 1.8 | |
| 8/27/2020 | 2056 | 677 | | 2056 | 489 | 1656 | 185 | | 187 | 4860 | 5440 | 87 | 2364 | 2987 | 1.7 | 1.5 | |
| 8/28/2020 | 2427 | 672 | | 1535 | 452 | 1687 | 176 | | 164 | 5010 | 5268 | 76 | 2654 | 2345 | 1.6 | 1.8 | |
| 8/29/2020 | 2319 | 683 | | 1050 | 501 | 1645 | 186 | | 174 | 4800 | 5468 | 86 | 2456 | 2432 | 1.6 | 1.6 | |
| 8/30/2020 | 2467 | 344 | | 1333 | 448 | 1659 | 154 | | 157 | 4876 | 5235 | 67 | 2765 | 2387 | 1.7 | 1.6 | 12.79 |
| 8/31/2020 | 2705 | 375 | | 1505 | 432 | 1698 | 149 | | 138 | 4987 | 5465 | 98 | 2567 | 2134 | 1.8 | 1.7 | |



RBIPPLHYD/ROHA/60/2020-21

To,

Date: 28.11.2020

The Deputy Engineer,
MIDC, Sub-Division, Roha.
+919552507747.
deroha@midcindia.org

Sub: Directions u/s 33A of the Water (Prevention and Control of Pollution Act,
1974

Ref: Shared Direction of MPCB inspection as per Circular No MPCB/JD(WPC)/Dir/B-
201113-FTS-0061 dated 13.11.2020

Sir,

We are thank full to you for sharing the circular of MPCB dated 13.11.2020. We would like to bring to your kind notice the following important point for your consideration for successful operation of the Roha CETP.

1) MPCB has mentioned that "RIA is lacking Administrative Control over CETP and do not have proper vigilance on its member Industries. The major flaws such as variation in hydraulic flow and pollution load, operation of OCEMS, Sludge handling, finding and punishing the defaulter member industries."

As you are aware that we are kept out of the vigilance sampling of industries, as per tripartite agreement and as per tender we should conduct vigilance sampling of Industries, but we have no control on individual industries. You are requested to involve us in vigilance sampling so that CETP can perform as per CETP standards

2) Circular further sates about "monitoring and controlling of colors at source and no color shall be noticed at inlet of CETP."

But you are aware that we have no control on member industries, as far as color is concerned of individual member.



Comm. Add: 302. Concorde Premises. Plot No.66A. Sector 11. C B D Belapur. Navi Mumbai-400614

Phone.No: 022-49245642 /43/ 44

- 3) Circular also states that "the high COD effluent stream having COD & TDS Conc.> 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 20,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards

- 4) Circular also states that "RIA CETP shall submit proposal for installation of common MEE for treatment and disposal of high COD effluent stream within 15 days."

This part has to be discussed with RIA as MEE is not in our Scope.

- 5) Circular further states that "RIA shall ensure that the color shall be treated at the source as per Board circular dated 13.11.2020."

Please note that color is not in our scope. Please discuss this point with RIA, and we may take up the color removal as extra work, for which we can submit the offer for consideration of RIA

In view of the circular there is a very serious matter and MIDC should take initiative to control the member industries, otherwise there will be very damaging effects like closure of industries etc. for which we cannot be held responsible.

You are requested to take note and take corrective action immediately with respect to vigilance sampling and tripartite agreement etc.

Thanking you

For RBIPPL HYDROAIR (JV)

H B Singh



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Belapur, Navi Mumbai-400611

Phone No. 022-49245642/43/44

Dated - 14/02/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 20,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

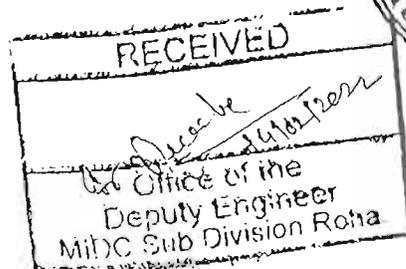
We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, BOD less than 1000mg/l and TSS less than 500mg/l.

This is just for your kind information.

Note-Please find the attachments which are showing the inlet parameters for High COD & Low COD for the month of October, November, December & January.

For RBIPPL & HYDROAIR (JV)


(Auth. Signatory)



INFLUENT QUALITY FOR THE MONTH OF OCTOBER 2021.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|----------|-------------|---------|-------------|-------------|----------|-------------|
| | pH | BOD mg/l | COD mg/l | TD5 mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TD5 mg/l | TSS mg/l |
| 10/1/2021 | 7.11 | 902 | 2980 | 14200 | 620 | 7.2 | 30 | 238 | 4100 | 80 |
| 10/2/2021 | 7.44 | 965 | 2911 | 11000 | 590 | 7.45 | 26 | 277 | 3900 | 70 |
| 10/3/2021 | 7.92 | 1005 | 1102 | 11800 | 650 | 8.04 | 24 | 255 | 3800 | 90 |
| 10/4/2021 | 7.7 | 1019 | 2911 | 11400 | 574 | 7.64 | 25 | 247 | 4100 | 90 |
| 10/5/2021 | 7.46 | 954 | 3026 | 11000 | 582 | 7.82 | 12 | 247 | 4800 | 80 |
| 10/6/2021 | 8.08 | 1060 | 3150 | 12400 | 591 | 7.77 | 29 | 236 | 4100 | 90 |
| 10/7/2021 | 6.9 | 854 | 3003 | 11900 | 537 | 7.83 | 23 | 255 | 4500 | 90 |
| 10/8/2021 | 6.9 | 825 | 3100 | 12100 | 596 | 8.1 | 27 | 272 | 4100 | 80 |
| 10/9/2021 | 6.5 | 954 | 2981 | 14200 | 584 | 7.98 | 26 | 255 | 4100 | 70 |
| 10/10/2021 | 7.2 | 1060 | 3048 | 14000 | 598 | 7.9 | 30 | 271 | 5400 | 70 |
| 10/11/2021 | 7.34 | 854 | 3090 | 18600 | 514 | 7.73 | 32 | 263 | 5100 | 70 |
| 10/12/2021 | 7.6 | 1033 | 3090 | 18300 | 523 | 7.71 | 29 | 255 | 4600 | 90 |
| 10/13/2021 | 7.6 | 965 | 2992 | 15000 | 691 | 7.9 | 23 | 247 | 4000 | 80 |
| 10/14/2021 | 7.15 | 980 | 3120 | 13600 | 674 | 7.94 | 27 | 247 | 4000 | 70 |
| 10/15/2021 | 7.4 | 1010 | 2856 | 11300 | 625 | 7.87 | 28 | 236 | 4600 | 70 |
| 10/16/2021 | 6.47 | 954 | 3095 | 11700 | 655 | 7.41 | 30 | 263 | 5000 | 90 |
| 10/17/2021 | 7.4 | 1060 | 3155 | 14500 | 639 | 8.21 | 26 | 263 | 4900 | 80 |
| 10/18/2021 | 7.7 | 854 | 3860 | 10600 | 592 | 7.65 | 24 | 247 | 4200 | 70 |
| 10/19/2021 | 7.92 | 825 | 2856 | 13800 | 695 | 8.04 | 25 | 280 | 3800 | 110 |
| 10/20/2021 | 7.66 | 842 | 2974 | 15100 | 587 | 7.84 | 32 | 255 | 3800 | 70 |
| 10/21/2021 | 7.09 | 897 | 3069 | 15100 | 582 | 7.86 | 24 | 247 | 3900 | 60 |
| 10/22/2021 | 6.8 | 850 | 3021 | 10200 | 561 | 7.92 | 25 | 247 | 3900 | 50 |
| 10/23/2021 | 6.82 | 1033 | 2910 | 13200 | 659 | 7.96 | 32 | 263 | 4900 | 80 |
| 10/24/2021 | 7.83 | 756 | 2801 | 13800 | 610 | 7.58 | 29 | 173 | 3000 | 40 |
| 10/25/2021 | 6.61 | 924 | 2987 | 14700 | 644 | 7.71 | 23 | 255 | 5100 | 80 |
| 10/26/2021 | 7.67 | 1033 | 3156 | 13700 | 680 | 8.08 | 27 | 255 | 4800 | 100 |
| 10/27/2021 | 8.1 | 851 | 2966 | 14800 | 574 | 8.06 | 26 | 263 | 4100 | 90 |
| 10/28/2021 | 6.99 | 912 | 2911 | 18300 | 568 | 7.96 | 28 | 272 | 3700 | 90 |
| 10/29/2021 | 6.36 | 869 | 3102 | 13700 | 589 | 8.02 | 32 | 288 | 5000 | 80 |
| 10/30/2021 | 7.04 | 1128 | 3096 | 12300 | 547 | 7.78 | 26 | 247 | 4900 | 90 |
| 10/31/2021 | 7.56 | 902 | 3215 | 15900 | 698 | 8.01 | 39 | 315 | 5200 | 100 |

INFLUENT QUALITY FOR THE MONTH OF NOVEMBER - 2021.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|----------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 11/1/2021 | 7.2 | 755 | 3007 | 13700 | 610 | 7.34 | 32 | 255 | 4900 | 90 |
| 11/2/2021 | 7.65 | 826 | 3109 | 15800 | 659 | 7.91 | 28 | 253 | 3800 | 100 |
| 11/3/2021 | 7.45 | 912 | 2925 | 14100 | 636 | 7.56 | 27 | 255 | 4500 | 70 |
| 11/4/2021 | 7.86 | 765 | 3120 | 12600 | 626 | 8.21 | 28 | 247 | 4100 | 80 |
| 11/5/2021 | 6.8 | 875 | 3012 | 15500 | 674 | 8 | 30 | 272 | 5100 | 80 |
| 11/6/2021 | 7.54 | 827 | 2864 | 14800 | 654 | 7.62 | 26 | 255 | 4800 | 90 |
| 11/7/2021 | 7.47 | 609 | 3252 | 10900 | 625 | 7.72 | 24 | 263 | 4700 | 80 |
| 11/8/2021 | 5.33 | 624 | 3076 | 14200 | 696 | 7.78 | 25 | 255 | 5000 | 110 |
| 11/9/2021 | 7.36 | 846 | 3076 | 13600 | 655 | 7.89 | 32 | 231 | 4900 | 80 |
| 11/10/2021 | 7.96 | 704 | 2815 | 13200 | 625 | 7.87 | 30 | 245 | 3600 | 90 |
| 11/11/2021 | 7 | 609 | 2828 | 14200 | 695 | 7.94 | 24 | 253 | 3500 | 70 |
| 11/12/2021 | 7.51 | 621 | 2740 | 14000 | 646 | 7.9 | 25 | 237 | 3400 | 80 |
| 11/13/2021 | 8.25 | 793 | 3076 | 16000 | 625 | 7.68 | 32 | 264 | 3300 | 80 |
| 11/14/2021 | 7.07 | 732 | 3007 | 14100 | 635 | 7.62 | 30 | 255 | 4500 | 70 |
| 11/15/2021 | 7.61 | 834 | 2966 | 13300 | 615 | 7.84 | 32 | 238 | 3600 | 60 |
| 11/16/2021 | 8.1 | 762 | 2937 | 13400 | 698 | 7.57 | 29 | 286 | 3200 | 120 |
| 11/17/2021 | 7.6 | 826 | 3102 | 12400 | 625 | 7.94 | 26 | 253 | 3400 | 100 |
| 11/18/2021 | 7.9 | 912 | 2883 | 12400 | 641 | 7.7 | 24 | 286 | 3900 | 70 |
| 11/19/2021 | 7.56 | 765 | 2987 | 12000 | 628 | 7.88 | 30 | 261 | 3500 | 110 |
| 11/20/2021 | 7.26 | 875 | 3076 | 12100 | 651 | 8.08 | 32 | 255 | 4100 | 90 |
| 11/21/2021 | 7.27 | 827 | 2884 | 13600 | 654 | 7.9 | 24 | 280 | 4500 | 70 |
| 11/22/2021 | 8.1 | 728 | 3021 | 13500 | 632 | 7.5 | 25 | 247 | 4300 | 80 |
| 11/23/2021 | 7.5 | 836 | 2911 | 15000 | 691 | 7.6 | 32 | 255 | 3800 | 80 |
| 11/24/2021 | 7.11 | 704 | 3186 | 14800 | 580 | 7.45 | 35 | 238 | 2400 | 70 |
| 11/25/2021 | 8.6 | 609 | 3063 | 15500 | 569 | 8.5 | 28 | 255 | 4500 | 60 |
| 11/26/2021 | 8.66 | 621 | 2991 | 13400 | 651 | 7.88 | 24 | 238 | 3300 | 80 |
| 11/27/2021 | 7.6 | 836 | 3046 | 14100 | 548 | 7.48 | 26 | 247 | 2800 | 110 |
| 11/28/2021 | 7.68 | 704 | 3069 | 13100 | 529 | 7.59 | 29 | 238 | 3100 | 80 |
| 11/29/2021 | 7.98 | 609 | 2966 | 13900 | 657 | 7.72 | 36 | 255 | 4000 | 90 |
| 11/30/2021 | 7.55 | 621 | 3155 | 14900 | 698 | 7.87 | 28 | 245 | 3500 | 70 |

INFLUENT QUALITY FOR THE MONTH OF DECEMBER - 2021.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|----------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 12/1/2021 | 7.54 | 762 | 3032 | 13000 | 596 | 7.91 | 45 | 247 | 2800 | 120 |
| 12/2/2021 | 7.53 | 830 | 2958 | 14900 | 659 | 8 | 54 | 261 | 3200 | 120 |
| 12/3/2021 | 6.56 | 755 | 3209 | 13500 | 635 | 7.71 | 48 | 261 | 3300 | 130 |
| 12/4/2021 | 6.51 | 826 | 2981 | 14300 | 648 | 7.73 | 65 | 272 | 3000 | 120 |
| 12/5/2021 | 7.45 | 912 | 2828 | 12400 | 626 | 7.66 | 47 | 253 | 3900 | 110 |
| 12/6/2021 | 7.29 | 765 | 3155 | 14700 | 648 | 7.76 | 59 | 286 | 3200 | 110 |
| 12/7/2021 | 7.56 | 875 | 3100 | 14700 | 671 | 7.65 | 53 | 261 | 4500 | 110 |
| 12/8/2021 | 6.46 | 827 | 3296 | 15200 | 695 | 7.66 | 46 | 286 | 3200 | 130 |
| 12/9/2021 | 5.23 | 736 | 3186 | 15100 | 632 | 8 | 56 | 247 | 3900 | 100 |
| 12/10/2021 | 7.6 | 828 | 2992 | 13700 | 692 | 7.91 | 59 | 237 | 3200 | 110 |
| 12/11/2021 | 8.4 | 863 | 3186 | 15100 | 691 | 8.7 | 48 | 247 | 3700 | 120 |
| 12/12/2021 | 7.47 | 869 | 3007 | 14100 | 648 | 7.48 | 51 | 255 | 4500 | 120 |
| 12/13/2021 | 7.6 | 793 | 3131 | 15100 | 635 | 8.05 | 42 | 263 | 4100 | 130 |
| 12/14/2021 | 6.19 | 762 | 3209 | 15100 | 591 | 7.93 | 53 | 269 | 3300 | 150 |
| 12/15/2021 | 6.74 | 830 | 3156 | 12000 | 631 | 7.87 | 56 | 269 | 4100 | 120 |
| 12/16/2021 | 5.05 | 755 | 3046 | 14400 | 587 | 7.87 | 57 | 252 | 4100 | 130 |
| 12/17/2021 | 6.31 | 826 | 2981 | 12600 | 582 | 7.84 | 72 | 255 | 4500 | 140 |
| 12/18/2021 | 6.52 | 912 | 3131 | 14200 | 659 | 7.89 | 68 | 239 | 3500 | 120 |
| 12/19/2021 | 7.48 | 765 | 2883 | 12100 | 621 | 7.81 | 49 | 244 | 3900 | 130 |
| 12/20/2021 | 5.54 | 875 | 2956 | 13000 | 710 | 8.31 | 58 | 261 | 4500 | 130 |
| 12/21/2021 | 6.43 | 827 | 2856 | 13100 | 590 | 8.32 | 74 | 263 | 3700 | 110 |
| 12/22/2021 | 7.14 | 728 | 2936 | 11900 | 554 | 8.91 | 65 | 255 | 3800 | 150 |
| 12/23/2021 | 7.07 | 836 | 3155 | 14700 | 701 | 8.23 | 74 | 269 | 3900 | 120 |
| 12/24/2021 | 7.66 | 704 | 3372 | 14500 | 596 | 8.3 | 48 | 294 | 3900 | 120 |
| 12/25/2021 | 6.34 | 609 | 3131 | 14600 | 637 | 7.97 | 59 | 255 | 3800 | 110 |
| 12/26/2021 | 8.1 | 621 | 3241 | 13200 | 691 | 7.51 | 52 | 255 | 4500 | 130 |
| 12/27/2021 | 8.08 | 836 | 3131 | 15800 | 622 | 8.03 | 43 | 280 | 4300 | 130 |
| 12/28/2021 | 6.61 | 704 | 3046 | 13100 | 684 | 7.91 | 46 | 277 | 4700 | 100 |
| 12/29/2021 | 6.02 | 609 | 3186 | 14800 | 635 | 8.01 | 57 | 264 | 2800 | 100 |
| 12/30/2021 | 6.28 | 621 | 2911 | 12200 | 629 | 8.21 | 59 | 277 | 5100 | 150 |
| 12/31/2021 | 7.02 | 746 | 2966 | 13300 | 615 | 8.31 | 56 | 272 | 4800 | 110 |

INFLUENT QUALITY FOR THE MONTH OF JANUARY- 2022.

| Date | Influent (Inlet) | | | | | LOW COD | | | | |
|-----------|------------------|----------|----------|----------|----------|---------|----------|----------|----------|----------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 1/1/2022 | 6.06 | 762 | 2937 | 13200 | 640 | 8.03 | 65 | 277 | 5000 | 120 |
| 1/2/2022 | 7.68 | 830 | 2801 | 13100 | 580 | 7.53 | 58 | 247 | 3100 | 120 |
| 1/3/2022 | 7.98 | 755 | 2911 | 13900 | 560 | 7.72 | 41 | 238 | 4100 | 130 |
| 1/4/2022 | 6.7 | 826 | 3186 | 15700 | 610 | 7.81 | 65 | 264 | 5100 | 120 |
| 1/5/2022 | 7.07 | 912 | 3209 | 15900 | 632 | 8.09 | 61 | 228 | 4900 | 110 |
| 1/6/2022 | 7.78 | 765 | 3209 | 15200 | 580 | 8.89 | 54 | 237 | 4300 | 110 |
| 1/7/2022 | 7.75 | 875 | 3241 | 14500 | 547 | 8.14 | 49 | 255 | 5100 | 110 |
| 1/8/2022 | 7.22 | 827 | 3318 | 13100 | 536 | 8.13 | 80 | 243 | 4600 | 130 |
| 1/9/2022 | 7.45 | 736 | 2968 | 12300 | 584 | 7.99 | 62 | 242 | 4800 | 100 |
| 1/10/2022 | 5.81 | 828 | 3186 | 12600 | 526 | 7.97 | 74 | 263 | 5100 | 110 |
| 1/11/2022 | 7.81 | 863 | 2964 | 12000 | 598 | 8.04 | 49 | 277 | 4800 | 120 |
| 1/12/2022 | 7.42 | 869 | 3210 | 14700 | 521 | 7.98 | 58 | 269 | 5000 | 120 |
| 1/13/2022 | 6.87 | 793 | 3021 | 12600 | 526 | 8.01 | 65 | 264 | 5300 | 130 |
| 1/14/2022 | 7.52 | 762 | 3131 | 12700 | 584 | 8.04 | 69 | 263 | 5300 | 150 |
| 1/15/2022 | 8.21 | 830 | 3100 | 13100 | 610 | 8.51 | 85 | 247 | 4500 | 120 |
| 1/16/2022 | 7.47 | 755 | 3007 | 11200 | 526 | 8.02 | 51 | 255 | 4900 | 130 |
| 1/17/2022 | 5.42 | 826 | 3186 | 14300 | 652 | 7.91 | 74 | 288 | 5000 | 140 |
| 1/18/2022 | 5.42 | 912 | 3264 | 15000 | 687 | 7.87 | 56 | 277 | 5100 | 120 |
| 1/19/2022 | 6.66 | 765 | 3155 | 15200 | 548 | 7.95 | 71 | 269 | 4500 | 130 |
| 1/20/2022 | 7.40 | 875 | 3285 | 13200 | 596 | 7.96 | 82 | 298 | 5000 | 130 |
| 1/21/2022 | 7.47 | 827 | 3209 | 13900 | 695 | 8.04 | 95 | 261 | 4500 | 110 |
| 1/22/2022 | 7.59 | 728 | 3131 | 14200 | 632 | 8.30 | 83 | 231 | 2100 | 150 |
| 1/23/2022 | 7.48 | 836 | 2966 | 15900 | 584 | 8.01 | 76 | 280 | 4800 | 120 |
| 1/24/2022 | 6.94 | 704 | 2966 | 11700 | 521 | 7.78 | 59 | 247 | 4100 | 120 |
| 1/25/2022 | 7.44 | 609 | 2992 | 10400 | 569 | 7.74 | 85 | 263 | 3900 | 110 |
| 1/26/2022 | 5.81 | 828 | 3186 | 12600 | 658 | 7.97 | 65 | 263 | 5100 | 110 |
| 1/27/2022 | 8.15 | 836 | 2966 | 14900 | 547 | 8.20 | 72 | 280 | 3700 | 130 |
| 1/28/2022 | 6.54 | 704 | 3048 | 15400 | 569 | 8.21 | 81 | 263 | 4000 | 100 |
| 1/29/2022 | 5.60 | 609 | 2746 | 17900 | 521 | 8.52 | 74 | 238 | 2800 | 100 |
| 1/30/2022 | 7.50 | 621 | 3100 | 18000 | 562 | 7.96 | 76 | 255 | 5100 | 150 |
| 1/31/2022 | 7.90 | 746 | 2974 | 16200 | 621 | 8.54 | 64 | 252 | 4200 | 110 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Belapur, Navi Mumbai-400614

Phone No. 022-49245642/ 43 / 44

Dated - 07/04/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP "

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 20,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions

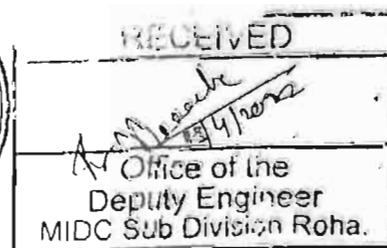
We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, BOD less than 3000mg/l and TSS less than 500mg/l. Further too much foaming is observed in flash mixer, pH correction tank and Primary Clf, which deposited near the tanks and polluting the soil.

This is just for your kind information.

Note-Please find the attachments which are showing the inlet parameters for High COD & Low COD for the month of March.

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY FOR THE MONTH OF MARCH- 2022.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|-----------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TSS mg/l | TDS mg/l | pH | BOD mg/l | COD mg/l | TSS mg/l | TDS mg/l |
| 3/1/2022 | 6.7 | 1245 | 3252 | 16800 | 622 | 7.47 | 29 | 255 | 4600 | 70 |
| 3/2/2022 | 6.84 | 1005 | 2962 | 15900 | 485 | 7.8 | 29 | 277 | 4100 | 90 |
| 3/3/2022 | 8.4 | 1000 | 2966 | 16200 | 412 | 7.8 | 25 | 288 | 3500 | 80 |
| 3/4/2022 | 8.01 | 1011 | 3014 | 16100 | 496 | 8.02 | 26 | 255 | 3800 | 100 |
| 3/5/2022 | 7.3 | 998 | 3076 | 15800 | 521 | 7.88 | 26 | 297 | 5100 | 70 |
| 3/6/2022 | 6.26 | 1021 | 3221 | 17000 | 584 | 8.01 | 41 | 247 | 5600 | 85 |
| 3/7/2022 | 7.41 | 1214 | 3186 | 16200 | 486 | 8.22 | 36 | 305 | 5300 | 74 |
| 3/8/2022 | 6.78 | 1301 | 2883 | 15900 | 475 | 7.88 | 24 | 277 | 3300 | 80 |
| 3/9/2022 | 8.23 | 1255 | 2896 | 15000 | 596 | 8.23 | 33 | 268 | 4900 | 77 |
| 3/10/2022 | 7.34 | 1058 | 2963 | 16300 | 588 | 7.79 | 29 | 245 | 4200 | 90 |
| 3/11/2022 | 7.85 | 1257 | 2992 | 16800 | 574 | 7.91 | 25 | 269 | 4300 | 70 |
| 3/12/2022 | 3.59 | 1096 | 3076 | 17100 | 524 | 8.17 | 30 | 305 | 5400 | 80 |
| 3/13/2022 | 4.48 | 1247 | 3144 | 17000 | 586 | 8.61 | 32 | 255 | 5300 | 91 |
| 3/14/2022 | 3.08 | 1158 | 3021 | 15900 | 496 | 7.95 | 32 | 280 | 5000 | 90 |
| 3/15/2022 | 6.95 | 1248 | 2966 | 15300 | 485 | 8.18 | 30 | 264 | 5500 | 100 |
| 3/16/2022 | 8.14 | 1235 | 2857 | 17000 | 621 | 8.08 | 27 | 297 | 5700 | 90 |
| 3/17/2022 | 7.16 | 1010 | 3076 | 15400 | 586 | 8.11 | 26 | 255 | 5500 | 60 |
| 3/18/2022 | 5.55 | 1247 | 3251 | 16200 | 661 | 8.41 | 38 | 257 | 4800 | 87 |
| 3/19/2022 | 7.61 | 1266 | 3101 | 17000 | 682 | 8.06 | 28 | 286 | 4500 | 60 |
| 3/20/2022 | 6.1 | 1325 | 2984 | 16400 | 586 | 8.25 | 31 | 265 | 4700 | 74 |
| 3/21/2022 | 8.52 | 1325 | 3200 | 15800 | 589 | 7.92 | 24 | 304 | 5900 | 100 |
| 3/22/2022 | 8.85 | 1263 | 3040 | 15600 | 574 | 7.92 | 25 | 280 | 4500 | 90 |
| 3/23/2022 | 7.94 | 1258 | 2911 | 16800 | 555 | 7.94 | 29 | 247 | 5600 | 89 |
| 3/24/2022 | 7.17 | 1364 | 3254 | 15900 | 587 | 8.09 | 32 | 247 | 5900 | 100 |
| 3/25/2022 | 7.84 | 1245 | 3142 | 15600 | 597 | 7.68 | 27 | 263 | 4900 | 80 |
| 3/26/2022 | 6.28 | 1254 | 3258 | 15300 | 496 | 8.41 | 28 | 254 | 5200 | 74 |
| 3/27/2022 | 5.26 | 1425 | 3141 | 16100 | 601 | 8.66 | 26 | 268 | 5100 | 68 |
| 3/28/2022 | 5.32 | 1254 | 3028 | 15900 | 515 | 8.47 | 30 | 274 | 6200 | 84 |
| 3/29/2022 | 8.2 | 1145 | 2984 | 18300 | 585 | 7.94 | 32 | 277 | 5000 | 80 |
| 3/30/2022 | 8.01 | 1147 | 3120 | 15800 | 547 | 8.25 | 27 | 257 | 5800 | 84 |
| 3/31/2022 | 5.36 | 1268 | 3281 | 17100 | 528 | 8.32 | 30 | 265 | 3900 | 83 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Belapur, Navi Mumbai-400614

Phone No. 022-49245642/ 43 / 44

Dated - 09/05/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "High COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 20,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards

Also overflow is observed from MIDC treated tank as already informed on many occasions.

We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, BOD less than 1000mg/l and TSS less than 500mg/l. Further too much foaming is observed in flash mixer, pH correction tank and Primary Clf. which is deposited near the tanks and polluting the soil.

This is just for your kind information.

Note-Please find the attachments which are showing the inlet parameters for High COD & Low COD for the month of

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)

| |
|--|
| RECEIVED |
| <i>Corde</i> 11.05.2022 |
| <i>For</i> Deputy Engineer MIDC Sub Division Roha. |



INFLUENT QUALITY REPORT FOR THE MONTH OF APRIL - 2022.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|-----------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 4/2/2022 | 7.87 | 1232 | 3021 | 16900 | 521 | 7.75 | 24 | 231 | 5100 | 69 |
| 4/3/2022 | 6.34 | 1145 | 3046 | 18100 | 474 | 7.94 | 32 | 274 | 5900 | 62 |
| 4/4/2022 | 5.62 | 1295 | 3125 | 17400 | 496 | 8.01 | 30 | 261 | 4200 | 62 |
| 4/5/2022 | 7.74 | 1238 | 3251 | 16800 | 419 | 7.61 | 28 | 253 | 5200 | 52 |
| 4/6/2022 | 7.22 | 1122 | 2936 | 16700 | 512 | 7.52 | 26 | 239 | 3200 | 57 |
| 4/7/2022 | 6.19 | 1247 | 3021 | 17200 | 503 | 8.12 | 36 | 261 | 4200 | 55 |
| 4/8/2022 | 7.42 | 1420 | 3105 | 16100 | 478 | 7.97 | 29 | 277 | 5100 | 49 |
| 4/9/2022 | 6.31 | 1254 | 3210 | 15900 | 746 | 8.03 | 23 | 275 | 5300 | 57 |
| 4/10/2022 | 5.98 | 1365 | 3058 | 18000 | 489 | 8.12 | 21 | 274 | 6100 | 84 |
| 4/11/2022 | 8.61 | 1454 | 3101 | 17500 | 516 | 7.97 | 25 | 269 | 5400 | 81 |
| 4/12/2022 | 7.32 | 1322 | 3232 | 16900 | 611 | 7.94 | 33 | 307 | 5800 | 69 |
| 4/13/2022 | 8.19 | 1247 | 3264 | 16300 | 625 | 8.08 | 28 | 269 | 6200 | 62 |
| 4/14/2022 | 6.22 | 1366 | 3412 | 16700 | 598 | 8.01 | 29 | 265 | 5100 | 84 |
| 4/15/2022 | 6.65 | 1145 | 3101 | 16200 | 584 | 7.99 | 29 | 286 | 5800 | 82 |
| 4/16/2022 | 7.48 | 1154 | 2874 | 16200 | 488 | 7.94 | 27 | 302 | 6100 | 59 |
| 4/17/2022 | 7.01 | 1265 | 3210 | 17800 | 569 | 8 | 26 | 286 | 5900 | 57 |
| 4/18/2022 | 8.05 | 1362 | 3046 | 17300 | 537 | 7.94 | 24 | 302 | 5000 | 55 |
| 4/19/2022 | 7.75 | 1451 | 3211 | 16500 | 497 | 8.06 | 31 | 307 | 5400 | 74 |
| 4/20/2022 | 7.75 | 1451 | 3211 | 16500 | 497 | 8.06 | 31 | 307 | 5400 | 74 |
| 4/20/2022 | 8.38 | 1257 | 2963 | 18100 | 614 | 7.98 | 26 | 312 | 5200 | 73 |
| 4/21/2022 | 8.4 | 1256 | 3186 | 16800 | 623 | 7.81 | 30 | 302 | 5500 | 59 |
| 4/21/2022 | 8.4 | 1256 | 3186 | 16800 | 623 | 7.81 | 30 | 302 | 5500 | 59 |
| 4/22/2022 | 8.15 | 1325 | 2720 | 17400 | 687 | 8.11 | 31 | 304 | 5800 | 54 |
| 4/22/2022 | 8.15 | 1325 | 2720 | 17400 | 687 | 8.11 | 31 | 304 | 5800 | 54 |
| 4/23/2022 | 7.3 | 1341 | 3070 | 19200 | 598 | 8.01 | 27 | 291 | 5800 | 59 |
| 4/23/2022 | 7.3 | 1341 | 3070 | 19200 | 598 | 8.01 | 27 | 291 | 5800 | 59 |
| 4/24/2022 | 7.02 | 1252 | 3026 | 17400 | 523 | 7.85 | 28 | 304 | 6100 | 96 |
| 4/24/2022 | 7.02 | 1252 | 3026 | 17400 | 523 | 7.85 | 28 | 304 | 6100 | 96 |
| 4/25/2022 | 6.35 | 1451 | 2987 | 16800 | 499 | 7.96 | 24 | 312 | 5300 | 98 |
| 4/25/2022 | 6.35 | 1451 | 2987 | 16800 | 499 | 7.96 | 24 | 312 | 5300 | 98 |
| 4/26/2022 | 7.81 | 1325 | 2896 | 17000 | 578 | 8.12 | 26 | 298 | 4900 | 57 |
| 4/26/2022 | 7.81 | 1325 | 2896 | 17000 | 578 | 8.12 | 26 | 298 | 4900 | 57 |
| 4/27/2022 | 8.01 | 1378 | 2965 | 16900 | 635 | 8.65 | 35 | 287 | 5900 | 57 |
| 4/27/2022 | 8.01 | 1378 | 2965 | 16900 | 635 | 8.65 | 35 | 287 | 5900 | 57 |
| 4/28/2022 | 6.21 | 1569 | 3284 | 15900 | 512 | 7.29 | 36 | 284 | 5500 | 84 |
| 4/28/2022 | 6.21 | 1569 | 3284 | 15900 | 512 | 7.29 | 36 | 284 | 5500 | 84 |
| 4/29/2022 | 6.27 | 1485 | 3028 | 16300 | 418 | 7.12 | 28 | 268 | 5700 | 72 |
| 4/29/2022 | 6.27 | 1485 | 3028 | 16300 | 418 | 7.12 | 28 | 268 | 5700 | 72 |
| 4/30/2022 | 6.98 | 1482 | 3108 | 17400 | 612 | 7.62 | 31 | 247 | 4900 | 56 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Belapur, Navi Mumbai-400614

Phone No. 022-49245642/43/44

Dated - 03/06/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding Information about Inlet Parameters.

Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 20,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

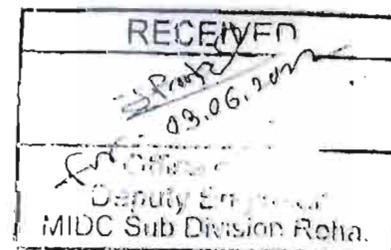
We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, BOD less than 1000mg/l and TSS less than 500mg/l. Further too much foaming is observed in flash mixer, pH correction tank and Primary Clf, which is deposited near the tanks and polluting the soil.

This is just for your kind information.

Note-Please find the attachments which are showing the inlet parameters for High COD & Low COD for the month of May.

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY REPORT FOR THE MONTH OF MAY - 2022.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|-----------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 5/1/2022 | 7.74 | 1454 | 3186 | 15900 | 478 | 7.98 | 32 | 247 | 4900 | 42 |
| 5/2/2022 | 7.56 | 1322 | 2857 | 18500 | 746 | 7.45 | 28 | 255 | 5100 | 52 |
| 5/3/2022 | 7.46 | 1247 | 2801 | 17500 | 489 | 7.85 | 26 | 238 | 5000 | 58 |
| 5/4/2022 | 7.87 | 1366 | 2938 | 18600 | 574 | 8.08 | 24 | 269 | 5700 | 47 |
| 5/5/2022 | 7.74 | 1145 | 3250 | 15700 | 642 | 7.61 | 28 | 245 | 5200 | 36 |
| 5/6/2022 | 7.22 | 1154 | 2829 | 15400 | 521 | 7.52 | 31 | 261 | 6200 | 56 |
| 5/7/2022 | 6.19 | 1258 | 3046 | 16400 | 474 | 8.12 | 35 | 253 | 5470 | 42 |
| 5/8/2022 | 7.42 | 1364 | 3046 | 17400 | 496 | 7.97 | 34 | 261 | 6100 | 58 |
| 5/9/2022 | 6.31 | 1274 | 3019 | 16900 | 419 | 8.03 | 36 | 261 | 6300 | 39 |
| 5/10/2022 | 5.98 | 1477 | 3040 | 17200 | 598 | 8.12 | 29 | 264 | 5700 | 55 |
| 5/11/2022 | 8.61 | 1038 | 3025 | 16200 | 574 | 7.97 | 27 | 245 | 4900 | 45 |
| 5/12/2022 | 7.32 | 1452 | 3152 | 17400 | 512 | 7.94 | 35 | 258 | 5100 | 41 |
| 5/13/2022 | 8.19 | 1124 | 2938 | 15600 | 553 | 8.08 | 34 | 245 | 5200 | 37 |
| 5/14/2022 | 6.22 | 986 | 3102 | 16200 | 612 | 8.01 | 36 | 269 | 4700 | 52 |
| 5/15/2022 | 6.65 | 974 | 2987 | 17500 | 485 | 7.99 | 31 | 253 | 4900 | 52 |
| 5/16/2022 | 7.48 | 1366 | 3019 | 16800 | 473 | 7.94 | 22 | 261 | 5800 | 48 |
| 5/17/2022 | 7.01 | 1145 | 2966 | 17200 | 498 | 8 | 28 | 264 | 5300 | 47 |
| 5/18/2022 | 8.05 | 1035 | 3214 | 18500 | 569 | 7.94 | 26 | 261 | 5100 | 41 |
| 5/19/2022 | 7.75 | 1145 | 2966 | 15900 | 537 | 8.06 | 34 | 247 | 5700 | 51 |
| 5/20/2022 | 8.38 | 1245 | 3021 | 17400 | 497 | 7.98 | 33 | 263 | 5900 | 58 |
| 5/21/2022 | 8.4 | 1387 | 2829 | 15800 | 543 | 7.81 | 27 | 261 | 4700 | 52 |
| 5/22/2022 | 8.15 | 1359 | 3251 | 16200 | 623 | 8.11 | 26 | 269 | 4200 | 45 |
| 5/23/2022 | 7.3 | 1425 | 2933 | 15800 | 687 | 8.01 | 34 | 253 | 4600 | 33 |
| 5/24/2022 | 7.02 | 1102 | 3076 | 15200 | 598 | 7.85 | 38 | 247 | 4900 | 35 |
| 5/25/2022 | 6.35 | 1265 | 2802 | 11500 | 523 | 7.96 | 26 | 239 | 4700 | 49 |
| 5/26/2022 | 7.81 | 1362 | 3014 | 17800 | 523 | 8.12 | 28 | 269 | 4620 | 47 |
| 5/27/2022 | 8.01 | 1451 | 3093 | 17400 | 598 | 8.65 | 27 | 264 | 5800 | 29 |
| 5/28/2022 | 6.21 | 1257 | 2911 | 16500 | 439 | 7.29 | 33 | 255 | 6200 | 55 |
| 5/29/2022 | 6.27 | 1036 | 2829 | 18400 | 541 | 7.12 | 36 | 261 | 6100 | 84 |
| 5/30/2022 | 6.98 | 985 | 3021 | 14800 | 536 | 7.62 | 28 | 261 | 5800 | 74 |
| 5/31/2022 | 7.16 | 1237 | 3052 | 16200 | 542 | 8.06 | 24 | 255 | 5300 | 46 |
| Avg | 7.316 | 1239.903 | 3006.87 | 16574 | 545.161 | 7.911 | 30.194 | 256.58 | 5328.7 | 48.5806 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Belapur, Navi Mumbai-400614

Phone No. 022-49245642/ 43 / 44

Dated - 02/07/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding Information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 20,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

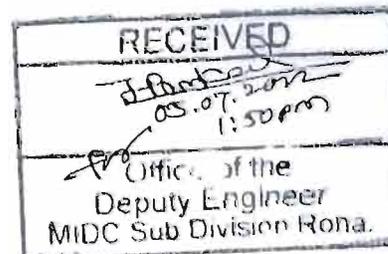
We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, BOD less than 1000mg/l and TSS, less than 500mg/l. Further too much foaming is observed in flash mixer, pH correction tank and Primary Clf, which is deposited near the tanks and polluting the soil.

This is just for your kind information.

Note-Please find the attachments which are showing the Inlet parameters for High COD & Low COD for the month of June .

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY REPORT FOR THE MONTH OF JUNE - 2022.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|-----------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 6/1/2022 | 7.88 | 1022 | 3415 | 18700 | 584 | 8.01 | 35 | 315 | 6500 | 80 |
| 6/2/2022 | 6.12 | 1065 | 3255 | 18900 | 622 | 8.32 | 34 | 384 | 6200 | 84 |
| 6/3/2022 | 7.32 | 1025 | 3165 | 17500 | 684 | 8.23 | 31 | 354 | 6400 | 76 |
| 6/4/2022 | 7.14 | 1120 | 3485 | 16800 | 489 | 8.14 | 32 | 368 | 6800 | 72 |
| 6/5/2022 | 7.65 | 988 | 3247 | 17200 | 625 | 8.36 | 38 | 374 | 5900 | 79 |
| 6/6/2022 | 7.14 | 984 | 3165 | 18600 | 582 | 7.94 | 37 | 355 | 5700 | 72 |
| 6/7/2022 | 7.14 | 1024 | 3364 | 14800 | 514 | 7.91 | 38 | 348 | 5300 | 74 |
| 6/8/2022 | 7.29 | 1201 | 3314 | 17600 | 574 | 7.5 | 34 | 316 | 4900 | 83 |
| 6/9/2022 | 7.65 | 1058 | 3015 | 16300 | 486 | 8.35 | 40 | 341 | 5700 | 84 |
| 6/10/2022 | 7.48 | 1240 | 3148 | 17500 | 458 | 8.12 | 42 | 315 | 5100 | 82 |
| 6/11/2022 | 7.36 | 1140 | 3514 | 17200 | 574 | 8.15 | 45 | 309 | 6800 | 76 |
| 6/12/2022 | 6.47 | 1425 | 3258 | 16300 | 547 | 8.64 | 38 | 312 | 6500 | 72 |
| 6/13/2022 | 7.95 | 1102 | 3258 | 17800 | 521 | 8.15 | 37 | 319 | 6300 | 74 |
| 6/14/2022 | 7.14 | 1265 | 3345 | 16400 | 585 | 8.64 | 27 | 352 | 6800 | 77 |
| 6/15/2022 | 7.35 | 1156 | 3258 | 15600 | 552 | 8.24 | 32 | 346 | 5900 | 69 |
| 6/16/2022 | 7.15 | 1054 | 3154 | 17800 | 658 | 8.12 | 31 | 315 | 5700 | 82 |
| 6/17/2022 | 7.95 | 1036 | 3269 | 16400 | 574 | 8.21 | 37 | 316 | 5800 | 84 |
| 6/18/2022 | 8.05 | 1058 | 3145 | 18200 | 558 | 8.74 | 33 | 391 | 6800 | 82 |
| 6/19/2022 | 7.75 | 1045 | 3387 | 19400 | 541 | 7.65 | 35 | 375 | 6820 | 86 |
| 6/20/2022 | 8.38 | 985 | 3415 | 18500 | 592 | 7.12 | 37 | 354 | 6700 | 82 |
| 6/21/2022 | 8.61 | 961 | 3054 | 15800 | 548 | 7.25 | 31 | 368 | 6300 | 80 |
| 6/22/2022 | 7.32 | 1044 | 3582 | 17500 | 524 | 8.12 | 39 | 315 | 6400 | 72 |
| 6/23/2022 | 8.19 | 1065 | 3415 | 16800 | 522 | 8.41 | 40 | 352 | 5700 | 81 |
| 6/24/2022 | 8.19 | 1065 | 3415 | 16800 | 522 | 8.41 | 40 | 352 | 5700 | 81 |
| 6/24/2022 | 6.22 | 1054 | 3348 | 18900 | 482 | 8.11 | 34 | 325 | 5900 | 69 |
| 6/25/2022 | 6.47 | 1047 | 3475 | 18400 | 475 | 8.21 | 36 | 332 | 6100 | 76 |
| 6/26/2022 | 6.47 | 1047 | 3475 | 18400 | 475 | 8.21 | 36 | 332 | 6100 | 76 |
| 6/26/2022 | 7.32 | 1066 | 3158 | 19700 | 572 | 7.95 | 37 | 348 | 6200 | 74 |
| 6/27/2022 | 7.32 | 1066 | 3158 | 19700 | 572 | 7.95 | 37 | 348 | 6200 | 74 |
| 6/27/2022 | 6.48 | 1025 | 3256 | 18400 | 515 | 7.31 | 35 | 384 | 6400 | 82 |
| 6/28/2022 | 6.48 | 1025 | 3256 | 18400 | 515 | 7.31 | 35 | 384 | 6400 | 82 |
| 6/28/2022 | 6.24 | 1027 | 3584 | 17400 | 536 | 8.15 | 35 | 351 | 6400 | 84 |
| 6/29/2022 | 6.24 | 1027 | 3584 | 17400 | 536 | 8.15 | 35 | 351 | 6400 | 84 |
| 6/29/2022 | 6.84 | 1148 | 3415 | 17300 | 561 | 8.02 | 34 | 326 | 5200 | 76 |
| 6/30/2022 | 6.24 | 1047 | 3411 | 17200 | 528 | 8.22 | 38 | 322 | 5100 | 61 |
| Avg | 7.28 | 1082.6 | 3309.13 | 17496.67 | 552.7667 | 8.0763 | 35.73 | 342.73 | 6077.333 | 77.5 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Belapur, Navi Mumbai-400614

Phone No. 022-49245642/ 43 / 44

Dated - 03/08/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding Information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 20,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

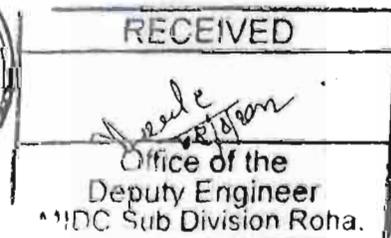
We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, BOD less than 1000mg/l and TSS less than 500mg/l. Further too much foaming is observed in flash mixer, pH correction tank and Primary Clf, which is deposited near the tanks and polluting the soil.

This is just for your kind information.

Note-Please find the attachments which are showing the Inlet parameters for High COD & Low COD for the month of July.

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY REPORT FOR THE MONTH OF JULY - 2022.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|-----------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 7/1/2022 | 6.13 | 1023 | 3215 | 17300 | 485 | 7.68 | 43 | 312 | 5400 | 82 |
| 7/2/2022 | 6.54 | 1058 | 3254 | 17500 | 473 | 7.48 | 32 | 320 | 5900 | 80 |
| 7/3/2022 | 6.32 | 1029 | 3315 | 16900 | 586 | 7.91 | 31 | 351 | 5300 | 72 |
| 7/4/2022 | 6.84 | 1064 | 3215 | 17200 | 512 | 7.68 | 37 | 301 | 5700 | 81 |
| 7/5/2022 | 5.64 | 1023 | 3105 | 16900 | 548 | 7.61 | 40 | 294 | 5200 | 69 |
| 7/6/2022 | 5.14 | 1085 | 3285 | 18600 | 532 | 8.02 | 45 | 299 | 5100 | 76 |
| 7/7/2022 | 6.12 | 1054 | 3310 | 19400 | 483 | 8.11 | 38 | 352 | 4900 | 74 |
| 7/8/2022 | 7.31 | 1022 | 3045 | 18200 | 422 | 8.34 | 37 | 352 | 4700 | 82 |
| 7/9/2022 | 6.3 | 1062 | 3105 | 17200 | 516 | 7.91 | 34 | 325 | 5700 | 84 |
| 7/10/2022 | 6.22 | 1053 | 3415 | 16200 | 452 | 7.68 | 32 | 332 | 5100 | 76 |
| 7/11/2022 | 5.28 | 1022 | 3364 | 16900 | 647 | 7.39 | 35 | 348 | 5600 | 74 |
| 7/12/2022 | 5.94 | 1058 | 3194 | 18300 | 421 | 7.89 | 40 | 315 | 5700 | 85 |
| 7/13/2022 | 6.31 | 1130 | 3328 | 18400 | 435 | 7.95 | 39 | 315 | 5900 | 70 |
| 7/14/2022 | 5.84 | 1180 | 3315 | 16700 | 612 | 7.64 | 36 | 361 | 5100 | 76 |
| 7/15/2022 | 6.33 | 1025 | 3305 | 16500 | 587 | 7.86 | 35 | 345 | 5900 | 76 |
| 7/16/2022 | 6.21 | 1032 | 3315 | 15900 | 509 | 7.69 | 33 | 384 | 5700 | 77 |
| 7/17/2022 | 6.35 | 1032 | 3405 | 16400 | 489 | 7.35 | 39 | 315 | 5800 | 82 |
| 7/18/2022 | 6.21 | 1152 | 3015 | 16100 | 610 | 7.94 | 40 | 384 | 6100 | 81 |
| 7/19/2022 | 6.11 | 1159 | 3104 | 17800 | 403 | 7.98 | 34 | 354 | 5800 | 80 |
| 7/20/2022 | 6.54 | 1035 | 3204 | 17200 | 622 | 8.15 | 37 | 315 | 5400 | 76 |
| 7/21/2022 | 5.92 | 1128 | 3058 | 16500 | 492 | 7.89 | 34 | 302 | 5600 | 77 |
| 7/22/2022 | 5.32 | 1039 | 3415 | 17300 | 531 | 8.69 | 39 | 287 | 5200 | 76 |
| 7/23/2022 | 5.12 | 1154 | 3158 | 14500 | 522 | 8.64 | 40 | 305 | 5800 | 72 |
| 7/24/2022 | 5.84 | 1028 | 3314 | 16400 | 425 | 7.99 | 34 | 311 | 5100 | 64 |
| 7/25/2022 | 6.21 | 1035 | 3205 | 17300 | 435 | 8.61 | 33 | 348 | 5800 | 66 |
| 7/26/2022 | 6.3 | 1084 | 3185 | 17200 | 569 | 8.02 | 35 | 318 | 5800 | 79 |
| 7/27/2022 | 7.2 | 1025 | 3152 | 17400 | 612 | 8.64 | 37 | 368 | 5400 | 72 |
| 7/28/2022 | 7.1 | 1054 | 3451 | 18300 | 552 | 8.31 | 39 | 348 | 5300 | 76 |
| 7/29/2022 | 6.03 | 1032 | 3301 | 18400 | 612 | 7.91 | 39 | 359 | 5100 | 81 |
| 7/30/2022 | 7.11 | 1054 | 3210 | 18000 | 421 | 7.58 | 40 | 322 | 5400 | 61 |
| 7/31/2022 | 7.2 | 1095 | 3140 | 18900 | 401 | 7.61 | 45 | 310 | 5900 | 88 |
| Avg | 6.23 | 1065.4 | 3238.77 | 17283.87 | 513.4194 | 7.9403 | 37.16 | 330.71 | 5496.774 | 76.29032 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Belapur, Navi Mumbai-400614

Phone No. 022-49245642/ 43 / 44

Dated - 02/09/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding Information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the Inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc.> 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 20,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

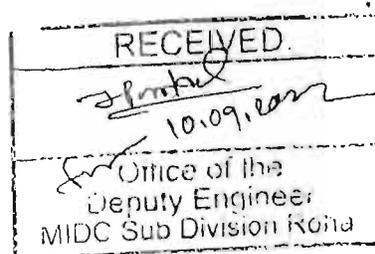
We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, BOD less than 1000mg/l and TSS less than 500mg/l. Further too much foaming is observed in flash mixer, pH correction tank and Primary Clf, which is deposited near the tanks and polluting the soil.

This is just for your kind information.

Note-Please find the attachments which are showing the Inlet parameters for High COD & Low COD for the month of August.

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY REPORT FOR THE MONTH OF AUGUST - 2022.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|-----------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 8/1/2022 | 7.02 | 1232 | 3460 | 17900 | 425 | 8.13 | 40 | 305 | 4800 | 78 |
| 8/2/2022 | 6.85 | 1026 | 3516 | 17400 | 415 | 8.45 | 35 | 272 | 5600 | 80 |
| 8/3/2022 | 8.5 | 1125 | 2760 | 15300 | 475 | 8.21 | 48 | 318 | 5000 | 75 |
| 8/4/2022 | 7.9 | 1023 | 3571 | 16100 | 423 | 8.66 | 46 | 311 | 5200 | 77 |
| 8/5/2022 | 7.19 | 1151 | 3351 | 16900 | 485 | 8.45 | 47 | 312 | 5400 | 76 |
| 8/6/2022 | 6.32 | 1203 | 3076 | 16100 | 471 | 8.75 | 41 | 320 | 5500 | 79 |
| 8/7/2022 | 7.3 | 1058 | 2678 | 16100 | 475 | 8.15 | 38 | 263 | 5300 | 74 |
| 8/8/2022 | 7.57 | 1056 | 2637 | 16000 | 466 | 8.68 | 36 | 280 | 4900 | 78 |
| 8/9/2022 | 7.99 | 1045 | 3312 | 16000 | 512 | 8.11 | 34 | 368 | 4700 | 76 |
| 8/10/2022 | 7.84 | 1024 | 2961 | 15700 | 486 | 8.62 | 38 | 277 | 4600 | 78 |
| 8/11/2022 | 7.69 | 1054 | 3412 | 16700 | 402 | 8.24 | 36 | 288 | 4700 | 80 |
| 8/12/2022 | 7.1 | 1078 | 3312 | 16400 | 486 | 8.74 | 39 | 239 | 5300 | 80 |
| 8/13/2022 | 7.1 | 1078 | 3312 | 16400 | 486 | 8.74 | 39 | 239 | 5300 | 80 |
| 8/13/2022 | 6.74 | 1022 | 3021 | 15900 | 533 | 8.65 | 41 | 313 | 5400 | 77 |
| 8/14/2022 | 6.77 | 1062 | 2874 | 17400 | 482 | 8.21 | 48 | 321 | 5300 | 78 |
| 8/15/2022 | 6.77 | 1062 | 2874 | 17400 | 482 | 8.21 | 48 | 321 | 5300 | 78 |
| 8/15/2022 | 6.87 | 1035 | 3058 | 16800 | 485 | 8.02 | 47 | 296 | 5400 | 76 |
| 8/16/2022 | 6.87 | 1035 | 3058 | 16800 | 485 | 8.02 | 47 | 296 | 5400 | 76 |
| 8/16/2022 | 7.66 | 1054 | 3200 | 16300 | 520 | 8.4 | 46 | 295 | 4800 | 78 |
| 8/17/2022 | 7.66 | 1054 | 3200 | 16300 | 520 | 8.4 | 46 | 295 | 4800 | 78 |
| 8/17/2022 | 6.95 | 1022 | 3093 | 15700 | 475 | 7.95 | 40 | 321 | 4500 | 74 |
| 8/18/2022 | 6.95 | 1022 | 3093 | 15700 | 475 | 7.95 | 40 | 321 | 4500 | 74 |
| 8/18/2022 | 6.58 | 1025 | 3093 | 16800 | 430 | 8.41 | 46 | 296 | 4700 | 78 |
| 8/19/2022 | 6.87 | 1120 | 3296 | 17400 | 485 | 8.21 | 38 | 302 | 5100 | 79 |
| 8/19/2022 | 6.87 | 1120 | 3296 | 17400 | 485 | 8.21 | 38 | 302 | 5100 | 79 |
| 8/20/2022 | 7.5 | 1158 | 2883 | 17200 | 465 | 8.64 | 34 | 294 | 5400 | 76 |
| 8/21/2022 | 7.5 | 1158 | 2883 | 17200 | 465 | 8.64 | 34 | 294 | 5400 | 76 |
| 8/21/2022 | 8.1 | 1064 | 3626 | 16800 | 412 | 8.02 | 45 | 277 | 4700 | 75 |
| 8/22/2022 | 8.1 | 1064 | 3626 | 16800 | 412 | 8.02 | 45 | 277 | 4700 | 75 |
| 8/22/2022 | 7.52 | 1145 | 3351 | 18200 | 484 | 8.06 | 41 | 310 | 4800 | 76 |
| 8/23/2022 | 7.52 | 1145 | 3351 | 18200 | 484 | 8.06 | 41 | 310 | 4800 | 76 |
| 8/23/2022 | 7.11 | 1125 | 3264 | 15400 | 466 | 8.74 | 48 | 286 | 5000 | 74 |
| 8/24/2022 | 7.11 | 1125 | 3264 | 15400 | 466 | 8.74 | 48 | 286 | 5000 | 74 |
| 8/24/2022 | 6.96 | 1023 | 3041 | 15900 | 472 | 8.03 | 47 | 294 | 5100 | 78 |
| 8/25/2022 | 6.96 | 1023 | 3041 | 15900 | 472 | 8.03 | 47 | 294 | 5100 | 78 |
| 8/25/2022 | 7.28 | 1185 | 3051 | 16800 | 462 | 8.41 | 40 | 351 | 4600 | 75 |
| 8/26/2022 | 7.28 | 1185 | 3051 | 16800 | 462 | 8.41 | 40 | 351 | 4600 | 75 |
| 8/26/2022 | 7.14 | 1054 | 3131 | 16300 | 420 | 8.03 | 44 | 284 | 4800 | 74 |
| 8/27/2022 | 7.14 | 1054 | 3131 | 16300 | 420 | 8.03 | 44 | 284 | 4800 | 74 |
| 8/27/2022 | 7.29 | 1062 | 3360 | 15800 | 412 | 8.04 | 48 | 278 | 5100 | 78 |
| 8/28/2022 | 7.29 | 1062 | 3360 | 15800 | 412 | 8.04 | 48 | 278 | 5100 | 78 |
| 8/28/2022 | 7.4 | 1265 | 3101 | 16300 | 488 | 8.44 | 36 | 305 | 5100 | 76 |
| 8/29/2022 | 7.4 | 1265 | 3101 | 16300 | 488 | 8.44 | 36 | 305 | 5100 | 76 |
| 8/29/2022 | 7.66 | 1284 | 3626 | 16400 | 460 | 8.12 | 38 | 312 | 5700 | 78 |
| 8/30/2022 | 7.66 | 1284 | 3626 | 16400 | 460 | 8.12 | 38 | 312 | 5700 | 78 |
| 8/30/2022 | 7.19 | 1105 | 2719 | 15800 | 472 | 8.32 | 34 | 364 | 5600 | 78 |
| 8/31/2022 | 7.19 | 1105 | 2719 | 15800 | 472 | 8.32 | 34 | 364 | 5600 | 78 |
| 8/31/2022 | 6.77 | 1154 | 2945 | 15700 | 421 | 7.12 | 38 | 294 | 4700 | 79 |
| Avg | 7.28 | 1098 | 3154.16 | 16435.48 | 463.3871 | 8.2906 | 41.19 | 301.48 | 5058.065 | 77.03226 |

e Evotech Hydro Private Limited

770, Vimal Smriti, 2nd Floor Dr. Gihmti Road, Parsi Colony, Dadar (E), Mumbai - 400014

Dated - 04/11/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding Information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc.> 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at Inlet of CETP is as high as 15,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, and BOD less than 1000mg/l.

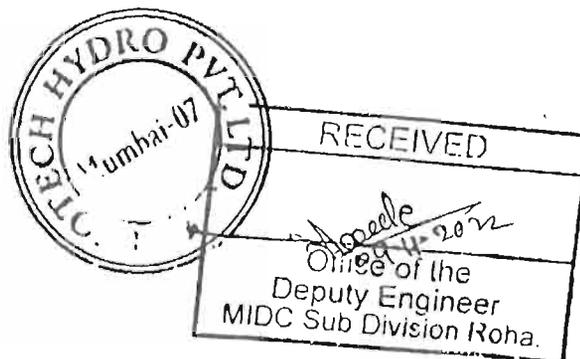
Further too much foaming is observed in equalisation tank, flash mixer, pH correction tank and Primary Clf, which is deposited near the tanks and polluting the soil.

This is just for your kind Information.

Note-Please find the attachments which are showing the Inlet parameters for High COD & Low COD for the month of October.

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY REPORT FOR THE MONTH OF OCTOBER - 2022.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 2022-10-01 | 8.11 | 1350 | 3467 | 18600 | 356 | 7.15 | 40 | 256 | 4700 | 40 |
| 2022-10-02 | 7.48 | 1248 | 3046 | 16000 | 348 | 8.08 | 45 | 261 | 5100 | 45 |
| 2022-10-03 | 7.04 | 1262 | 3373 | 16000 | 365 | 7.3 | 48 | 228 | 4300 | 40 |
| 2022-10-04 | 6.71 | 1358 | 3254 | 15000 | 315 | 6.91 | 46 | 220 | 5500 | 43 |
| 2022-10-05 | 6.91 | 1364 | 3065 | 16800 | 395 | 6.54 | 49 | 248 | 5800 | 48 |
| 2022-10-06 | 7.6 | 1375 | 3346 | 16700 | 368 | 7.86 | 45 | 204 | 5500 | 48 |
| 2022-10-07 | 6.33 | 1374 | 3482 | 17700 | 342 | 7.85 | 48 | 196 | 3600 | 45 |
| 2022-10-08 | 4.92 | 1322 | 2652 | 15400 | 365 | 8 | 50 | 220 | 4200 | 50 |
| 2022-10-09 | 7.08 | 1384 | 3008 | 14000 | 385 | 8.1 | 47 | 255 | 4000 | 60 |
| 2022-10-10 | 6.66 | 1364 | 2801 | 14200 | 384 | 8.21 | 48 | 272 | 5600 | 40 |
| 2022-10-11 | 6.68 | 1372 | 3142 | 16700 | 369 | 8.1 | 41 | 286 | 4900 | 50 |
| 2022-10-12 | 7.6 | 1384 | 3051 | 13900 | 396 | 8.26 | 42 | 286 | 4200 | 60 |
| 2022-10-13 | 4.96 | 1255 | 3000 | 15800 | 354 | 8.24 | 41 | 296 | 4800 | 60 |
| 2022-10-14 | 8.65 | 1246 | 3155 | 14400 | 354 | 8 | 48 | 310 | 5100 | 38 |
| 2022-10-15 | 4.32 | 1368 | 3264 | 15400 | 296 | 7.61 | 46 | 286 | 5300 | 45 |
| 2022-10-16 | 7.47 | 1269 | 2856 | 15000 | 289 | 8.02 | 45 | 286 | 4700 | 42 |
| 2022-10-17 | 7.9 | 1275 | 2720 | 16300 | 365 | 8.06 | 42 | 310 | 4500 | 41 |
| 2022-10-18 | 6.97 | 1295 | 2802 | 17500 | 325 | 7.77 | 48 | 288 | 5500 | 46 |
| 2022-10-19 | 7.21 | 1333 | 2845 | 16000 | 326 | 7.78 | 43 | 285 | 5300 | 50 |
| 2022-10-20 | 7.48 | 1345 | 2964 | 13000 | 368 | 8.02 | 49 | 275 | 5500 | 55 |
| 2022-10-21 | 7.31 | 1375 | 2829 | 18200 | 349 | 8.04 | 43 | 294 | 5000 | 49 |
| 2022-10-22 | 7.01 | 1275 | 2938 | 16300 | 342 | 8.74 | 48 | 300 | 6000 | 40 |
| 2022-10-23 | 7.48 | 1274 | 2747 | 13400 | 368 | 8.02 | 39 | 283 | 5300 | 48 |
| 2022-10-24 | 7.46 | 1222 | 3030 | 14000 | 375 | 7.99 | 47 | 275 | 4500 | 40 |
| 2022-10-25 | 4.15 | 1136 | 2897 | 15700 | 369 | 7.86 | 48 | 285 | 5300 | 40 |
| 2022-10-26 | 5.16 | 1268 | 3054 | 15800 | 356 | 7.6 | 43 | 312 | 5600 | 45 |
| 2022-10-27 | 7.16 | 1376 | 3286 | 16700 | 358 | 7.3 | 49 | 269 | 4600 | 43 |
| 2022-10-28 | 5.64 | 1276 | 3068 | 17200 | 389 | 7.45 | 43 | 248 | 5100 | 42 |
| 2022-10-29 | 5.84 | 1221 | 3075 | 16200 | 358 | 7.36 | 44 | 294 | 4700 | 41 |
| 2022-10-30 | 6.84 | 1296 | 3245 | 15400 | 351 | 7.15 | 42 | 325 | 5900 | 42 |
| 2022-10-31 | 7.15 | 1264 | 3624 | 15200 | 326 | 7.36 | 40 | 356 | 5100 | 41 |
| Avg | 6.75 | 1307 | 3067 | 15758 | 355 | 7.77 | 45 | 274 | 5006 | 46 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C B D Belapur, Navi Mumbai-400614

Phone No. 022-49245642/ 43 44

Dated - 04/12/2022

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding Information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the Inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 15,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, and BOD less than 1000mg/l.

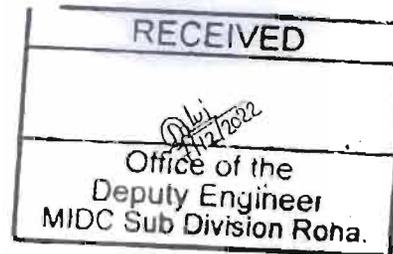
Further too much foaming is observed in equalisation tank, flash mixer, pH correction tank and Primary Clf, which is deposited near the tanks and polluting the soil.

This is just for your kind information.

Note-Please find the attachments which are showing the Inlet parameters for High COD & Low COD for the month of November.

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY REPORT FOR THE MONTH OF NOVEMBER - 2022.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 2022-11-01 | 6.93 | 888 | 3346 | 15500 | 352 | 8.01 | 40 | 269 | 5500 | 60 |
| 2022-11-02 | 7.01 | 745 | 2865 | 14500 | 345 | 6.99 | 45 | 285 | 4600 | 55 |
| 2022-11-03 | 7.44 | 852 | 3045 | 13400 | 397 | 8.02 | 40 | 263 | 5500 | 50 |
| 2022-11-04 | 7.45 | 745 | 3345 | 15500 | 345 | 7.55 | 38 | 274 | 4700 | 45 |
| 2022-11-05 | 6.95 | 960 | 3328 | 14700 | 385 | 7.15 | 41 | 280 | 5600 | 60 |
| 2022-11-06 | 7.12 | 855 | 3289 | 13600 | 292 | 8.05 | 44 | 310 | 5800 | 60 |
| 2022-11-07 | 6.32 | 763 | 2862 | 12000 | 346 | 7.96 | 39 | 325 | 4700 | 40 |
| 2022-11-08 | 7.48 | 892 | 3010 | 13400 | 386 | 7.45 | 49 | 285 | 6000 | 45 |
| 2022-11-09 | 7.85 | 845 | 3155 | 14300 | 377 | 6.88 | 47 | 287 | 5900 | 55 |
| 2022-11-10 | 6.96 | 801 | 2976 | 13600 | 345 | 7.15 | 38 | 310 | 5200 | 58 |
| 2022-11-11 | 6.35 | 763 | 2846 | 12800 | 362 | 8.15 | 46 | 301 | 4700 | 62 |
| 2022-11-12 | 7.54 | 912 | 3463 | 15400 | 345 | 7.63 | 40 | 268 | 4600 | 60 |
| 2022-11-13 | 7.63 | 745 | 2785 | 12900 | 391 | 8.15 | 41 | 274 | 5400 | 47 |
| 2022-11-14 | 7.36 | 863 | 3363 | 14700 | 385 | 6.96 | 40 | 280 | 5000 | 52 |
| 2022-11-15 | 7.15 | 845 | 3274 | 15500 | 342 | 7.45 | 45 | 276 | 5300 | 50 |
| 2022-11-16 | 7.63 | 832 | 3152 | 14300 | 346 | 8.12 | 45 | 296 | 4500 | 55 |
| 2022-11-17 | 7.63 | 912 | 3462 | 15800 | 355 | 7.65 | 47 | 310 | 4600 | 53 |
| 2022-11-18 | 7.54 | 798 | 3346 | 13600 | 376 | 8.96 | 49 | 304 | 5200 | 60 |
| 2022-11-19 | 7.77 | 763 | 2963 | 12700 | 398 | 7.82 | 39 | 315 | 5800 | 45 |
| 2022-11-20 | 7.86 | 804 | 2846 | 14800 | 345 | 8.16 | 40 | 274 | 5900 | 58 |
| 2022-11-21 | 7.12 | 824 | 3145 | 13600 | 361 | 7.84 | 41 | 285 | 6000 | 54 |
| 2022-11-22 | 7.05 | 768 | 3322 | 14500 | 373 | 7.65 | 46 | 295 | 4700 | 60 |
| 2022-11-23 | 7.36 | 846 | 3465 | 12800 | 354 | 8.45 | 42 | 274 | 5900 | 45 |
| 2022-11-24 | 6.85 | 764 | 3010 | 13600 | 365 | 8.63 | 44 | 281 | 5300 | 40 |
| 2022-11-25 | 7.52 | 745 | 2796 | 14700 | 374 | 7.63 | 46 | 310 | 5500 | 52 |
| 2022-11-26 | 7.66 | 856 | 2822 | 13700 | 362 | 8.45 | 47 | 295 | 6000 | 53 |
| 2022-11-27 | 8.12 | 736 | 2780 | 13400 | 381 | 7.86 | 48 | 281 | 5100 | 58 |
| 2022-11-28 | 7.15 | 824 | 3045 | 14500 | 404 | 7.46 | 45 | 285 | 4600 | 60 |
| 2022-11-29 | 7.56 | 752 | 2865 | 13800 | 375 | 7.65 | 35 | 265 | 5300 | 54 |
| 2022-11-30 | 8.02 | 769 | 3179 | 14000 | 345 | 7.49 | 47 | 271 | 5000 | 48 |
| Avg | 7.35 | 816 | 3105 | 14053 | 364 | 7.78 | 43 | 288 | 5263 | 53 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C B D Belapur, Navi Mumbai-400614

Phone No: 022-49245642 / 43 / 44

Dated - 04/03/2023

RBIPPLHYD/ROHA/93/2022-23

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is functioning with new Blowers, Mixers, and Diffusers etc. It is observed that the inlet COD, BOD, TSS, TDS, color & odor frequently coming more than the limit given in the consent for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP." Multiple effect evaporator should be installed by industries having high TDS in their effluent.

You have been informed by us on many occasions that the TDS at inlet of CETP is as high as 15,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

| |
|---|
| RECEIVED |
| <i>J.P. Mohale</i> 08.03.2023 |
| Deputy Engineer MIDC Sub Division Roha |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C B D Belapur, Navi Mumbai-400614

Phone No: 022-49245642 / 43 / 44

We are facing difficulties in treating the effluent in the present plant status because the present plant is designed for COD less than 2500mg/l, BOD less than 1000mg/l and TDS less than 5 mg/l .

Further too much foaming is observed in equalisation tank, flash mixer, pH correction tank, Primary Clf., and Anoxic Tank which is falling from the tanks and deposited near the tanks and polluting the soil. Also some industries are discharging acidic effluent in the night causing frequently pump breakdown and also affecting the secondary treatment.

This is just for your kind information and we have been reporting to you regularly every result.

Note-Please find the attachments which are showing the inlet parameters for High COD & Low COD for the month of January & February.

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY REPORT FOR THE MONTH OF JANUARY - 2023.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 2023-01-01 | 7.45 | 960 | 3245 | 15400 | 450 | 8.00 | 40 | 277 | 5000 | 40 |
| 2023-01-02 | 8.82 | 953 | 3056 | 15400 | 420 | 7.86 | 39 | 275 | 4300 | 50 |
| 2023-01-03 | 8.23 | 875 | 2896 | 16200 | 340 | 7.53 | 35 | 259 | 5700 | 60 |
| 2023-01-04 | 7.72 | 860 | 3284 | 15700 | 400 | 7.99 | 36 | 275 | 5300 | 60 |
| 2023-01-05 | 8.74 | 814 | 3040 | 15300 | 400 | 8.04 | 34 | 253 | 5000 | 30 |
| 2023-01-06 | 7.1 | 756 | 2964 | 17500 | 450 | 7.74 | 38 | 269 | 5300 | 60 |
| 2023-01-07 | 3.94 | 782 | 2763 | 16300 | 340 | 7.84 | 39 | 296 | 4900 | 60 |
| 2023-01-08 | 7.52 | 966 | 3010 | 15000 | 360 | 7.85 | 38 | 277 | 4400 | 40 |
| 2023-01-09 | 7.82 | 948 | 3465 | 15400 | 400 | 7.91 | 34 | 261 | 5000 | 40 |
| 2023-01-10 | 7.82 | 857 | 3270 | 15800 | 340 | 7.99 | 35 | 237 | 5000 | 50 |
| 2023-01-11 | 6.35 | 756 | 3110 | 16300 | 480 | 7.97 | 36 | 286 | 5800 | 40 |
| 2023-01-12 | 6.43 | 890 | 2980 | 15700 | 360 | 7.98 | 37 | 248 | 5800 | 60 |
| 2023-01-13 | 6.40 | 962 | 2871 | 15000 | 340 | 8 | 32 | 291 | 4700 | 40 |
| 2023-01-14 | 3.00 | 970 | 2800 | 16200 | 470 | 8.04 | 35 | 283 | 5100 | 40 |
| 2023-01-15 | 7.12 | 814 | 3040 | 15600 | 450 | 7.73 | 38 | 286 | 4900 | 60 |
| 2023-01-16 | 6.21 | 852 | 3465 | 16700 | 360 | 8.03 | 34 | 286 | 4400 | 60 |
| 2023-01-17 | 6.40 | 863 | 3370 | 16000 | 340 | 7.83 | 37 | 248 | 4400 | 40 |
| 2023-01-18 | 8.01 | 946 | 3456 | 16400 | 380 | 7.97 | 39 | 294 | 4600 | 60 |
| 2023-01-19 | 3.35 | 905 | 3156 | 15700 | 470 | 7.49 | 34 | 291 | 5100 | 60 |
| 2023-01-20 | 3.60 | 843 | 3200 | 16100 | 410 | 7.58 | 38 | 284 | 4200 | 60 |
| 2023-01-21 | 7.01 | 863 | 3460 | 15900 | 370 | 8.03 | 35 | 253 | 4500 | 40 |
| 2023-01-22 | 6.44 | 957 | 2808 | 15800 | 420 | 7.81 | 36 | 269 | 5200 | 50 |
| 2023-01-23 | 4.41 | 962 | 3100 | 16400 | 350 | 7.84 | 38 | 248 | 4400 | 40 |
| 2023-01-24 | 3.75 | 947 | 3456 | 16000 | 460 | 8.09 | 40 | 307 | 5800 | 70 |
| 2023-01-25 | 4.98 | 856 | 3560 | 15700 | 370 | 8.12 | 41 | 307 | 5000 | 70 |
| 2023-01-26 | 2.37 | 921 | 2802 | 15600 | 340 | 7.91 | 38 | 296 | 5100 | 60 |
| 2023-01-27 | 2.60 | 948 | 3456 | 15300 | 360 | 7.73 | 38 | 265 | 4400 | 40 |
| 2023-01-28 | 6.71 | 856 | 3247 | 15800 | 450 | 8.01 | 38 | 254 | 5100 | 50 |
| 2023-01-29 | 6.61 | 975 | 3020 | 16200 | 350 | 7.95 | 39 | 294 | 4900 | 60 |
| 2023-01-30 | 7.21 | 852 | 3541 | 15400 | 370 | 7.61 | 40 | 264 | 4800 | 40 |
| 2023-01-31 | 5.68 | 920 | 3155 | 17400 | 390 | 8.02 | 41 | 284 | 4700 | 50 |
| Avg | 6.12 | 891 | 3163 | 15910 | 393 | 7.89 | 37 | 275 | 4929 | 51 |

INFLUENT QUALITY REPORT FOR THE MONTH OF FEBRUARY - 2023.

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 2023-02-01 | 7.00 | 769 | 3510 | 15600 | 360 | 6.99 | 34 | 277 | 4000 | 40 |
| 2023-02-02 | 3.13 | 795 | 3178 | 16100 | 340 | 7.12 | 35 | 280 | 4500 | 40 |
| 2023-02-03 | 6.55 | 979 | 3735 | 15500 | 350 | 7.7 | 36 | 302 | 4200 | 50 |
| 2023-02-04 | 4.57 | 961 | 3201 | 14800 | 320 | 7.91 | 31 | 286 | 4100 | 40 |
| 2023-02-05 | 7.02 | 870 | 2992 | 16000 | 380 | 7.16 | 34 | 269 | 5000 | 70 |
| 2023-02-06 | 8.51 | 769 | 3916 | 17000 | 360 | 7.94 | 37 | 293 | 4300 | 80 |
| 2023-02-07 | 6.47 | 903 | 3878 | 16500 | 340 | 7.78 | 33 | 259 | 3700 | 60 |
| 2023-02-08 | 5.15 | 959 | 3049 | 15800 | 310 | 7.83 | 36 | 288 | 3800 | 70 |
| 2023-02-09 | 2.55 | 918 | 3015 | 16200 | 350 | 7.87 | 38 | 326 | 4000 | 60 |
| 2023-02-10 | 8.40 | 856 | 4080 | 15500 | 310 | 7.83 | 33 | 302 | 4500 | 40 |
| 2023-02-11 | 6.38 | 876 | 3482 | 15900 | 360 | 7.8 | 37 | 294 | 3400 | 60 |
| 2023-02-12 | 7.02 | 970 | 3307 | 15700 | 380 | 7.83 | 34 | 272 | 4400 | 50 |
| 2023-02-13 | 8.60 | 975 | 4240 | 15600 | 340 | 7.9 | 35 | 264 | 4000 | 40 |
| 2023-02-14 | 2.10 | 960 | 3090 | 16200 | 380 | 8.24 | 39 | 214 | 4100 | 50 |
| 2023-02-15 | 6.09 | 869 | 3012 | 15800 | 390 | 7.8 | 38 | 231 | 3800 | 60 |
| 2023-02-16 | 6.85 | 934 | 3101 | 15500 | 380 | 7.5 | 34 | 261 | 4800 | 40 |
| 2023-02-17 | 4.27 | 961 | 4038 | 15400 | 340 | 7.91 | 35 | 214 | 3900 | 50 |
| 2023-02-18 | 8.02 | 869 | 3378 | 15100 | 360 | 8.41 | 33 | 222 | 4000 | 60 |
| 2023-02-19 | 7.16 | 966 | 3046 | 15200 | 350 | 7.91 | 37 | 286 | 4500 | 60 |
| 2023-02-20 | 7.13 | 888 | 3085 | 15200 | 380 | 7.55 | 38 | 220 | 4100 | 30 |
| 2023-02-21 | 4.00 | 873 | 4062 | 16000 | 390 | 7.2 | 37 | 196 | 3500 | 60 |
| 2023-02-22 | 3.76 | 827 | 3058 | 15500 | 340 | 7.72 | 33 | 212 | 4000 | 60 |
| 2023-02-23 | 7.31 | 983 | 3302 | 15100 | 340 | 7.69 | 39 | 236 | 4100 | 60 |
| 2023-02-24 | 7.27 | 827 | 3015 | 17300 | 380 | 8 | 40 | 220 | 4200 | 40 |
| 2023-02-25 | 1.81 | 865 | 4733 | 18000 | 410 | 7.87 | 37 | 212 | 4500 | 50 |
| 2023-02-26 | 4.61 | 957 | 4080 | 14800 | 360 | 7.5 | 37 | 302 | 5000 | 60 |
| 2023-02-27 | 6.70 | 962 | 4325 | 15200 | 320 | 7.97 | 37 | 286 | 5300 | 40 |
| 2023-02-28 | 2.08 | 947 | 3150 | 16800 | 390 | 8.08 | 38 | 286 | 4800 | 50 |
| Avg | 5.73 | 903 | 3502 | 15832 | 358 | 7.75 | 36 | 261 | 4232 | 53 |



RBIPPL & HYDROAIR (JV)

Comm. Add. 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Helapur, Navi Mumbai-400614

Phone No. 022-49245642/43/44

Dated - 06/04/2023

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding Information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter above said work is awarded to us and the same is in progress. It is observed that the inlet COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 15,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, and BOD less than 1000mg/l.

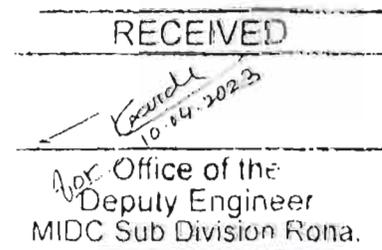
Further too much foaming is observed in equalisation tank, flash mixer, pH correction tank, Primary Clf, and Anoxic Tank which is falling from the tanks and deposited near the tanks and polluting the soil. Also some industries are discharging acidic effluent in the night causing frequently pump breakdown and also affecting the secondary treatment.

This is just for your kind information.

Note-Please find the attachments which are showing the Inlet parameters for High COD & Low COD for the month of March.

For RBIPPL & HYDROAIR (JV)

{Auth. Signatory}



INFLUENT QUALITY REPORT FOR THE MONTH OF MAR - 2023

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 2023-03-01 | 6.71 | 745 | 3356 | 15400 | 340 | 7.70 | 34 | 263 | 3900 | 50 |
| 2023-03-02 | 6.10 | 852 | 2977 | 16700 | 360 | 7.94 | 36 | 275 | 4500 | 40 |
| 2023-03-03 | 8.30 | 960 | 3456 | 15400 | 350 | 7.60 | 34 | 304 | 4000 | 60 |
| 2023-03-04 | 7.37 | 745 | 3782 | 14800 | 300 | 8.01 | 33 | 245 | 3800 | 50 |
| 2023-03-05 | 7.5 | 645 | 3045 | 16300 | 310 | 7.50 | 37 | 253 | 4200 | 50 |
| 2023-03-06 | 7.31 | 852 | 3850 | 15400 | 380 | 8.04 | 30 | 269 | 4500 | 40 |
| 2023-03-07 | 7.45 | 763 | 4256 | 16700 | 390 | 7.42 | 36 | 257 | 3700 | 60 |
| 2023-03-08 | 7.45 | 912 | 4040 | 17200 | 370 | 8.04 | 37 | 250 | 4500 | 50 |
| 2023-03-09 | 6.47 | 846 | 3564 | 16300 | 360 | 7.91 | 42 | 315 | 4100 | 70 |
| 2023-03-10 | 9.11 | 836 | 3057 | 14500 | 340 | 7.70 | 40 | 301 | 3900 | 60 |
| 2023-03-11 | 4.93 | 712 | 2869 | 15400 | 310 | 7.45 | 42 | 228 | 4200 | 40 |
| 2023-03-12 | 6.45 | 804 | 3642 | 17400 | 340 | 7.85 | 36 | 246 | 3800 | 50 |
| 2023-03-13 | 8.09 | 902 | 3489 | 15600 | 340 | 7.83 | 38 | 273 | 3800 | 50 |
| 2023-03-14 | 7.71 | 746 | 3900 | 16000 | 360 | 8.13 | 37 | 246 | 3700 | 50 |
| 2023-03-15 | 7.77 | 863 | 3745 | 15470 | 380 | 7.94 | 36 | 250 | 4500 | 40 |
| 2023-03-16 | 4.45 | 914 | 3040 | 16400 | 340 | 7.63 | 33 | 263 | 4600 | 60 |
| 2023-03-17 | 7.06 | 852 | 2978 | 15000 | 310 | 6.45 | 34 | 247 | 3400 | 50 |
| 2023-03-18 | 7.45 | 745 | 3650 | 16000 | 360 | 8.04 | 30 | 201 | 3700 | 50 |
| 2023-03-19 | 7.64 | 763 | 3561 | 15600 | 390 | 7.48 | 33 | 214 | 4000 | 40 |
| 2023-03-20 | 7.91 | 804 | 3347 | 15700 | 340 | 7.67 | 37 | 253 | 3700 | 50 |
| 2023-03-21 | 7.56 | 715 | 3125 | 17100 | 310 | 7.86 | 33 | 240 | 3900 | 30 |
| 2023-03-22 | 6.89 | 763 | 3700 | 16200 | 370 | 7.16 | 30 | 243 | 4100 | 30 |
| 2023-03-23 | 6.14 | 796 | 3462 | 15700 | 350 | 7.88 | 34 | 230 | 4200 | 50 |
| 2023-03-24 | 7.45 | 745 | 3145 | 14500 | 340 | 8.02 | 33 | 312 | 5500 | 40 |
| 2023-03-25 | 5.65 | 825 | 3346 | 14500 | 400 | 6.65 | 37 | 275 | 4500 | 30 |
| 2023-03-26 | 7.10 | 910 | 3070 | 16400 | 410 | 7.45 | 34 | 288 | 3800 | 30 |
| 2023-03-27 | 6.67 | 745 | 2856 | 15200 | 370 | 7.72 | 40 | 252 | 4600 | 40 |
| 2023-03-28 | 7.04 | 852 | 3112 | 16200 | 400 | 7.46 | 37 | 310 | 4300 | 40 |
| 2023-03-29 | 7.96 | 766 | 2780 | 16000 | 380 | 8.05 | 38 | 255 | 3900 | 70 |
| 2023-03-30 | 6.85 | 702 | 2975 | 15700 | 402 | 7.12 | 40 | 241 | 4200 | 40 |
| 2023-03-31 | 7.04 | 685 | 3040 | 17000 | 395 | 7.85 | 38 | 288 | 3600 | 50 |



RBIPPL & HYDROAIR (JV)

Comm. Add: 302, Concorde Premises, Plot No. 66A, Sector 11, C.B.D. Belapur, Navi Mumbai-400614

Phone No. 022-49245642/ 43 / 44

1310

Dated - 01/06/2023

To,
The Deputy Engineer,
MIDC, Sub-Division,
Roha.

Subject : Regarding information about Inlet Parameters.
Ref : 1) Work Order No. MIDC/ABG/TC/IFMS-C98958/ of 2019
2) Tender Agreement No.-C-1 of 2019-2020

Dear Sir,

With regarding to the above cited subject matter, above said work is awarded to us and the same is in progress. It is observed that the inlet pH, COD, BOD, TSS and TDS frequently coming more than the limit given in the tender for existing plant.

Also as per MPCB circular (MPCB/JD(WPC)/Dir/B-201113-FTS-0061 dated 13.11.2020) states that "the high COD effluent stream having COD & TDS Conc. > 5000mg/l shall be segregated, treated and disposed separately without mixing to effluent discharging to CETP."

You have been informed by us on many occasions that TDS at inlet of CETP is as high as 18,000 mg/l which is causing upset in the plant performance. It seems there are some members who are discharging high TDS effluent having TDS in lakhs mg/l. Hence vigilance sampling by us can only bring out the defaulting members so that plant performance can be as per MPCB standards.

Also overflow is observed from MIDC treated tank as already informed on many occasions.

We are facing difficulties in treating the effluent in the present plant status because the present plant is design for COD less than 2500mg/l, and BOD less than 1000mg/l .

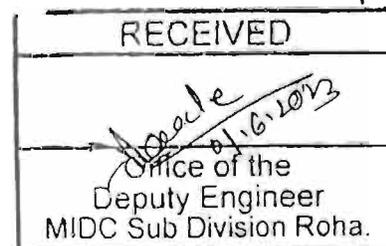
Further too much foaming is observed in equalisation tank, flash mixer, pH correction tank, Primary Clf, and Anoxic Tank which is falling from the tanks and deposited near the tanks and polluting the soil. Also some industries are discharging acidic effluent in the night causing frequently pump breakdown and also affecting the secondary treatment.

This is just for your kind information.

Note-Please find the attachments which are showing the inlet parameters for High COD & Low COD for the month of *April. and May.*

For RBIPPL & HYDROAIR (JV)

(Auth. Signatory)



INFLUENT QUALITY REPORT FOR THE MONTH OF APRIL - 2023

1311

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 2023-04-01 | 7.87 | 736 | 3450 | 17000 | 310 | 7.46 | 34 | 245 | 3800 | 50 |
| 2023-04-02 | 5.25 | 824 | 2845 | 15400 | 370 | 7.82 | 33 | 304 | 4300 | 40 |
| 2023-04-03 | 5.30 | 800 | 2943 | 16500 | 350 | 7.63 | 30 | 253 | 4000 | 60 |
| 2023-04-04 | 5.00 | 763 | 3010 | 14700 | 410 | 8.05 | 42 | 289 | 3800 | 50 |
| 2023-04-05 | 7.32 | 804 | 3406 | 15300 | 400 | 7.63 | 35 | 280 | 4000 | 50 |
| 2023-04-06 | 6.67 | 734 | 2938 | 16800 | 360 | 6.41 | 38 | 315 | 3700 | 40 |
| 2023-04-07 | 4.82 | 726 | 3346 | 17300 | 320 | 6.82 | 40 | 281 | 3900 | 40 |
| 2023-04-08 | 2.38 | 910 | 3063 | 15200 | 390 | 7.04 | 41 | 263 | 4300 | 30 |
| 2023-04-09 | 4.57 | 846 | 2956 | 16400 | 340 | 7.63 | 36 | 274 | 4000 | 40 |
| 2023-04-10 | 7.63 | 846 | 3754 | 17200 | 320 | 7.14 | 35 | 228 | 3800 | 50 |
| 2023-04-11 | 1.62 | 735 | 3947 | 15000 | 320 | 7.63 | 33 | 274 | 4000 | 40 |
| 2023-04-12 | 6.92 | 764 | 3451 | 15000 | 380 | 6.45 | 30 | 253 | 3900 | 60 |
| 2023-04-13 | 9.97 | 805 | 4950 | 16300 | 370 | 7.28 | 38 | 256 | 3500 | 30 |
| 2023-04-14 | 7.09 | 713 | 2897 | 17000 | 400 | 7.65 | 37 | 310 | 4200 | 40 |
| 2023-04-15 | 5.87 | 863 | 2907 | 16400 | 420 | 7.45 | 33 | 302 | 4500 | 50 |
| 2023-04-16 | 6.76 | 763 | 3917 | 15100 | 300 | 8.04 | 34 | 285 | 3600 | 50 |
| 2023-04-17 | 3.18 | 824 | 2965 | 16700 | 370 | 7.95 | 40 | 251 | 3500 | 50 |
| 2023-04-18 | 6.34 | 746 | 3186 | 17000 | 350 | 8.03 | 42 | 300 | 4500 | 40 |
| 2023-04-19 | 3.18 | 805 | 2970 | 15200 | 370 | 7.45 | 35 | 285 | 3800 | 30 |
| 2023-04-20 | 5.45 | 846 | 3100 | 15000 | 390 | 6.46 | 33 | 263 | 3800 | 60 |
| 2023-04-21 | 5.81 | 904 | 5141 | 16300 | 350 | 6.94 | 37 | 247 | 4200 | 40 |
| 2023-04-22 | 3.61 | 763 | 3536 | 16800 | 360 | 7.01 | 40 | 251 | 4600 | 50 |
| 2023-04-23 | 7.01 | 814 | 3045 | 17000 | 340 | 7.52 | 31 | 310 | 3600 | 40 |
| 2023-04-24 | 1.40 | 763 | 2886 | 15900 | 400 | 7.61 | 38 | 285 | 3700 | 30 |
| 2023-04-25 | 5.94 | 845 | 2745 | 15700 | 310 | 6.82 | 41 | 310 | 4500 | 50 |
| 2023-04-26 | 5.69 | 746 | 2883 | 17200 | 320 | 6.45 | 42 | 288 | 3900 | 40 |
| 2023-04-27 | 2.30 | 913 | 3373 | 15800 | 350 | 7.04 | 38 | 267 | 3700 | 30 |
| 2023-04-28 | 6.71 | 746 | 4505 | 15400 | 80 | 7.82 | 34 | 274 | 4200 | 30 |
| 2023-04-29 | 5.85 | 782 | 3134 | 16000 | 350 | 7.61 | 38 | 263 | 4500 | 40 |
| 2023-04-30 | 6.23 | 825 | 3045 | 16100 | 350 | 6.52 | 35 | 245 | 3700 | 50 |

INFLUENT QUALITY REPORT FOR THE MONTH OF MAY - 2023

| Date | Influent (Inlet) | | | | | Low COD | | | | |
|------------|------------------|-------------|-------------|-------------|-------------|---------|-------------|-------------|-------------|-------------|
| | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l | pH | BOD mg/l | COD mg/l | TDS mg/l | TSS mg/l |
| 2023-05-01 | 7.10 | 928 | 3146 | 17600 | 440 | 8.02 | 32 | 245 | 4500 | 40 |
| 2023-05-02 | 7.84 | 1345 | 6482 | 25800 | 620 | 8.33 | 35 | 305 | 3800 | 50 |
| 2023-05-03 | 7.61 | 715 | 2513 | 16500 | 280 | 8.23 | 42 | 311 | 3700 | 60 |
| 2023-05-04 | 7.22 | 625 | 3100 | 14400 | 430 | 8.50 | 37 | 278 | 4000 | 50 |
| 2023-05-05 | 6.17 | 746 | 2856 | 15200 | 380 | 8.35 | 40 | 295 | 4100 | 40 |
| 2023-05-06 | 4.04 | 985 | 3305 | 16300 | 300 | 8.25 | 35 | 263 | 3700 | 50 |
| 2023-05-07 | 4.15 | 850 | 3047 | 17600 | 470 | 7.63 | 36 | 250 | 4200 | 50 |
| 2023-05-08 | 1.27 | 763 | 3155 | 24000 | 400 | 8.29 | 34 | 247 | 3600 | 50 |
| 2023-05-09 | 5.25 | 700 | 3046 | 15400 | 380 | 8.54 | 41 | 311 | 3400 | 60 |
| 2023-05-10 | 1.59 | 807 | 3754 | 27600 | 350 | 8.11 | 38 | 258 | 3300 | 40 |
| 2023-05-11 | 1.58 | 1200 | 5874 | 25000 | 570 | 8.04 | 37 | 274 | 4200 | 40 |
| 2023-05-12 | 1.51 | 1300 | 6980 | 20400 | 540 | 7.80 | 40 | 263 | 4500 | 50 |
| 2023-05-13 | 7.70 | 985 | 4080 | 18800 | 380 | 7.65 | 35 | 250 | 5000 | 60 |
| 2023-05-14 | 6.57 | 746 | 4122 | 19000 | 470 | 7.86 | 30 | 230 | 4300 | 40 |
| 2023-05-15 | 7.20 | 888 | 4733 | 26500 | 400 | 7.52 | 34 | 257 | 4700 | 40 |
| 2023-05-16 | 7.71 | 765 | 3482 | 15700 | 320 | 7.85 | 41 | 252 | 3600 | 40 |
| 2023-05-17 | 3.30 | 634 | 3101 | 17900 | 400 | 7.81 | 38 | 301 | 3800 | 50 |
| 2023-05-18 | 7.52 | 885 | 3771 | 21300 | 450 | 7.79 | 35 | 242 | 4500 | 40 |
| 2023-05-19 | 6.53 | 763 | 3699 | 20600 | 520 | 7.86 | 32 | 253 | 3800 | 50 |
| 2023-05-20 | 7.12 | 912 | 3427 | 18400 | 380 | 7.94 | 41 | 237 | 3900 | 50 |
| 2023-05-21 | 7.02 | 853 | 3345 | 15300 | 460 | 7.35 | 40 | 285 | 4000 | 60 |
| 2023-05-22 | 1.85 | 1245 | 4461 | 20100 | 580 | 8.21 | 33 | 261 | 4100 | 40 |
| 2023-05-23 | 7.22 | 745 | 3101 | 15000 | 360 | 8.11 | 37 | 326 | 3700 | 40 |
| 2023-05-24 | 8.09 | 634 | 3509 | 14200 | 510 | 8.16 | 38 | 237 | 3500 | 40 |
| 2023-05-25 | 1.24 | 846 | 4325 | 23000 | 640 | 8.06 | 38 | 318 | 4100 | 50 |
| 2023-05-26 | 7.86 | 820 | 2863 | 16400 | 440 | 7.83 | 36 | 208 | 3800 | 40 |
| 2023-05-27 | 6.51 | 1340 | 4515 | 16500 | 580 | 7.97 | 42 | 277 | 5300 | 50 |
| 2023-05-28 | 4.86 | 745 | 3873 | 17400 | 520 | 7.85 | 38 | 239 | 4000 | 40 |
| 2023-05-29 | 5.12 | 682 | 2852 | 15700 | 410 | 7.25 | 41 | 285 | 4700 | 60 |
| 2023-05-30 | 7.70 | 765 | 3074 | 14200 | 340 | 7.78 | 32 | 245 | 4900 | 50 |
| 2023-05-31 | 7.77 | 582 | 2700 | 13800 | 470 | 7.92 | 37 | 205 | 3800 | 50 |

ANNEXURE-11

1313

Analysis Result

Taloja CETP

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area, if any (MLD) | Status of online CEQMS | Status of hazardous waste | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|---|------------------------|---------------------------|------------------------|-------|--------|--------|---------|-------------------------|--------|---------|-------|---------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2023-10-26 | 0 | 0 | 0 | 0 | 5.2 | 1550 | 5040 | 344 | 5650 | 7.8 | 330 | 1080 | 104 | 2225 |
| 2023-10-15 | 0 | 0 | 0 | 0 | 7.6 | 825 | 2016 | 400 | 2758 | 7.6 | 850 | 2128 | 432 | 3052 |
| 2023-10-10 | 0 | 0 | 0 | 0 | 6.7 | 1550 | 4640 | 612 | 3672 | 7.8 | 575 | 1680 | 162 | 2946 |
| 2023-10-06 | 0 | 0 | 0 | 0 | 6.2 | 2400 | 6640 | 692 | 15936 | 7.6 | 1050 | 2720 | 194 | 4022 |
| 2023-10-03 | 0 | 0 | 0 | 0 | 7.6 | 2550 | 4880 | 416 | 4095 | 7.8 | 160 | 536 | 38 | 814 |
| 2023-09-25 | 0 | 0 | 0 | 0 | 6.5 | 1150 | 3408 | 436 | 2603 | 7.1 | 110 | 308 | 32 | 518 |
| 2023-09-21 | 0 | 0 | 0 | 0 | 6.3 | 1750 | 3840 | NC | NC | 7.7 | 875 | 2144 | NC | NC |
| 2023-09-20 | 0 | 0 | 0 | 0 | 6.3 | 1900 | 5000 | NC | NC | 7.4 | 270 | 584 | NC | NC |
| 2023-09-12 | 0 | 0 | 0 | 0 | 6.1 | 1350 | 3520 | 640 | 3178 | 7.6 | 170 | 472 | 96 | 1570 |
| 2023-09-04 | 0 | 0 | 0 | 0 | 5.5 | 1200 | 3776 | 432 | 4294 | 8 | 525 | 1760 | 292 | 4321 |
| 2023-08-21 | 0 | 0 | 0 | 0 | 4.9 | 1450 | 4520 | 114 | NC | 7.8 | 475 | 1544 | 142 | 5228 |
| 2023-08-17 | 0 | 0 | 0 | 0 | 5.1 | 1250 | 4240 | 290 | 5474 | 8 | 490 | 1496 | 66 | 5180 |
| 2023-08-08 | 0 | 0 | 0 | 0 | 6 | 950 | 3216 | 332 | 5946 | 8.3 | 210 | 632 | 82 | 4743 |
| 2023-08-07 | 0 | 0 | 0 | 0 | 5.9 | 1150 | 3424 | 194 | NC | 8.2 | 110 | 372 | 16 | 925 |
| 2023-08-03 | 0 | 0 | 0 | 0 | 5.3 | 1050 | 3392 | NC | 3822 | 7.9 | 200 | 592 | NC | 2654 |
| 2023-07-31 | 0 | 0 | 0 | 0 | 4.4 | 850 | 2880 | 236 | 3590 | 7.9 | 110 | 396 | 56 | 1851 |
| 2023-07-25 | 0 | 0 | 0 | 0 | NA | 32500 | 136000 | NA | NC | 7.9 | 160 | 564 | 50 | 2003 |
| 2023-06-08 | 0 | 0 | 0 | 0 | 6 | NA | 3824 | 288 | 6956 | 8.3 | NA | 1096 | 12 | 443 |
| 2023-04-25 | 0 | 0 | 0 | 0 | 5.1 | 2650 | 6040 | 322 | 7302 | 8.1 | 725 | 1744 | 12 | 5603 |
| 2023-04-03 | 0 | 0 | 0 | 0 | 5.9 | 1350 | 4680 | 230 | 7084 | 8.3 | 230 | 692 | 16 | 3167 |
| 2023-03-23 | 0 | 0 | 0 | 0 | 5.4 | 1250 | 4360 | 220 | 6169 | 8.1 | 350 | 1272 | 26 | 4564 |
| 2023-03-09 | 0 | 0 | 0 | 0 | 6.7 | 850 | 3680 | 96 | 6582 | 8.2 | 350 | 1376 | 52 | 1990 |
| 2023-02-13 | 0 | 0 | 0 | 0 | 6 | 1375 | 5640 | 180 | 7548 | 8.3 | 125 | 488 | 24 | 2300 |
| 2023-02-07 | 0 | 0 | 0 | 0 | 5.6 | 950 | 3640 | 160 | 6757 | 8.1 | 125 | 496 | 24 | 2935 |
| 2023-01-31 | 0 | 0 | 0 | 0 | 5 | 1200 | 3216 | 380 | 8330 | 8.3 | 165 | 480 | 54 | 2466 |
| 2023-01-16 | 0 | 0 | 0 | 0 | 6.2 | 1650 | 4120 | 370 | 7214 | 8.4 | 310 | 728 | 36 | 2981 |
| 2023-01-09 | 0 | 0 | 0 | 0 | 5.4 | 2150 | 6400 | 210 | 8591 | 8.1 | 310 | 888 | 72 | 3028 |
| Average | 0 | 0 | 0 | 0 | 5.66 | 2550 | 9112.3 | 281.26 | 4946.33 | 7.95 | 346.67 | 1046.96 | 77.41 | 2649.22 |

Lote Parshuram CETP

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area, if any (MLD) | Status of online CEQMS | Status of hazardous waste storage/ disposal (mt/m) | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|---|------------------------|--|------------------------|--------|---------|-------|---------|-------------------------|-------|--------|-------|---------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2023-11-28 | 0 | 0 | 0 | 0 | 6.8 | 637.5 | 1304 | 52 | 2954 | 6.5 | 58 | 152 | 14 | 1042 |
| 2023-11-20 | 0 | 0 | 0 | 0 | 7.0 | 450.0 | 936.0 | 26.0 | 3123.0 | 6.1 | 80.0 | 228.0 | 23.0 | 2814.0 |
| 2023-11-13 | 0 | 0 | 0 | 0 | 7.8 | 240 | 664 | 59 | 4869 | 6.1 | 56 | 144 | 17 | 2239 |
| 2023-11-06 | 0 | 0 | 0 | 0 | 7.4 | 180 | 380 | 25 | 4368 | 7.2 | 63 | 180 | 14 | 923 |
| 2023-10-30 | 0 | 0 | 0 | 0 | 5.4 | 62.0 | 250.0 | 79.0 | 4412.0 | 7.4 | 172.0 | 618.8 | 63.0 | 3891.0 |
| 2023-10-23 | 0 | 0 | 0 | 0 | 7.9 | 202 | 560 | 41 | 3912 | 5.5 | 74 | 240 | 64 | 3723 |
| 2023-10-16 | 0 | 0 | 0 | 0 | 7.8 | 325 | 768 | 32 | 3824 | 7.5 | 30 | 144 | 13 | 1624 |
| 2023-10-09 | 0 | 0 | 0 | 0 | 7.6 | 132 | 480 | 16 | 3912 | 6.8 | 49 | 172 | 14 | 1234 |
| 2023-10-03 | 0 | 0 | 0 | 0 | 7.9 | 136.0 | 488.0 | 23.0 | 3321.0 | 7.4 | 68.0 | 172.0 | 42.0 | 819.0 |
| 2023-09-25 | 0 | 0 | 0 | 0 | 7.5 | 196.0 | 720.0 | 80.0 | 1749.0 | 7.0 | 55.0 | 180.0 | 19.0 | 786.0 |
| 2023-09-18 | 0 | 0 | 0 | 0 | 7.0 | 490.0 | 1980.8 | 69.0 | 8160.0 | 5.9 | 78.0 | 240.0 | 140.0 | 2743.0 |
| 2023-09-11 | 0 | 0 | 0 | 0 | 7.7 | 767.5 | 1616.0 | 93.0 | 6475.0 | 6.5 | 86.0 | 230.0 | 12.0 | 1315.0 |
| 2023-09-04 | 0 | 0 | 0 | 0 | 8.3 | 607.5 | 1936.0 | 187.0 | 10111 | 7.2 | 84.0 | 240.0 | 45.0 | 2519.0 |
| 2023-08-28 | 0 | 0 | 0 | 0 | 7.7 | 1635 | 4000 | 137 | 3401 | 7.3 | 82 | 210 | 45 | 1980 |
| 2023-08-21 | 0 | 0 | 0 | 0 | 7.4 | 152 | 400 | 22 | 1932 | 6.0 | 56 | 160 | 21 | 1300 |
| 2023-08-14 | 0 | 0 | 0 | 0 | 8.1 | 2150 | 6800 | 472 | 9860 | 5.8 | 64 | 184 | 16 | 1303 |
| 2023-08-07 | 0 | 0 | 0 | 0 | 7.9 | 2090 | 6600 | 206 | 9351 | 5.5 | 76 | 240 | 60 | 1576 |
| 2023-07-31 | 0 | 0 | 0 | 0 | 7.6 | 2900 | 6880 | 118 | 4014 | 5.6 | 92 | 244 | 59 | 1495 |
| 2023-07-24 | 0 | 0 | 0 | 0 | 7.6 | 302 | 918.4 | 75 | 3858 | 7.3 | 25 | 72 | 13 | 1730 |
| 2023-07-17 | 0 | 0 | 0 | 0 | 7.4 | 580 | 1592 | 69 | 6496 | 5.8 | 24 | 80 | 29 | 606 |
| 2023-07-10 | 0 | 0 | 0 | 0 | 7.6 | 252 | 728 | 75 | 3788 | 7.1 | 21 | 76 | 14 | 661 |
| 2023-06-26 | 0 | 0 | 0 | 0 | 6.7 | 410 | 1616 | 119 | 4325 | 6.7 | 24 | 118.4 | 20 | 468 |
| 2023-06-19 | 0 | 0 | 0 | 0 | 7.5 | 280 | 806.4 | 54 | 4782 | 6.9 | 8 | 53.2 | 15 | 641 |
| 2023-06-12 | 0 | 0 | 0 | 0 | 6.9 | 350 | 1240 | 58 | 3200 | 6.6 | 28 | 76.8 | 20 | 471 |
| 2023-06-05 | 0 | 0 | 0 | 0 | 7.6 | 360 | 1142 | 31 | 6372 | 7.1 | 6 | 29.2 | 28 | 541 |
| Average | 0 | 0 | 0 | 0 | 7.44 | 635.46 | 1792.22 | 88.72 | 4902.76 | 6.59 | 58.36 | 179.38 | 32.8 | 1537.76 |

Badlapur CETP

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area, if any (MLD) | Status of online CEQMS | Status of hazardous waste storage/disposal (mt/m) | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|---|------------------------|---|------------------------|--------|---------|--------|---------|-------------------------|-------|--------|-------|---------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2023-11-28 | 0 | 0 | 0 | 0 | 7.0 | 410 | 1145 | 248 | 5169 | 7.5 | 50 | 173 | 42 | 4198 |
| 2023-11-20 | 0 | 0 | 0 | 0 | 6.6 | 725 | 2096 | 608 | 4489 | 7.8 | 32 | 104 | 22 | 2917 |
| 2023-11-13 | 0 | 0 | 0 | 0 | 6.2 | 650 | 2240 | 274 | 6460 | 7.7 | 32 | 124 | 16 | 3048 |
| 2023-11-06 | 0 | 0 | 0 | 0 | 7.4 | 475 | 1200 | 220 | 5619 | 7.8 | 28 | 104 | 23 | 3151 |
| 2023-10-30 | 0 | 0 | 0 | 0 | 7.6 | 450 | 1512 | 206 | 4814 | 8.1 | 28 | 100 | 23 | 3297 |
| 2023-10-23 | 0 | 0 | 0 | 0 | 7.4 | 420 | 1304 | 176 | 5184 | 8.1 | 32 | 116 | 25 | 3156 |
| 2023-10-16 | 0 | 0 | 0 | 0 | 7.4 | 775 | 1952 | 236 | 4999 | 8.2 | 110 | 380 | 39 | 3658 |
| 2023-10-09 | 0 | 0 | 0 | 0 | 7.3 | 500 | 1368 | 254 | 5392 | 7.7 | 46 | 180 | 55 | 4227 |
| 2023-10-03 | 0 | 0 | 0 | 0 | 7.8 | 425 | 1200 | 184 | - | 8.7 | 44 | 148 | 27 | 4489 |
| 2023-09-25 | 0 | 0 | 0 | 0 | 8.1 | 425 | 1088 | 166 | 3870 | 8.1 | 42 | 152 | 14 | 4062 |
| 2023-09-18 | 0 | 0 | 0 | 0 | 6.9 | 390 | 1008 | 248 | 4145 | 7.9 | 120 | 404 | 37 | 3725 |
| 2023-09-11 | 0 | 0 | 0 | 0 | 6.7 | 425 | 1024 | 242 | 4592 | 7.7 | 36 | 144 | 17 | 3676 |
| 2023-09-04 | 0 | 0 | 0 | 0 | 6.9 | 475 | 1088 | 310 | 5337 | 7.7 | 45 | 160 | 34 | 3452 |
| 2023-08-28 | 0 | 0 | 0 | 0 | 7.3 | 390 | 936 | 98 | 3260 | 7.5 | 55 | 152 | 26 | 889 |
| 2023-08-21 | 0 | 0 | 0 | 0 | 7 | 450 | 1312 | 76 | 4675 | 7.5 | 52 | 172 | 19 | 3227 |
| 2023-08-14 | 0 | 0 | 0 | 0 | 7.1 | 410 | 1616 | 138 | 3915 | 7.9 | 22 | 128 | 10 | 2601 |
| 2023-08-07 | 0 | 0 | 0 | 0 | 7.1 | 410 | 1360 | 72 | 7689 | 7.9 | 25 | 132 | 12 | 4685 |
| 2023-07-31 | 0 | 0 | 0 | 0 | 6.7 | 390 | 1312 | 114 | 4907 | 7.4 | 30 | 132 | 10 | 3235 |
| 2023-07-24 | 0 | 0 | 0 | 0 | 7.2 | 220 | 632 | 28 | 2882 | 7.6 | 30 | 120 | 12 | 2196 |
| 2023-07-17 | 0 | 0 | 0 | 0 | 7.5 | 310 | 960 | 64 | 3927 | 7.5 | 30 | 116 | 10 | 3201 |
| 2023-07-10 | 0 | 0 | 0 | 0 | 3 | NA | 1048 | 76 | 4956 | 7.7 | NA | 160 | 16 | 3899 |
| 2023-07-03 | 0 | 0 | 0 | 0 | 6.7 | NA | 1264 | 30 | 3096 | 7.4 | NA | 360 | 10 | 5104 |
| 2023-06-26 | 0 | 0 | 0 | 0 | 6.2 | - | 1132.6 | 234 | 4598 | 7.5 | - | 138.6 | 10 | 3887 |
| 2023-06-19 | 0 | 0 | 0 | 0 | 6.6 | - | 1416 | 148 | 4400 | 7.3 | - | 168 | 6 | 1205 |
| 2023-06-12 | 0 | 0 | 0 | 0 | 6.7 | - | 1488 | 52 | 6045 | 7.7 | - | 208 | 12 | 4820 |
| 2023-06-05 | 0 | 0 | 0 | 0 | 6.9 | - | 1800 | 140 | 6437 | 7.8 | - | 168 | 8 | 5630 |
| Average | 0 | 0 | 0 | 0 | 6.9 | 350.96 | 1326.98 | 178.54 | 4648.35 | 7.76 | 34.19 | 170.91 | 20.58 | 3524.42 |

Dombivli CETP

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area, if any (MLD) | Status of online CEQMS | Status of hazardous waste storage/ disposal (mt/m) | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|---|------------------------|--|------------------------|--------|---------|--------|---------|-------------------------|-------|--------|----|---------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2023-11-28 | 0 | 0 | 0 | 0 | 6.9 | 600 | 1774.1 | 90 | 4920 | 7.6 | 48 | 205.6 | 32 | 2345 |
| 2023-11-20 | 0 | 0 | 0 | 0 | 7.9 | 875 | 2784 | 246 | 6822 | 7.4 | 55 | 224 | 20 | 2995 |
| 2023-11-13 | 0 | 0 | 0 | 0 | 9 | 725 | 2288 | 214 | 5824 | 7.2 | 40 | 236 | 19 | 2061 |
| 2023-11-06 | 0 | 0 | 0 | 0 | 8.1 | 575 | 1488 | 420 | 7205 | 7.7 | 48 | 220 | 23 | 2028 |
| 2023-10-30 | 0 | 0 | 0 | 0 | 8.1 | 750 | 2448 | 420 | 6053 | 7.7 | 50 | 196 | 16 | 1924 |
| 2023-10-23 | 0 | 0 | 0 | 0 | 8.8 | 600 | 1952 | 320 | 3656 | 7.7 | 50 | 196 | 16 | 1924 |
| 2023-10-16 | 0 | 0 | 0 | 0 | 7.9 | 1450 | 4160 | 392 | 4224 | 7.8 | 75 | 316 | 37 | 1908 |
| 2023-10-09 | 0 | 0 | 0 | 0 | 8.7 | 370 | 1224 | 244 | 5382 | 7.9 | 42 | 144 | 24 | 2722 |
| 2023-10-03 | 0 | 0 | 0 | 0 | 8.4 | 575 | 1560 | 272 | 4348 | 7.7 | 36 | 128 | 19 | 1306 |
| 2023-09-25 | 0 | 0 | 0 | 0 | 7.2 | 340 | 1176 | 133 | 3100 | 7.3 | 42 | 148 | 19 | 1375 |
| 2023-09-18 | 0 | 0 | 0 | 0 | 8.1 | 500 | 1248 | 244 | 5448 | 7.5 | 70 | 308 | 42 | 796 |
| 2023-09-11 | 0 | 0 | 0 | 0 | 9.3 | 370 | 1280 | 160 | 6883 | 7.4 | 34 | 136 | 19 | 718 |
| 2023-09-04 | 0 | 0 | 0 | 0 | 7.7 | 550 | 1520 | 158 | 6040 | 7.8 | 22 | 124 | 16 | 2136 |
| 2023-08-28 | 0 | 0 | 0 | 0 | 7.1 | 525 | 1696 | 136 | 2998 | 7.2 | 20 | 64 | 18 | 634 |
| 2023-08-21 | 0 | 0 | 0 | 0 | 7.6 | 700 | 2032 | 38 | 8523 | 7.6 | 46 | 176 | 10 | 1226 |
| 2023-08-14 | 0 | 0 | 0 | 0 | 8.6 | 560 | 3040 | 266 | .. | 7.9 | 30 | 344 | 12 | ... |
| 2023-08-07 | 0 | 0 | 0 | 0 | 7 | 310 | 1784 | 156 | 7065 | 7.9 | 30 | 204 | 12 | 3100 |
| 2023-07-31 | 0 | 0 | 0 | 0 | 6.5 | 290 | 1424 | 56 | 4778 | 7.1 | 25 | 152 | 10 | 1397 |
| 2023-07-24 | 0 | 0 | 0 | 0 | 7.1 | NA | 936 | 10 | 468 | 7.4 | NA | 140 | 12 | 1655 |
| 2023-07-17 | 0 | 0 | 0 | 0 | 7.9 | NA | 832 | 48 | 3147 | 7.5 | NA | 96 | 10 | 768 |
| 2023-07-10 | 0 | 0 | 0 | 0 | 6.9 | NA | 1360 | 96 | 2989 | 7.7 | NA | 256 | 16 | 217.57 |
| 2023-07-03 | 0 | 0 | 0 | 0 | 7.9 | NA | 1240 | 50 | 3671 | 7.5 | NA | 160 | 10 | 1354 |
| 2023-06-26 | 0 | 0 | 0 | 0 | 8.4 | NA | 1417.7 | 140 | 4882 | 7.9 | NA | 360.4 | 10 | 1128 |
| 2023-06-19 | 0 | 0 | 0 | 0 | 6.8 | NA | 2576 | 58 | 3942 | 7.9 | NA | 192 | 6 | 902 |
| 2023-06-12 | 0 | 0 | 0 | 0 | 8.5 | | 1832 | 438 | 7728 | 7.7 | | 156 | 8 | 1040 |
| 2023-06-05 | 0 | 0 | 0 | 0 | 7.6 | | 1592 | 114 | 8093 | 6.9 | | 172 | 6 | 2302 |
| Average | 0 | 0 | 0 | 0 | 7.85 | 444.38 | 1794.76 | 189.19 | 4930.35 | 7.57 | 31.79 | 194.38 | 17 | 1536.98 |

Ichalkaranji Textile Development Cluster Ltd. (12 MLD)

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area, if any (MLD) | Status of online CEQMS | Status of hazardous waste storage/ disposal (mt/m) | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|---|------------------------|--|------------------------|--------|---------|-------|---------|-------------------------|-------|--------|------|---------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2023-12-11 | 0 | 0 | 0 | 0 | 6.1 | 610.0 | 1800.0 | 78.0 | 3428.0 | 8.6 | 32.0 | 130.0 | 41.0 | 2694.0 |
| 2023-12-04 | 0 | 0 | 0 | 0 | 6.0 | 424.0 | 1224.0 | 20.0 | 2613.0 | 8.3 | 31.0 | 154.0 | 14.0 | 2500.0 |
| 2023-11-06 | 0 | 0 | 0 | 0 | 7.3 | 620.0 | 1984.0 | 96.0 | 3314.0 | 8.9 | 28.0 | 118.0 | 25.0 | 2678.0 |
| 2023-10-30 | 0 | 0 | 0 | 0 | 6.1 | 380.0 | 1512.0 | 40.0 | 2714.0 | 8.5 | 25.0 | 124.0 | 20.0 | 2020.0 |
| 2023-10-25 | 0 | 0 | 0 | 0 | 7.1 | 428.0 | 1232.0 | 62.0 | 4204 | 8.5 | 98.0 | 266.0 | 28.0 | 4562.0 |
| 2023-10-16 | 0 | 0 | 0 | 0 | 6.2 | 796.0 | 2112.0 | 50.0 | 3812.0 | 8.7 | 21.2 | 123.6 | 84.0 | 4363.0 |
| 2023-10-09 | 0 | 0 | 0 | 0 | 6.9 | 518.0 | 1684.0 | 88.0 | 3682.0 | 8.4 | 27.8 | 118.0 | 32.0 | 3286.0 |
| 2023-10-03 | 0 | 0 | 0 | 0 | 6.7 | 520.0 | 1704.0 | 99.0 | 4416.0 | 8.3 | 28.5 | 117.6 | 23.0 | 3992.0 |
| 2023-09-25 | 0 | 0 | 0 | 0 | 7.0 | 218.0 | 804.0 | 62.0 | 2611.0 | 8.3 | 28.0 | 114.0 | 21.0 | 2170.0 |
| 2023-09-20 | 0 | 0 | 0 | 0 | 8.5 | 418.0 | 1920.0 | 82.0 | 3450.0 | 8.5 | 30.5 | 140.0 | 23.0 | 2845.0 |
| 2023-09-11 | 0 | 0 | 0 | 0 | 6.4 | 940.0 | 1400.0 | 54.0 | 3840.0 | 8.6 | 36.0 | 140.0 | 71.0 | 2937.0 |
| 2023-09-04 | 0 | 0 | 0 | 0 | 6.3 | 760.0 | 2296.0 | 122.0 | 3937.0 | 8.4 | 30.0 | 130.0 | 95.0 | 2860.0 |
| 2023-08-28 | 0 | 0 | 0 | 0 | 5.7 | 1390.0 | 2880.0 | 90.0 | 3603.0 | 8.4 | 26.0 | 120.0 | 82.0 | 2871.0 |
| 2023-08-21 | 0 | 0 | 0 | 0 | 6.4 | 330.0 | 896.0 | 61.0 | 2800.0 | 8.3 | 30.0 | 128.0 | 86.0 | 2180.0 |
| 2023-08-17 | 0 | 0 | 0 | 0 | 6.7 | 875.0 | 1904.0 | 77.0 | 3900.0 | 8.2 | 28.0 | 136.0 | 99.0 | 2700.0 |
| 2023-08-07 | 0 | 0 | 0 | 0 | 7.5 | 721.0 | 2160.0 | 131.0 | 2532.0 | 8.6 | 28.8 | 109.6 | 46.0 | 2010.0 |
| 2023-07-31 | 0 | 0 | 0 | 0 | 7.4 | 680.0 | 1760.0 | 12.0 | 2951.0 | 8.3 | 26.0 | 110.0 | 51.0 | 3822.0 |
| 2023-07-24 | 0 | 0 | 0 | 0 | 6.9 | 380.0 | 1134.4 | 61.0 | 4844.0 | 8.5 | 29.5 | 103.2 | 34.0 | 3719.0 |
| 2023-07-17 | 0 | 0 | 0 | 0 | 6.5 | 620.0 | 1713.6 | 85.0 | 5254.0 | 8.2 | 21.2 | 80.0 | 75.0 | 4206.0 |
| 2023-07-10 | 0 | 0 | 0 | 0 | 7.1 | 514.0 | 1640.0 | 71.0 | 5472.0 | 8.6 | 33.0 | 96.0 | 31.0 | 4114.0 |
| 2023-07-03 | 0 | 0 | 0 | 0 | 6.1 | 750.0 | 1808.0 | 70.0 | 5074.0 | 8.4 | 30.0 | 97.6 | 23.0 | 2846.0 |
| 2023-06-27 | 0 | 0 | 0 | 0 | 6.6 | 620.0 | 1776.0 | 47.0 | 4267.0 | 8.4 | 30.0 | 100.0 | 26.0 | 3873.0 |
| 2023-06-19 | 0 | 0 | 0 | 0 | 6.6 | 330.0 | 1198.4 | 68.0 | 2744.0 | 8.5 | 20.0 | 93.2 | 37.0 | 3658.0 |
| 2023-06-12 | 0 | 0 | 0 | 0 | 6.1 | 660.0 | 2968.0 | 69.0 | 4840.0 | 8.4 | 28.0 | 93.2 | 11.0 | 3907.0 |
| 2023-06-05 | 0 | 0 | 0 | 0 | 6.5 | 240.0 | 840.0 | 65.0 | 2112.0 | 8.2 | 30.0 | 100.8 | 37.0 | 3951.0 |
| Average | 0 | 0 | 0 | 0 | 6.67 | 589.68 | 1694.02 | 70.4 | 3696.56 | 8.44 | 31.06 | 121.71 | 44.6 | 3230.56 |

Kagal-Hatkanangale C.E.T.P.,

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area, if any (MLD) | Status of online CEQMS | Status of hazardous waste storage/ disposal (mt/m) | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|---|------------------------|--|------------------------|-------|--------|-------|---------|-------------------------|-------|--------|-------|---------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2023-12-18 | 0 | 0 | 0 | 0 | 8.4 | 66.0 | 152.0 | 41.0 | 3924.0 | 9.1 | 41.0 | 116.0 | 32.0 | 2856.0 |
| 2023-12-11 | 0 | 0 | 0 | 0 | 8.4 | 54.0 | 136.0 | 36.0 | 3714.0 | 8.4 | 22.0 | 68.0 | 21.0 | 2516.0 |
| 2023-12-04 | 0 | 0 | 0 | 0 | 8.3 | 48.0 | 120.0 | 22.0 | 3658.0 | 8.4 | 22.0 | 76.0 | 13.0 | 2914.0 |
| 2023-11-28 | 0 | 0 | 0 | 0 | 8.6 | 43.0 | 116.0 | 14.0 | 2228.0 | 7.8 | 26.0 | 68.0 | 12.0 | 1912.0 |
| 2023-11-20 | 0 | 0 | 0 | 0 | 9.1 | 14.0 | 42.0 | 14.0 | 3212.0 | 8.8 | 3.0 | 36.0 | 13.0 | 2335.0 |
| 2023-10-25 | 0 | 0 | 0 | 0 | 9.5 | 90.0 | 184.0 | 31.0 | 3268.0 | 9.1 | 26.0 | 92.0 | 18.0 | 1798.0 |
| 2023-10-16 | 0 | 0 | 0 | 0 | 8.2 | 26.0 | 96.0 | 12.0 | 3384.0 | 8.5 | 13.0 | 74.0 | 15.0 | 1874.0 |
| 2023-10-09 | 0 | 0 | 0 | 0 | 8.1 | 103.0 | 320.0 | 21.0 | 2064.0 | 8.3 | 82.0 | 260.0 | 44.0 | 2934.0 |
| 2023-10-03 | 0 | 0 | 0 | 0 | 8.0 | 9.0 | 72.0 | 12.0 | 2857.0 | 8.2 | 29.0 | 111.2 | 36.0 | 2494.0 |
| 2023-09-25 | 0 | 0 | 0 | 0 | 9.1 | 120.0 | 384.0 | 52.0 | 3607.0 | 9.2 | 102.0 | 272.0 | 27.0 | 1391.0 |
| 2023-09-20 | 0 | 0 | 0 | 0 | 8.3 | 180.0 | 420.0 | 78.0 | 2667.0 | 7.9 | 89.0 | 272.0 | 33.0 | 2665.0 |
| 2023-09-11 | 0 | 0 | 0 | 0 | 8.6 | 110.0 | 240.0 | 36.0 | 3077.0 | 8.8 | 85.0 | 200.0 | 20.0 | 2209.0 |
| 2023-09-04 | 0 | 0 | 0 | 0 | 8.2 | 106.0 | 300.0 | 71.0 | 2947.0 | 8.4 | 52.0 | 154.0 | 37.0 | 2957.0 |
| 2023-08-28 | 0 | 0 | 0 | 0 | 8.8 | 44.0 | 120.0 | 26.0 | 3550.0 | 8.3 | 52.0 | 152.0 | 36.0 | 2200.0 |
| 2023-08-17 | 0 | 0 | 0 | 0 | 7.8 | 86.0 | 210.0 | 39.0 | 2506.0 | 7.8 | 52.0 | 126.0 | 30.0 | 2150.0 |
| 2023-08-07 | 0 | 0 | 0 | 0 | 8.2 | 150.0 | 360.0 | 53.0 | 3136.0 | 8.6 | 55.0 | 172.0 | 32.0 | 2318.0 |
| 2023-07-24 | 0 | 0 | 0 | 0 | 8.2 | 48.0 | 170.0 | 17.0 | 3455.0 | 8.5 | 26.0 | 88.0 | 28.0 | 1789.0 |
| 2023-07-17 | 0 | 0 | 0 | 0 | 7.6 | 63.0 | 180.0 | 63.0 | 2106.0 | 8.3 | 29.0 | 78.0 | 23.0 | 1310.0 |
| 2023-07-10 | 0 | 0 | 0 | 0 | 8.5 | 42.8 | 138.0 | 13.0 | 2998.0 | 8.5 | 22.0 | 52.0 | 13.0 | 2259.0 |
| 2023-06-27 | 0 | 0 | 0 | 0 | 8.2 | 78.0 | 214.4 | 32.0 | 2024.0 | 8.0 | 28.0 | 124.0 | 29.0 | 2161.0 |
| 2023-06-19 | 0 | 0 | 0 | 0 | 8.3 | 30.0 | 95.2 | 30.0 | 2145.0 | 8.2 | 48.0 | 152.0 | 37.0 | 3402.0 |
| 2023-06-12 | 0 | 0 | 0 | 0 | 8.2 | 58.0 | 176.0 | 52.0 | 2502.0 | 8.4 | 30.0 | 108.0 | 12.0 | 3660.0 |
| 2023-06-05 | | | | | 7.8 | 6.0 | 28.8 | 37.0 | | 8.2 | 28.0 | 100.4 | 64.0 | |
| Average | 0 | 0 | 0 | 0 | 8.37 | 68.47 | 185.84 | 34.87 | 2955.86 | 8.42 | 41.83 | 128.33 | 27.17 | 2368.36 |

Ranjangaon CETP

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area, | Status of online CEQMS | Status of hazardous waste storage/ | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|--|------------------------|------------------------------------|------------------------|-------|--------|-----|---------|-------------------------|-------|--------|-------|---------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2024-01-24 | 0 | 0 | 0 | 0 | 7.73 | 52 | 136 | 44 | 4206 | 7.44 | 64 | 160 | 40 | 5286 |
| 2024-01-15 | 0 | 0 | 0 | 0 | 7.86 | 68 | 172 | 57 | 4822 | 7.83 | 56 | 156 | 43 | 6432 |
| 2024-01-12 | 0 | 0 | 0 | 0 | 7.66 | 60 | 148 | 53 | 4885 | 7.59 | 47 | 132 | 41 | 6664 |
| 2024-01-02 | 0 | 0 | 0 | 0 | 8.03 | 75 | 180 | 46 | 2402 | 7.75 | 55 | 140 | 32 | 4872 |
| 2023-12-26 | 0 | 0 | 0 | 0 | 7.69 | 44 | 132 | 50 | 6512 | 7.52 | 52 | 152 | 68 | 4504 |
| 2023-12-18 | 0 | 0 | 0 | 0 | 7.92 | 66 | 176 | 79 | 4252 | 7.58 | 60 | 160 | 75 | 4808 |
| 2023-12-11 | 0 | 0 | 0 | 0 | 7.74 | 39 | 96 | 26 | 3906 | 7.28 | 35 | 84 | 18 | 5604 |
| 2023-12-05 | 0 | 0 | 0 | 0 | 7.85 | 30 | 80 | 38 | 4112 | 7.65 | 28 | 76 | 33 | 3006 |
| 2023-11-28 | 0 | 0 | 0 | 0 | 7.74 | 62 | 160 | 49 | 4002 | 7.84 | 50 | 136 | 38 | 2814 |
| 2023-11-20 | 0 | 0 | 0 | 0 | 7.66 | 66 | 144 | 53 | 3892 | 7.57 | 70 | 148 | 46 | 2896 |
| 2023-11-13 | 0 | 0 | 0 | 0 | 8.35 | 110 | 288 | 103 | 3894 | 7.75 | 95 | 240 | 77 | 3404 |
| 2023-11-06 | 0 | 0 | 0 | 0 | 7.73 | 56 | 148 | 72 | 3458 | 7.75 | 60 | 144 | 63 | 2306 |
| 2023-10-30 | 0 | 0 | 0 | 0 | 7.89 | 60 | 156 | 55 | 4072 | 7.88 | 65 | 164 | 46 | 3916 |
| 2023-10-23 | 0 | 0 | 0 | 0 | 7.82 | 135 | 320 | 162 | 5714 | 7.60 | 120 | 280 | 108 | 5004 |
| 2023-10-16 | 0 | 0 | 0 | 0 | 7.60 | 62.5 | 156 | 64 | 4208 | 7.47 | 67.5 | 160 | 80 | 2632 |
| 2023-10-09 | 0 | 0 | 0 | 0 | 7.76 | 85 | 216 | 87 | 1998 | 7.62 | 70 | 196 | 71 | 1765 |
| 2023-10-04 | 0 | 0 | 0 | 0 | 7.54 | 48 | 140 | 45 | 2456 | 7.80 | 20 | 124 | 32 | 2144 |
| 2023-09-25 | 0 | 0 | 0 | 0 | 7.57 | 135 | 316 | 140 | 4402 | 7.35 | 80 | 220 | 107 | 3812 |
| 2023-09-18 | 0 | 0 | 0 | 0 | 7.57 | 95 | 240 | 80 | 3506 | 7.39 | 80 | 228 | 67 | 3842 |
| 2023-09-12 | 0 | 0 | 0 | 0 | 7.89 | 115 | 292 | 133 | 6182 | 7.85 | 105 | 256 | 82 | 5126 |
| 2023-09-04 | 0 | 0 | 0 | 0 | 7.67 | 60 | 164 | 69 | 5156 | 7.63 | 50 | 136 | 53 | 4806 |
| 2023-08-28 | 0 | 0 | 0 | 0 | 7.24 | 135 | 364 | 158 | 4004 | 7.33 | 120 | 292 | 111 | 5204 |
| 2023-08-21 | 0 | 0 | 0 | 0 | 7.85 | 135 | 328 | 109 | 5846 | 7.69 | 70 | 180 | 72 | 3658 |
| 2023-08-14 | 0 | 0 | 0 | 0 | 7.57 | 42 | 124 | 45 | 4252 | 7.71 | 26 | 76 | 40 | 3416 |
| 2023-08-08 | 0 | 0 | 0 | 0 | 7.68 | 130 | 364 | 118 | 2206 | 8.18 | 110 | 268 | 87 | 2194 |
| 2023-07-31 | 0 | 0 | 0 | 0 | 8.03 | 130 | 336 | 112 | 4309 | 8.20 | 95 | 244 | 70 | 4035 |
| 2023-07-24 | 0 | 0 | 0 | 0 | 8.02 | 110 | 288 | 116 | 6378 | 7.93 | 105 | 256 | 54 | 3774 |
| 2023-07-17 | 0 | 0 | 0 | 0 | 7.82 | 125 | 316 | 129 | 2402 | 8.05 | 105 | 268 | 59 | 2286 |
| 2023-07-10 | 0 | 0 | 0 | 0 | 7.78 | 130 | 304 | 109 | 3892 | 8.17 | 105 | 256 | 89 | 4452 |
| 2023-07-03 | 0 | 0 | 0 | 0 | 7.66 | 130 | 356 | 103 | 3816 | 7.82 | 105 | 264 | 79 | 3102 |
| Average | 0 | 0 | 0 | 0 | 7.77 | 96.93 | 250.12 | 90 | 4237.15 | 7.73 | 75.22 | 195.65 | 64.29 | 4032.48 |

Tarapur Environment Protection Society CETP, Phase II, Dist. Thane

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area,) | Status of online CEQMS | Status of hazardous waste storage/ disposal (mt/m) | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|---|------------------------|--|------------------------|--------|---------|-------|---------|-------------------------|-------|-------|-------|--------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2024-01-17 | 0 | 0 | 0 | 0 | 7.6 | 525 | 1432 | 78 | 4802 | 7.1 | 110 | 304 | 29 | 4354 |
| 2024-01-10 | 0 | 0 | 0 | 0 | 7.4 | 650 | 1832 | 84 | 5324 | 7.3 | 105 | 264 | 31 | 4394 |
| 2024-01-04 | 0 | 0 | 0 | 0 | 7.6 | 575 | 1472 | 94 | 4272 | 7.5 | 70 | 176 | 14 | 4562 |
| 2023-12-28 | 0 | 0 | 0 | 0 | 7.7 | 575 | 1600 | 90 | 7002 | 7.4 | 70 | 188 | 14 | 4454 |
| 2023-12-20 | 0 | 0 | 0 | 0 | 6.5 | 500 | 1392 | 160 | 5234 | 7.1 | 90 | 236 | 47 | 4660 |
| 2023-12-15 | 0 | 0 | 0 | 0 | 7.3 | 500 | 1136 | 62 | 5692 | 7.1 | 90 | 232 | 12 | 4302 |
| 2023-12-07 | 0 | 0 | 0 | 0 | 7.3 | 1000 | 2848 | 226 | 10054 | 6.7 | 90 | 244 | 18 | 4400 |
| 2023-11-28 | 0 | 0 | 0 | 0 | 8.8 | 400 | 1136 | 322 | 5256 | 7 | 90 | 236 | 65 | 4798 |
| 2023-11-24 | 0 | 0 | 0 | 0 | 7.9 | 450 | 1216 | 216 | 5842 | 7.2 | 80 | 224 | 34 | 4518 |
| 2023-11-06 | 0 | 0 | 0 | 0 | 7.3 | 650 | 1408 | 194 | 4654 | 6.8 | 80 | 204 | 50 | 4294 |
| 2023-10-30 | 0 | 0 | 0 | 0 | 9 | 600 | 1688 | 174 | 6554 | 7 | 130 | 332 | 20 | 3540 |
| 2023-10-23 | 0 | 0 | 0 | 0 | 7.6 | 800 | 1552 | 468 | 5292 | 6.9 | 90 | 252 | 52 | 3886 |
| 2023-10-17 | 0 | 0 | 0 | 0 | 6.6 | 320 | 920 | 165 | 5154 | 7.4 | 110 | 260 | 40 | 3692 |
| 2023-10-12 | 0 | 0 | 0 | 0 | 6.8 | 450 | 1088 | 168 | 3808 | 7.2 | 80 | 220 | 63 | 3694 |
| 2023-10-05 | 0 | 0 | 0 | 0 | 7.1 | 600 | 1320 | 264 | 400 | 7.4 | 160 | 420 | 150 | 3774 |
| 2023-09-25 | 0 | 0 | 0 | 0 | 7.1 | 400 | 1104 | 33 | 2478 | 7.4 | 110 | 288 | 35 | 2968 |
| 2023-09-11 | 0 | 0 | 0 | 0 | 7.8 | 320 | 900 | 112 | 3998 | 7.5 | 70 | 180 | 13 | 3098 |
| 2023-09-04 | 0 | 0 | 0 | 0 | 7.4 | 340 | 944 | 172 | 2484 | 7.4 | 90 | 232 | 41 | 3394 |
| 2023-08-21 | 0 | 0 | 0 | 0 | 7.4 | 450 | 1256 | 240 | 4140 | 7.7 | 110 | 296 | 90 | 3796 |
| 2023-08-14 | 0 | 0 | 0 | 0 | 7.7 | 750 | 1280 | 305 | 3994 | 7.7 | 70 | 188 | 60 | 3696 |
| 2023-08-07 | 0 | 0 | 0 | 0 | 8.3 | 470 | 1352 | 153 | 5940 | 8.5 | 80 | 208 | 44 | 3898 |
| 2023-07-31 | 0 | 0 | 0 | 0 | 7.8 | 210 | 580 | 177 | 2932 | 7.7 | 110 | 272 | 50 | 2260 |
| 2023-07-24 | 0 | 0 | 0 | 0 | 7.6 | 180 | 504 | 71 | 442 | 7.9 | 24 | 64 | 27 | 1640 |
| 2023-07-17 | 0 | 0 | 0 | 0 | 7.4 | 297.6 | 844 | 116 | 3042 | 7.4 | 59.5 | 164 | 60 | 2682 |
| 2023-07-10 | 0 | 0 | 0 | 0 | 7.4 | 260 | 732 | 61 | 2664 | 7.4 | 70 | 184 | 68 | 3276 |
| 2023-07-03 | 0 | 0 | 0 | 0 | 6.9 | 168.6 | 472 | 99 | 2694 | 7.2 | 54.6 | 148 | 23 | 2100 |
| 2023-06-26 | 0 | 0 | 0 | 0 | 7.3 | 307.5 | 640 | 140 | 2216 | 7.6 | 109.1 | 260 | 70 | 3250 |
| 2023-06-19 | 0 | 0 | 0 | 0 | 7.2 | 500 | 1216 | 138 | 4100 | 7.3 | 75 | 180 | 46 | 3894 |
| 2023-06-13 | 0 | 0 | 0 | 0 | 8.4 | 850 | 2384 | 70 | 8056 | 7.4 | 320 | 904 | 31 | 4372 |
| Average | 0 | 0 | 0 | 0 | 7.52 | 491.62 | 1268.13 | 160.4 | 4452.67 | 7.35 | 97.91 | 257.8 | 45.13 | 3740.2 |

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
 Fax: 24023516
 Website: <http://mpcb.gov.in>
 Email: cac-cell@mpcb.gov.in



Kalpataru Point, 2nd and
 4th floor, Opp. Cine Planet
 Cinema, Near Sion Circle,
 Sion (E), Mumbai-400022

RED/L.S.I (R14)
 No:- Format1.0/CC/UAN
 No.0000127535/CR/2207001646

Date: 30/07/2022

To,
 M/s RIA CETP Co. Op. Society Ltd.
 Plot No. 6,9 & 11,MIDC DHATAV
 ROHA,Dist Raigad



Your Service is Our Duty

Sub: Renewal of Consent to Operate for 22.5 MLD capacity Common Effluent Treatment Plant under Red Category

Ref: 1. Consent to Operate granted vide No BO/JD(WPC)/UAN No 0000014897/O/R/CC-180300032 dtd 01.03.2018
 2. Minutes of 1st Consent Committee meeting held on 08.04.2022.

Your application No.MPCB-CONSENT-0000127535 Dated 15.12.2021

For: grant of Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

- The Renewal of consent to Operate is granted for period from 31.12.2021 to 31.12.2026**
- The capital investment of the project is Rs.51.15 Crs. (As per C.A Certificate submitted by industry Existing CI is 32.80 Rs. Crs + Expansion/Increase in C.I. 18.35 Rs. Crs)**
- Consent is valid for:**

| Sr No | Treatment Facility | Maximum Quantity | UOM |
|-------|--|------------------|-----|
| 1 | Common Effluent Treatment Plant - The daily quantity of industrial effluent to be treated shall not exceed | 22.5 | MLD |

- Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

| Sr No | Description | Permitted (in CMD) | Standards to | Disposal Path |
|-------|----------------|--------------------|-------------------|--|
| 1. | Trade effluent | 22500 | As per Schedule-I | Into saline zone specified by National Institute of Oceanography through Closed Pipeline |

| Sr No | Description | Permitted | Standards to | Disposal |
|-------|-------------------|-----------|-------------------|--|
| 2. | Domestic effluent | 5 | As per Schedule-I | Into saline zone specified by National Institute of Oceanography through Closed Popeline |

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

| Sr No. | Stack No. | Description of stack / source | Number of Stack | Standards to be achieved |
|--------|-----------|-------------------------------|-----------------|--------------------------|
| 1 | S1 | DG Set-750 kVA | 01 | As per Schedule -II |

6. **Non-Hazardous Wastes:**

| Sr No | Type of Waste | Quantity | UoM | Treatment | Disposal |
|-------|---------------|----------|-----|-----------|----------|
| NA | | | | | |

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for treatment and disposal of hazardous waste:**

| Sr No | Category No./ Type | Quantity | UoM | Treatment | Disposal |
|-------|---|----------|--------|--------------------------|----------|
| 1 | 35.3 Chemical sludge from waste water treatment | 29 | MT/Day | Landfill after treatment | CHWTSDF |

8. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
9. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
10. Industry shall install online continuous monitoring system as per CPCB guidelines & data to be transmitted directly from Data Logger to Board server .
11. The CETP shall comply with the Board Circular issued vide No MPCB/JD/(WPC)/B:201113-FTS-0056 dtd 13.11.2020 for implementation of Colour as a parameter as per MoEF & CC GSR 325-E dtd 07.05.2014 & GSR No 978 dtd 10.10.2016
12. The CETP shall comply with the Directions issued by the Board vide No MPCB/JD(WPC)/Dir-B-210127-FTS-0179 dtd 27.01.2021
13. The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the consent. (Operate/Renewal)



Ashok Shingare

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Signed by: **Ashok Shingare**
Member Secretary
For and on behalf of,
Maharashtra Pollution Control Board
ms@mpcb.gov.in
2022-07-30 12:23:48 IST

Received Consent fee of -

| Sr.No | Amount(Rs.) | Transaction/DR.No. | Date | Transaction Type |
|-------|-------------|--------------------|------------|------------------|
| 1 | 500000.00 | MPCB-DR-9379 | 21/12/2021 | NEFT |
| 2 | 50000.00 | MPCB-DR-12757 | 24/06/2022 | RTGS |



Copy to:

1. Regional Officer, MPCB, Raigad and Sub-Regional Officer, MPCB, Raigad II
 - They are directed to ensure the compliance of the consent conditions.
 - They are directed to forfeit the bank guarantee of Rs. 10 Lakhs & obtain top up BG of Rs. 20 lakhs from the industry
2. Chief Accounts Officer, MPCB, Sion, Mumbai



SCHEDULE-I**Terms & conditions for compliance of Water Pollution Control:**

1. A] As per your application, you have provided Common Effluent Treatment Plant (CETP) with the design capacity of 22.5 MLD.
- B] The Consent is valid for collection, storage and treatment of Industrial and Domestic Effluent conforming to the inlet standards specified here under:-

| Sr.No | Parameters | Limiting concentration not to exceed in mg/l, except for pH |
|--------------|--------------------------------|--|
| (1) | pH | 5.5 to 9.0 |
| (2) | Temperature | 45 C |
| (3) | Oil & Grease | 20 |
| (4) | Phenolic Compounds | 5.0 |
| (5) | Ammonical Nitrogen (as N) | 50 |
| (6) | Cyanide (as CN) | 2.0 |
| (7) | Hexavalent Chromium (as Cr+6) | 2.0 |
| (8) | Total Chromium (as Cr) | 2.0 |
| (9) | Copper (as Cu) | 3.0 |
| (10) | Lead (as Pb) | 1.0 |
| (11) | Nickel (as Ni) | 3.0 |
| (12) | Zinc (as Zn) | 15 |
| (13) | Arsenic (as As) | 0.2 |
| (14) | Mercury (as Hg) | 0.01 |
| (15) | Cadmium | 1.0 |
| (16) | Selenium (as Se) | 0.05 |
| (17) | Fluoride (as F) | 15 |
| (18) | Boron (as B) | 2.0 |
| (19) | Colour | 150 Platinum Cobalt Unit |

In case of SSI Unit, BOD of Maximum of 1000 mg/l and COD of maximum 2500 mg/l will be allowed to inlet of CETP. All other specific parameters including colour shall be complied before disposal to CETP. In case of other, primary and secondary treatment is required to meet consented standards before disposal to CETP.

Note:

- i) All Large & Medium Scale Units irrespective of the quantity of effluent will have to achieve the standards as prescribed in the letter of Consent issued to them individually under the Water (P & CP) Act 1974, Air (P & CP) Act 1981, Hazardous Waste (M&H) Amendment thereto before discharging the effluent into CETP
- C] Treatment and disposal for combined Industrial and Domestic effluent. Treatment: The CETP authority shall provide comprehensive treatment system consisting of primary / secondary and/or tertiary treatment as is warranted with reference to influent quality for strong stream and weak stream and operate and maintain the same continuously so as to achieve the quality of the treated effluent to the following standards:

| Sr.No | Parameters | Standards (mg/l) |
|--------------|-------------------------------|---|
| 1 | pH | 6.0 to 9.0 |
| 2 | BOD 3 Days 27 Deg.C | 100 |
| 3 | COD | 250 |
| 4 | Suspended Solids | 100 |
| 5 | Fixed Dissolved Solids | Not Specified |
| 6 | Temperature | Shall not exceed more than 50 C above ambient water temperature |
| 7 | Oil & Grease | 10 |
| 8 | Ammonical Nitrogen (as N) | 50 |
| 9 | T.K.N | 50 |
| 10 | Nitrate Nitrogen | 50 |
| 11 | Phosphate as P | Not Specified |
| 12 | Chlorides | Not Specified |
| 13 | Sulphate (as SO4) | Not Specified |
| 14 | Fluoride (as F) | 15 |
| 15 | Sulphide (as S) | 5 |
| 16 | Phenolic Compound (as C6H5OH) | 5 |
| 17 | Total Residue Chlorine | 1 |
| 18 | Zinc (as Zn) | 15 |
| 19 | Iron | 3 |
| 20 | Copper (as Cu) | 3 |
| 21 | Trivalent Chromium | 2 |
| 22 | Manganese | 2 |
| 23 | Nickel | 3 |
| 24 | Arsenic (as As) | 0.2 |
| 25 | Cyanide (as CN) | 0.2 |
| 26 | Vanadium | 0.2 |
| 27 | Lead (as Pb) | 0.1 |
| 28 | Hexavalent Chromium | 0.1 |
| 29 | Selenium (as Se) | 0.05 |
| 30 | Cadmium (as Cd) | 0.05 |
| 31 | Mercury (as Hg) | 0.01 |
| 32 | Pesticides | Absent |
| 33 | Bio Assay Test | 90 % survival of fish after 96 hrs in 100 % effluent |
| 34 | Colour | 150 Platinum Cobalt Unit |

| <i>Sr.No</i> | <i>Parameters</i> | <i>Standards (mg/l)</i> |
|--------------|-------------------|-------------------------|
|--------------|-------------------|-------------------------|

Note:-

- i. All efforts should be made to remove colour and unpleasant odour as per as possible.
 - ii. If the CETP is not able to achieve the outlet parameters, then all the members and the said Society would be individually and jointly responsible and liable for legal actions under the provisions of sections 47 of the Water (Prevention & Control of Pollution) Act, 1974.
- D] Disposal: The treated effluent shall be connected to sewerage system (Closed Pipeline) and finally discharged into Marine coastal area, at a point designated by National Institute of Oceanography.
2. A] As per your consent application, you have provided septic tank for the Domestic effluent.
 - B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

| <i>Sr.No</i> | <i>Parameters</i> | <i>Standards (mg/l)</i> |
|--------------|-------------------|-------------------------|
| 1 | Suspended Solids | Not to exceed 50 |
| 2 | BOD 3 days 27°C | Not to exceed 30 |
| 3 | COD | Not to exceed 100 |

- C] The treated sewage shall be connected to sewerage system (Closed Pipeline) and finally discharged into Marine coastal area, at a point designated by National Institute of Oceanography.
3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
 4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
 5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

| <i>Sr. No.</i> | <i>Purpose for water consumed</i> | <i>Water consumption quantity (CMD)</i> |
|----------------|--|---|
| 1. | Industrial Cooling, spraying in mine pits or boiler feed | 0.00 |
| 2. | Domestic purpose | 7.00 |
| 3. | Processing whereby water gets polluted & pollutants are easily biodegradable | 120.00 |
| 4. | Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic | 0.00 |

| Sr. No. | Purpose for water consumed | Water consumption quantity (CMD) |
|----------------|-----------------------------------|---|
| 5. | Gardening | 0 |

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.

SCHEDULE-II

Terms & conditions for compliance of Air Pollution Control:

1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

| Stack No. | Source | APC System provided/proposed | Stack Height(in mtr) | Type of Fuel | Sulphur Content(in %) | Pollutant | Standard |
|------------------|----------------|-------------------------------------|-----------------------------|---------------------|------------------------------|------------------|-----------------|
| S1 | DG Set-750 kVA | Acoustic Enclosure | 6.00 | DIESEL 100 Ltr/Hr | 1 | SO2 | 48 Kg/Day |

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

SCHEDULE-III

Details of Bank Guarantees:

| Sr. No | Consent (C2E/ C2O /C2R) | Amt of BG Imposed | Submission Period | Purpose of BG | Compliance Period | Validity Date |
|---------------|--------------------------------|--------------------------|--------------------------|-----------------------------------|--------------------------|----------------------|
| 1 | C to R | Rs 20 Lakhs | 15 Days | Operation and maintenance of CETP | Continuous | 30.04.2027 |

BG Forfeiture History

| Srno. | Consent (C2E/C2O/C2R) | Amount of BG imposed | Submission Period | Purpose of BG | Amount of BG Forfeiture | Reason of BG Forfeiture |
|--------------|------------------------------|-----------------------------|--------------------------|-----------------------------------|--------------------------------|--------------------------------|
| 1 | C to R | Rs 10 Lakhs | 15 Days | Operation and maintenance of CETP | Rs 10 Lakhs | Exceeding JVS Standards |

BG Return details

| Srno. | Consent (C2E/C2O/C2R) | BG imposed | Purpose of BG | Amount of BG Returned |
|--------------|------------------------------|-------------------|----------------------|------------------------------|
| NA | | | | |

SCHEDULE-IV
General Conditions:

1. The Energy source for lighting purpose shall preferably be LED based
2. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
3. Conditions for D.G. Set
 - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
 - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
 - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
 - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
 - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
 - f) D.G. Set shall be operated only in case of power failure.
 - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
 - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
4. The applicant shall maintain good housekeeping.
5. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
6. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
7. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
8. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can be downloaded from MPCB official site).
9. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
10. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.

11. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
12. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
13. The PP shall provide personal protection equipment as per norms of Factory Act 1948
14. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
15. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
16. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
17. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
18. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
19. Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
20. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
21. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
22. The industry should not cause any nuisance in surrounding area.
23. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
24. The industry shall create the Environmental Cell by appointing an Environmental Engineer, Chemist and Agriculture expert for looking after day to day activities related to Environment and irrigation field where treated effluent is used for irrigation.

25. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
26. The industry should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
27. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
28. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
29. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
30. The firm shall submit to this office, the 30th day of September every year, the Environment Statement Report for the financial year ending 31st March in the prescribed FORM-V as per the provisions of Rule 14 of the Environment (Protection) (second Amendment) Rules, 1992.
31. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
32. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
33. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.

This certificate is digitally & electronically signed.

Sub:- Minutes of the 3rd Joint progress review meeting on 22nd October 2021

amongst MIDC, M/s Krystal Aquachem JV for Addl Ambernath CETP, M/s SMS Ltd for Addl Butibori CETP and M/s Hydro Air Tectonics Ltd for Roha CETP, M/s KDC Aquachem JV for Talaja CETP and CH2M/Jacobs officials regarding Progress review of the Addl.Ambernath, Addl.Butibori, Roha and Talaja CETP.

Agenda - Meeting was convened as follow-up meeting to 2nd progress review meeting held on 02 Sep 2021 at MIDC HQ. The main purpose of the meeting was to review/monitor the progress and pursue hard for timely completion of all CETPs.

Attendees -

MIDC -

- Shri S R Wagh -CE(HQ) & DyCEO (Env)
- Shri S B Patil -OSD (Env)
- Shri Nitin Wankhede - SE(K)
- Shri Awhad -EE (Addl Amb)
- Shri Ambure - DE (Addl Ambernath)
- Shri Jadhav - DE (Roha)
- Shri Bobade - DE(Talaja)
- Shri Gogate - AE(Talaja)
- Smt PreetiRele- DE(Env)

Consultants CH2M -

- Shri Umesh Bhutkar- Project coordinator
- Shri Girish Shah -Lead Process Engineer
- Ms Jagruti Mahadik- Lead Process Engineer

Contractors -

- Roha CETP - M/s R B Hydroair JV - Shri H B Singh, Shri N Kerkar, Shri Lokhande and team
- Talaja CETP - M/s KDC Aquachem JV - Shri M A Naik, Shri Vaidya
- Addl. Butibori CETP - M/s SMS -Shri Hathiwala (via webex)
- Addl Ambernath CETP - M/s Krystal Aquachem JV - Shri Pawaskar, Shri N Naik and Mr Sachin Nirvan

Meeting discussions

1. Roha CETP

- Three and half months are left for the project completion, but with the current status of the project and rate of progress, it is apprehended that project may not be completed within the stipulated project end date i.e. 31 Jan 2022. Slow progress is attributable to lack of adequate resources at site. Hence there is a need to deploy additional teams of workers and machineries at the site of work for early completion

Current status.

- Progress on design completion between first review meeting and today has been reviewed and no document pending with CH2M for want of approval.
- Approved RCC structures and its construction status was discussed and given below:

| Sr. No. | Structure name | Date of RCC design approval | Current construction status |
|---------|--|-----------------------------|--|
| 1 | Gravity Sludge Thickener 121 A | 22.02.20 | 4 th lift wall casting completed, still 1.15 m height pending including launder slab, launder wall, walkway at top, center pier casting. |
| 2 | Gravity Sludge Thickener 121 B | 22.02.20 | 2 nd lift wall casting completed, still 3.35 m height is remaining including launder slab, launder wall, walkway at top, center pier casting. |
| 3 | Anoxic Tank | 04.03.20 | 7 th lift wall casting completed, still 1.5 m height is pending including beam at top |
| 4 | Aeration Tank distribution chamber | 29.06.21 | Excavation work is in progress |
| 5 | High COD Screen Chamber, Oil & Grease separation chamber | 13.07.21 | Work yet to commence |



| Sr. No. | Structure name | Date of RCC design approval | Current construction status |
|---------|--|-----------------------------|----------------------------------|
| 6 | Low COD coarse screen chamber | 13.07.21 | Work yet to commence |
| 7 | Flash mixer distribution chamber | 14.07.21 | Work yet to commence |
| 8 | Primary sludge sump and pump house | 26.07.21 | Work yet to commence |
| 9 | Distribution chamber for thickener | 27.07.21 | Work yet to commence |
| 10 | Distribution chamber for secondary clarifier | 27.07.21 | Excavation work is in progress |
| 11 | Thickened sludge sump and filter feed pump house | 29.07.21 | Work yet to commence |
| 12 | Blower house | 11.10.21 | Design/Drgs approved in Oct 2021 |
| 13 | Low COD coarse screen chamber | 12.10.21 | Design/Drgs approved in Oct 2021 |
| 14 | Aeration Tank 1, 2 and 3 | 22.10.21 | Design/Drgs approved in Oct 2021 |
| 15 | MCC Room no. 3 | 22.10.21 | Design/Drgs approved in Oct 2021 |

- RBIPPL has submitted RCC design of certain structures in M40 grade, it has been instructed to submit the mix design for M40 immediately to CH2M for approval. RBIPPL agreed for the same. Contractor had agreed that he will use/pour grade of concrete (M30 /M45) as used in the RCC/structural design
- Treated effluent pumping station, the suction line of the pump is decided to be increased to enhance the pumping capacity. The work to be completed within 08 days positively to overcome flooding in the CETP premises which is affecting progress of work as reported by Hydroair.
- Tri-partite agreement: MIDC informed that, work on draft tri-partite agreement is in process of approval and it will be provided for implementation as soon as possible.
- Contractor confirmed that as a follow-up action to meeting at Mantralaya held on 24 Aug 2021 - Jar test is conducted to try the alternate chemical (FeSo4)



for dosing purpose. However, results are not encouraging as the said chemical involves high usage and also generated high sludge volumes.

- Influent quality. Mr. Singh informed that, influent TDS is very high and shall be controlled for efficient plant performance. MIDC agreed for the same and informed that, industries responsible for high TDS shall be identified and MPCB wise be requested for suitable action.

2. Talola CETP

- Trial run and full-fledged commissioning was pending since long due to several constraints faced at site and same were discussed in detail during 2nd progress review meeting
- Tender specifies for 2 nos 15 days trial run but 3 days trial run was conducted in Aug 2021 to ascertain continuous plant performance and compliances and detail report had been submitted by CH2M to MIDC. Now further plant trials can be conducted progressively alongwith Plant's operation and maintenance period.
- Contractor to submit effluent test results and its analyses (post 3 days trial – 16 to 19 Aug 2021) based on site laboratory testing, online monitoring testing and third-party laboratory testing to ascertain whether plant is successful in 2 cycles 15 days trial run tests as per tender requirement.
- Also, contractor assured to upkeep the existing 500 KVA DG set (in addition to new 800 KVA DG Set) as agreed during design stage of the project to serve as standby arrangement and save plant from effluent quality deterioration

3. Addl Butibori CETP

- Shri. Bhutkar informed that, the CH2M team visited CETP site at Nagpur – Additional Butibori on 20th October 2021 and had meeting with MIDC officials and contractor where thorough review of the project was conducted. The updates from the meeting were appraised by CH2M to MIDC HQ during the meeting.
- Overall progress of the project is slow; its highly challenging to complete the project within stipulated timeline of March 2022. MIDC instructed contractor to submit the revised work programme / bar chart so as to complete the



Sub:- Minutes of the 4th Joint progress review meeting held on 16th Dec 2021 amongst MIDC, M/s Krystal Aquachem JV for Addl Ambernath CETP, M/s SMS Ltd for Addl Butibori CETP, M/s R & B Hydroair JV for Roha CETP, M/s KDC Aquachem JV for Talaja CETP and CH2M/Jacobs officials regarding Progress review of the Addl. Ambernath, Addl. Butibori, Roha and Talaja CETP.

Agenda - Meeting was convened as follow-up meeting to 3rd progress review meeting held on 22 Oct 2021 at MIDC HQ. The main purpose of the meeting was to review/monitor the progress and pursue hard for timely completion of all CETPs considering the various PILs in the Hon'ble Supreme Court/high Court/NGT and directives issued to various stakeholders there-in.

Attendees -

MIDC –

- Shri S R Tupe -CE(HQ) & DyCEO (Env)
- Shri S B Patil -OSD (Env)
- Shri Nitin Wankhede - SE(K)
- Shri Nage - SE(MMR)
- Shri Akulwar SE(N) –(vc)
- Shri Srivastav (EEN) – (vc)
- Shri S S Nanaware – EE(Alibaug)
- Shri R P Patil (EE – Domb)
- Shri Awhad -EE (Addl Amb)
- Shri Ambure - DE (Addl Ambernath) – (vc)
- Shri Jadhav – DE (Roha) – (vc)
- Shri Dhuwadhapar - DE(Butibori) – (vc)
- Smt PreetiRele- DE(Env)

Consultants CH2M –

- Shri Umesh Bhutkar- Project coordinator
- Shri Girish Shah -Lead Process Engineer (vc)
- Ms Jagruti Mahadik- Lead Process Engineer (vc)
- Mr Pranay Kumar

B. **Civil condition assessment** test carried out from 25.07.2020 to 30.10.2020 and conditional assessment report was submitted on 13.01.2021 for approval but no significant progress at site. Only Filter press Building rehabilitation work is completed by the contractor.

C. **Other related important issues discussed during meeting:-**

- Slow progress due to lack of adequate manpower at site.
- Contractor to expedite submission of balance 79 drawings /documents (mainly Instrumentation 20 nos. Electrical 26 and Mechanical 8 nos) and ensure approval of max possible documents within CH2M's contract end date i.e. 31 Dec 2021
- Contractor conveyed that these many drawings are not pending to be submitted and they will submit an updated list soon. Contractor claimed that they had completed 100 % work of Civil and Mech GA drg submission and also got approval for new units and now only few units such as staircase, pump foundation, shed etc are only pending.
- Contractor conveyed space constraints wrt construction of MLR pump houses. Feasibility at site to be re-verified by contractor, SE(K)/EE(Alibaug), MIDC and CH2M within a weeks period.
- CH2M raised concern with contractor's several submissions/revisions in the vendor list despite of multiple vendors already approved. Contractor requested that due to supply/delivery issues wrt approved vendors they wish to propose new vendors for few items like Subm pumps, Cables, some instrumentation items and Flowmeters. MIDC requested CH2M to look into the matter and resolve at the earliest
- Contractor requested approval to MCC panel designed with 3b configuration due to space constrains in providing 4b form
- MIDC to issue notice to M/s Sudarshan for immediate cleaning of sump 1 and 2 filled with sludge
- MIDC to resolve issue related to tripartite agreement. SE(K) to modify the tripartite agreement suitably as suggested by Environment section.
- Contractor once again raised the issue that influent TDS is very high and shall be controlled for efficient plant performance. MIDC agreed for the

same and informed that, industries responsible for high TDS shall be identified and it should be brought to the notice of MPCB in writing.

- Contractor raised issue of overflow caused by inadequate treated effluent pumping capacity of pumps. EE(Alibaug), MIDC assured to resolve the issue within a weeks period.
- Contractor assured to complete the rehab, upgradation work construction of new units as well by 31 Mar 2021. MIDC instructed to submit revised program and strictly ensure adherence to the same.
- Post 31 Mar 2021 CETP's dry run, trial run, commissioning and performance test will have to be carried out. A detailed Bar-chart showing all activities shall be submitted to MIDC within a weeks period.
- MIDC made it clear to the contractor that delays will be dealt in accordance with relevant compensation/penalty clauses in the contract

3. Addl Butibori CETP

Concern was raised and discussed in the meeting wrt the current status of the project and rate of progress. Project commenced in Oct 2020 is scheduled to be completed within 18 months contract duration i.e. by Mar 2022.

- CH2M team visited CETP site at Nagpur – Additional Butibori on 25th Nov 2021 and had meeting with MIDC officials and contractor where thorough review of the project was conducted. The updates from the meeting were appraised to MIDC HQ
- Overall progress of the project is very slow; its highly challenging to complete the project within stipulated timeline of March 2022. MIDC instructed contractor to submit the revised work programme / bar chart so as to complete the project, however it shall be not be considered as time line extension by MIDC.
- Recently EE(N) visited site on 10 Dec 2021 and took detail review of the project's status followed by SE(N)'s visit dt 14 Dec 2021.

RIA-CETP

CO-OPERATIVE SOCIETY LIMITED

Reg. No. RGD/RHA/GNL/1954/94 dtd 7.9.94

RIRC Bldg., Plot No. 6, M.I.D.C. Dhatav, Roha - Raigad - 402 116.

Tel. : 02194 - 263599, Fax : 264594

Email : riacetp@gmail.com

963
22/8/2217th August 2022

THE REGIONAL OFFICER, RAIGAD
 MAHARASHTRA POLLUTION CONTROL BOARD,
 Raigad Bhavan, 6th Floor,
 Sec-11, CBD Belapur,
 Navi Mumbai 400 601.

3 REC-2
 put up
 DU
 15/8/22

Sub : Your Directions under reference No. MFCB/ROR/Direction/2022/2208080004(A) dated 08th August 2022.

Dear Sir,

With reference to your above Directions issued we would like to state as under :

1. You have Directed us to submit the list of defaulting industries within 15 days who are discharging high COD and TDS effluent to CETP. In this regard we would like to inform you that the present inlet COD of CETP received from member industries is between 2100 -2000 and always below 2500. This is much below the agreed norms of inlet COD of 3000 to the CETP by the members. This has already been communicated to you. We enclose herewith results of analysis of Joint Vigilant Samples of inlet COD for your reference which validates our claim. As such, since all the member industries are within the parameters of inlet COD norms of CETP.
2. You have further directed us not to accept the effluent from member industries who are failed to comply the direction issued by the Board towards installation of two ways SCADA system, installation and effective operation of OCMS, strainer, positive discharge, one day holding tank, NRV etc. We would like to state that around 20 companies have already completed these requirements. However few are yet to complete due to some technical and financial issues and difficulties faced by them. Some members have therefore requested some more time for completion. We therefore request you to kindly allow us another 30 days so that all the members can complete these requirements.

Sir, you will agree that the members have put in lot of efforts towards improvement in treatment of their effluent and it is noteworthy from the inlet results of CETP. We therefore request you to kindly consider our request above and do the needful. We assure our commitment towards continued efforts on abatement of pollution and saving the environment.

Thanking you.

Sincerely,

For RIA-CETP CO. OP. SOC. LTD.

[Signature]
 D.G. MANDGAONKAR,
 EXECUTIVE DIRECTOR.



True copy
 by
 Adv. Tanhavi Gan...



ANNEXURE-15

Analysis Result Posted in MPCB Portal

| Date Of Monitoring | Wastewater treated in CETP (MLD) | Wastewater bypassed untreated in the area, if any (MLD) | Status of online CEQMS | Status of hazardous waste storage/ disposal (mt/m) | Inlet (mg/l except pH) | | | | | Outlet (mg/l except pH) | | | | |
|--------------------|----------------------------------|---|------------------------|--|------------------------|--------|---------|-------|-----|-------------------------|------|-------|-------|--------|
| | | | | | pH | BOD | COD | SS | TDS | pH | BOD | COD | SS | TDS |
| 2022-07-19 | 0 | 0 | 0 | 0 | 6.9 | 1800.0 | 3400.0 | 364.0 | 0 | 7.4 | 90.0 | 220.0 | 108.0 | 2653.0 |
| 2022-07-11 | 0 | 0 | 0 | 0 | 5.2 | 775.0 | 3200.0 | 256.0 | 0 | 7.1 | 64.0 | 148.0 | 28.0 | 1698.0 |
| 2022-08-29 | 0 | 0 | 0 | 0 | 7.9 | 875 | 2896 | 278 | 0 | 7.6 | 420 | 1840 | 788 | 13889 |
| 2022-08-23 | 0 | 0 | 0 | 0 | 7 | 975 | 3088 | 988 | 0 | 7.4 | 750 | 2432 | 996 | 17351 |
| 2022-08-01 | 0 | 0 | 0 | 0 | 7.7 | 2900.0 | 10720.0 | 342.0 | 0 | 7.9 | 70.0 | 344.0 | 120.0 | 2378.0 |
| 2022-09-26 | 0 | 0 | 0 | 0 | 7.5 | 875 | 2576 | 140 | 0 | 7.5 | 140 | 408 | 72 | 0 |

**REPORT OF THE JOINT COMMITTEE IN THE MATTER OF
ORIGINAL APPLICATION NO. 44 OF 2023 (WZ)**

Aryavart Foundation

Vs.

M/S. Lote Parshuram Environmental Protection Co-Op. Society Ltd. & Ors.

**IN COMPLIANCE WITH HON'BLE NGT (WZ) ORDER DATED
17.04.2023**

**REGARDING NON-COMPLIANCE OF M/S. LOTE PARSHURAM ENVIRONMENT
PROTECTION CO- OP. SOCIETY (CETP), LOTE PARSHURAM, RATNAGIRI,
MAHARASHTRA**

**FOR SUBMISSION TO
HON'BLE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE BENCH, PUNE**

AUGUST 2023

REPORT OF THE JOINT COMMITTEE IN THE MATTER OF
ORIGINAL APPLICATION NO. 44 OF 2023 (WZ)

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Vs.

M/S. Lote Parshuram Environmental Protection Co-Op. Society Ltd. & Ors.

IN COMPLIANCE WITH HON'BLE NGT (WZ) ORDER DATED 17.04.2023.
REGARDING NON-COMPLIANCE OF M/S. LOTE PARSHURAM ENVIRONMENT
PROTECTION CO- OP. SOCIETY (CETP), LOTE PARSHURAM, RATNAGIRI,
MAHARASHTRA

| Name | Department/ Organization | Signature |
|--|--|---|
| Shri. Pratik Bharne Scientist 'E' (Committee Member) | Central Pollution Control Board, Regional Directorate, Pune |  |
| Shri. Jagnath Salunkhe Regional Officer (Committee Member) | Maharashtra Pollution Control Board, Kolhapur |  |
| Shri. Sanjay Jirapure Sub-Regional Officer (Nodal Officer) | Maharashtra Pollution Control Board, Chiplun |  |

Date: 24.08.2023

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REPORT OF THE JOINT COMMITTEE IN THE MATTER OF ORIGINAL APPLICATION NO. 44 OF 2023 (WZ) (ARYAVART FOUNDATION VS. M/S. LOTE PARSHURAM ENVIRONMENTAL PROTECTION CO-OP. SOCIETY LTD. & ORS.) IN COMPLIANCE WITH HON'BLE NGT (WZ) ORDER DATED 17.04.2023.

1.0 BACKGROUND

The Original Application (OA) No. 44 of 2023 (WZ) was filed by **Aryavart Foundation**, regarding non-compliances and violation of environmental norms by CETP operated by **M/s Lote Parshuram Environment Protection Co-op. Society Ltd.** (Respondent No.1). The directions issued by the Hon'ble NGT vide Para-03 of the aforesaid order dated 17.04.2023 are reproduced below;

“03. We deem it appropriate to constitute a joint committee, consisting one member each of Central Pollution Control Board (CPCB) and Maharashtra Pollution Control Board (MPCB). MPCB shall be the nodal agency of the said Committee. The Joint Committee shall assess the environment damage caused by respondent No.1 and recommend a plan for its restoration and also shall assess adequacy of CETP to meet the standards and recommend the standard for its improvement. The report shall be submitted by the said Committee within a period of one month.”

The copy of the aforesaid order dated 17.04.2023 of the Hon'ble Tribunal is given at **Annexure-I.**

2.0 THE COMMITTEE

In compliance with the aforesaid order of the Hon'ble Tribunal, MPCB being the Nodal Agency, constituted Joint Committee vide office order dated 04.05.2023 comprising members from Central Pollution Control Board (CPCB) and Maharashtra Pollution Control Board (MPCB), as below-

- I. Shri Pratik Bharne, Scientist E, CPCB, Regional Directorate, Pune
- II. Shri Jagannath Salunkhe, Regional Officer, MPCB, Kolhapur
- III. Shri Sanjay Jirapure, Sub Regional Officer, MPCB, Chiplun (Nodal Officer)

3.0 APPROACH OF THE COMMITTEE

As per the Hon'ble NGT order dated 17.04.2023, the committee was directed to-

- I. assess the environment damage caused by CETP operated by M/s Lote Parshuram Environment Protection Co-op. Society Ltd. and recommend a plan for its restoration
- II. assess adequacy of CETP to meet the standards and recommend the standard for its improvement.

Accordingly, the Joint Committee adopted the following approach-

- Meeting with CETP operator
- Site visit and sampling at different stages of treatment of CETP on grab as well as composite basis to assess adequacy of CETP to meet with the prescribed discharge standards.
- Site visit and sampling of water & sediment at river *Sonpatra* near village *Kotwali* to which the natural drain meets which passes from MIDC area, and also transverse behind the CETP and disposal pipeline passes almost parallel to this river
- Site visit and sampling at IN SITU Treatment Project (1 MLD) Village *Kotwali* for the treatment of water flowing in the *Kotwali Nallah* (having chance of contamination due to sewage and industrial effluent mostly due to rainy season) for rejuvenation of *Vashishti* river
- Compilation of information/data from CETP, MIDC & MPCB.
- Preparation of draft report, deliberation amongst the members of the Joint Committee and finalization of the Report.

4.0 LOTE-PARSHURAM INDUSTRIAL AREA AND CETP- M/S. LOTE PARSHURAM ENVIRONMENT PROTECTION CO-OP. SOCIETY LTD.

4.1 LOTE-PARSHURAM INDUSTRIAL AREA:

Maharashtra Industrial Development Corporation (MIDC) has developed the Lote-Parshuram Industrial Area in the year 1986 admeasuring 519.40 hectares of land along Mumbai-Goa National Highway (NH No. 66). This area is located about 13 km from Chiplun in Khed Taluka, Ratnagiri district of Maharashtra in Konkan Region. This industrial area is notified for chemical

units. MIDC has provided basic infrastructure facilities such as roads, water supply scheme, effluent collection & disposal scheme and street lights in this area.

Total 601 plots are developed, out of which 504 plots are allotted. The total 110 plots are allotted to chemical industries. The industries located in this industrial area are indulged in manufacturing of organic chemicals, dyes and pigments, pharmaceuticals, pesticides and inorganic & synthetics chemicals.

Being chemical zone, considering the increasing demand of entrepreneurs, MIDC has acquired 574.18 Hect. of land about 1 Km away from existing Lote-Parshuram Industrial Area along Mumbai-Goa NH-66, as Additional Lote-Parshuram Industrial Area. The work of providing basic infrastructure to the add Lote-Parshuram Industrial Area is in progress. The geographical location and google image of Lote-Parshuram Industrial area are shown in **Image-01 and 02**.

The number of industries of different categories in Lote- Parshuram Industrial Area & Additional MIDC Level area are given in **Table-01**, as below:

TABLE-01: INDUSTRIES AT LOTE-PARSHURAM INDUSTRIAL AREA & ADDITIONAL INDUSTRIAL AREA LEVEL

| S. No. | Category of industry | LSI | MSI | SSI | Total |
|--------|----------------------|-----|-----|-----|-------|
| 1. | RED | 22 | 12 | 93 | 127 |
| 2. | ORANGE | 1 | 1 | 10 | 12 |
| 3. | GREEN | 1 | 0 | 9 | 10 |
| | Total | 24 | 13 | 112 | 149 |

*LSI- Large Scale Industry, MSI- Medium Scale Industry and SSI- Small Scale Industry.

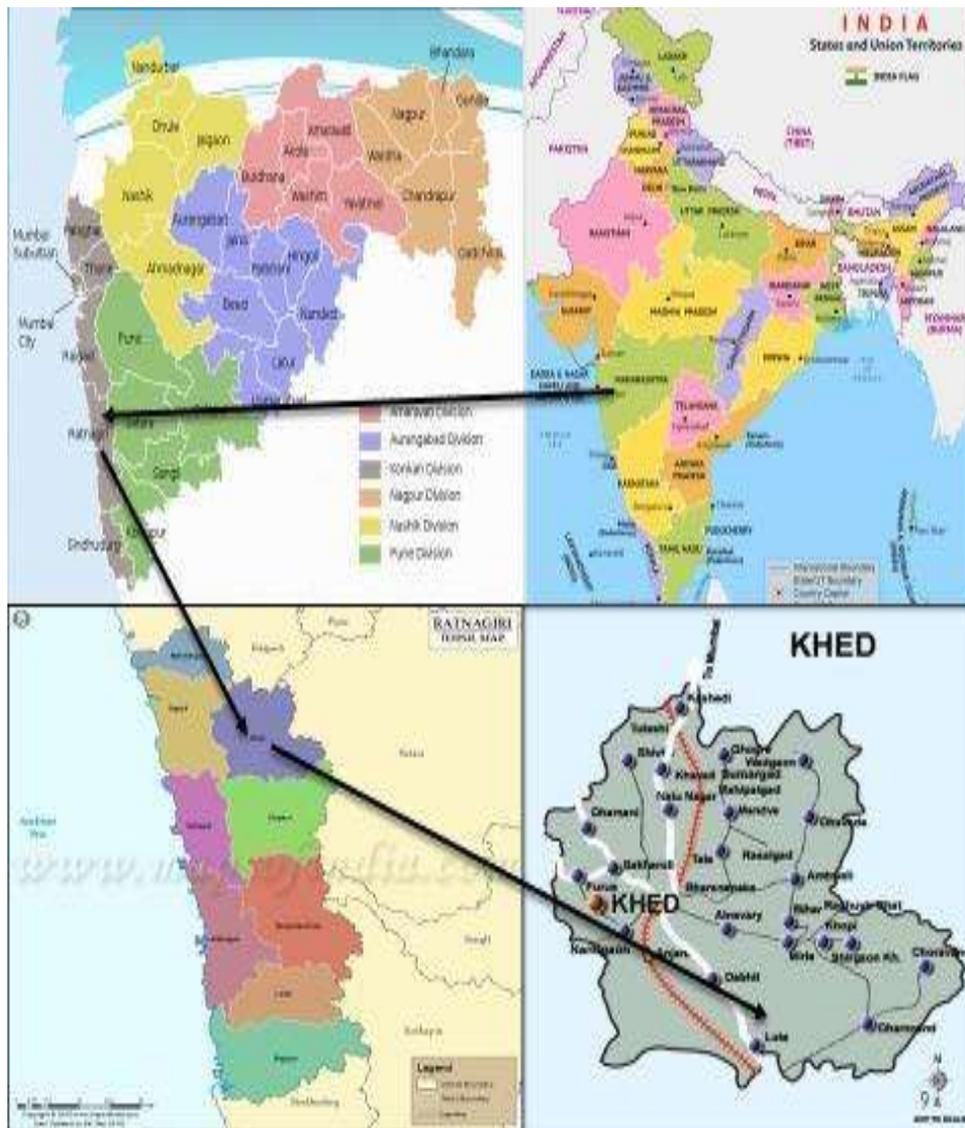


Image 01: LOCATION MAP OF LOTE-PARSHURAM, CHIPLUN AND KHED.

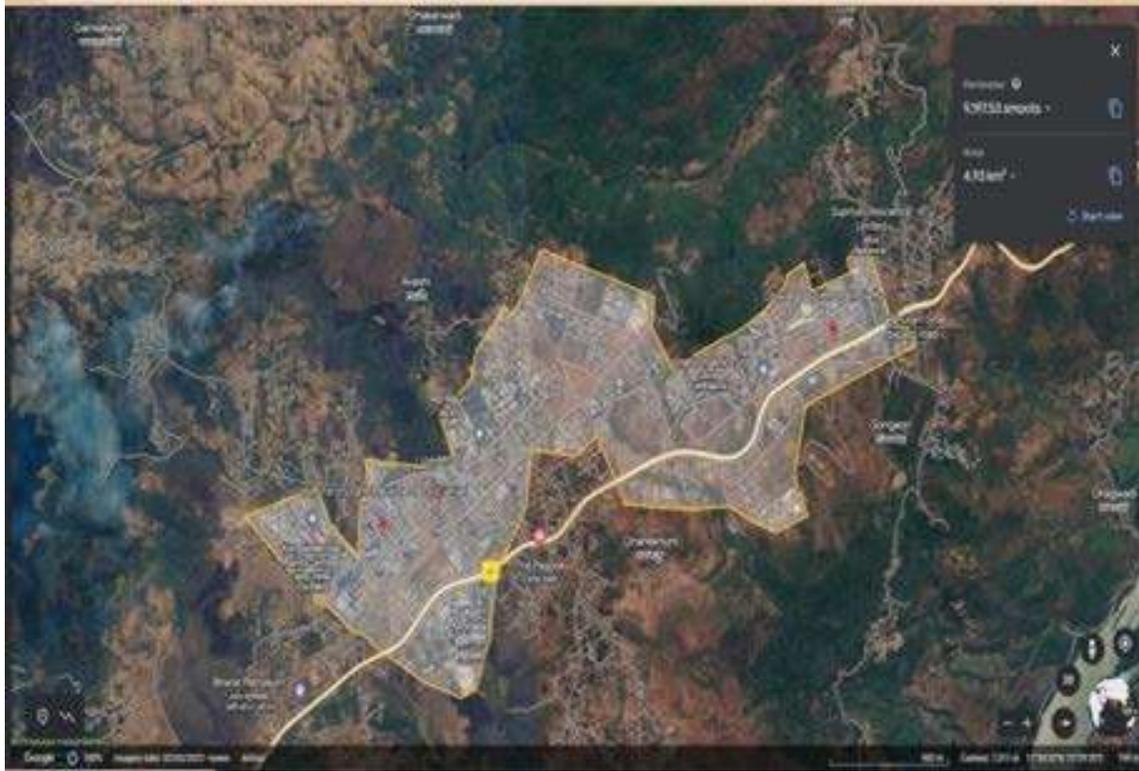


Image 02: Google Image of Lote-Parshuram Industrial Area.

4.2 COMMON EFFLUENT TREATMENT PLANT (CETP) - M/S. LOTE PARSHURAM ENVIRONMENT PROTECTION CO-OP. SOCIETY LTD.

Common Effluent Treatment Plant (CETP) is located at Plot. No. P-30, MIDC Lote-Parshuram. The CETP was established in the year of 2003. The CETP was operated by M/s. Lote Parshuram Environment Protection Co-Op. Society Ltd. Earlier, CETP was established for the capacity of 4.5 MLD in the year 2003 which was further up-graded/expanded to capacity of 10 MLD which is completed in the year 2018. The up-gradation/expansion of CETP carried out considering the non-compliances the discharge standards and expansion of the industrial units/area.

Previously, operation & maintenance of CETP was being looked after by M/s. Lote-Parshuram Environment Protection Co-Society Ltd. The expansion work of 4.5 MLD to 10 MLD CETP was given to M/s Aquachem Enviro Engineers Pvt. Ltd (AEEPL) during the period 2015-2017 by MIDC.

In view of continuous non-compliance of the discharge standards by the seven CETPs including Lote-Parshuram CETP in Maharashtra, MPCB issued direction to MIDC under Section- 33 A of the Water (Prevention & Control of Pollution) Act, 1974 vide letter No./MPCB/JD9WPC/B-962, dated 06.03.2017 (**Annexure-II**) and directed to take over the operation of the non-conforming CETPs within a period of 3 months i.e. on or before 31.05.2017.

MIDC has taken over the operation & maintenance of Lote-Parshuram CETP and engaged operator –M/s Aquachem Enviro Engineers Pvt. Ltd (AEEPL) from 1st March 2018. Operation & maintenance of drainage network inside MIDC industrial area and treated effluent disposal line are looked after by MIDC. Presently, members of the CETPs are 75 industries viz LSI- 20, MSI-09 and SSI-46, discharge their treated effluent to CETP for further treatment.

The renewal of consent to operate (CTO) was granted by MPCB to CETP (10 MLD) vide letter UAN No.0000153804/CR/2303002357, dated 29.03.2023, against its application No. MPCB-CONSENT-0000153804 Dated 22.11.2022. The aforesaid CTO is valid up to 31-12-2028. The copy of CTO is attached as **Annexure-III**.

Environmental Clearance (EC) is obtained for the up gradation of CETP for 10 MLD from SEIAA vide letter SEAC – 2015 /CR-418 /TC – 2 dtd. 28-06-2016 which was valid up to the seven years i.e. up to 2023. The copy of the EC is provided at **Annexure-IV**.

4.2.1 TREATMENT UNITS OF CETP

CETP is provided with Primary, Secondary (Activated Sludge Process) and Tertiary Treatment (Pressure Sand Filtration and Activated Carbon Filtration) system. The flow diagram is provided in **Image-03** and the google image of CETP is given as **Image-04**. The treatment unit details are provided in **Annexure-V**. Though, the present design capacity of CETP is 10 MLD, Actual flow to CETP is in the range of 2.6 MLD- 5.1 MLD (2022-23).

CETP is designed for the characteristic of the influent as detailed in **Table-02**.

TABLE-02 DESIGN VALUES FOR CETP (10 MLD)

| Sr. No. | Parameters | Value |
|---------|--------------------|----------------|
| 1 | pH | 6.0-8.0 |
| 2 | Suspended Solids | 800-1000 |
| 3 | BOD | Less than 1200 |
| 4 | COD | Less than 2500 |
| 5 | Oil & Grease | 10-50 |
| 6 | Ammonical Nitrogen | 50-100 |

Note- The values are expressed in mg/lit, except pH

4.2.2 DISPOSAL OF TREATED EFFLUENT-

Presently, treated effluent is disposed by pipeline of **7.732 Km** at *Karambavane Creek* which is estuarine portion of *Vashisthi & Jagbudi* river, as per suggestion by National Institute of Oceanography (NIO). The pipeline is constructed of 630 mm dia HDPE of length 6.137 Km (laid below the bed of *Sonpatra* river in the village limits of *Ghanekhunt* and *Kotawali* village from CETP) and 1.595 Km in Length in the estuary of *Vashisthi* after confluence of *Vashisthi* and *Jagbudi* rivers up to the disposal point.

This is gravity line provided with 9 numbers of 150 mm dia Air-release valves fixed at prominent locations. The treated effluent discharged to *Karambavane creek* twice a day for the period of 6 hrs each depending upon low tide & high tide period. **The present pipeline (capacity -10 MLD) treated effluent from CETP (design capacity- 4.5 MLD) which was commissioned in the year 2003.**

Recently, MIDC has obtained CRZ clearance on 19.06.2023 for the extension of pipeline further 2.560 KM from existing disposal location with design capacity 25 MLD, for discharge from present design capacity- 10 MLD. The existing and proposed pipeline path is shown in the **Google Image-05**.

L.P.E.P. SOCIETY (C.E.T.P.) PLOT NO P-30 MIDC LOTE PARSHURAM TAL KHED DIST RATNAGIRI MAHARASHTRA

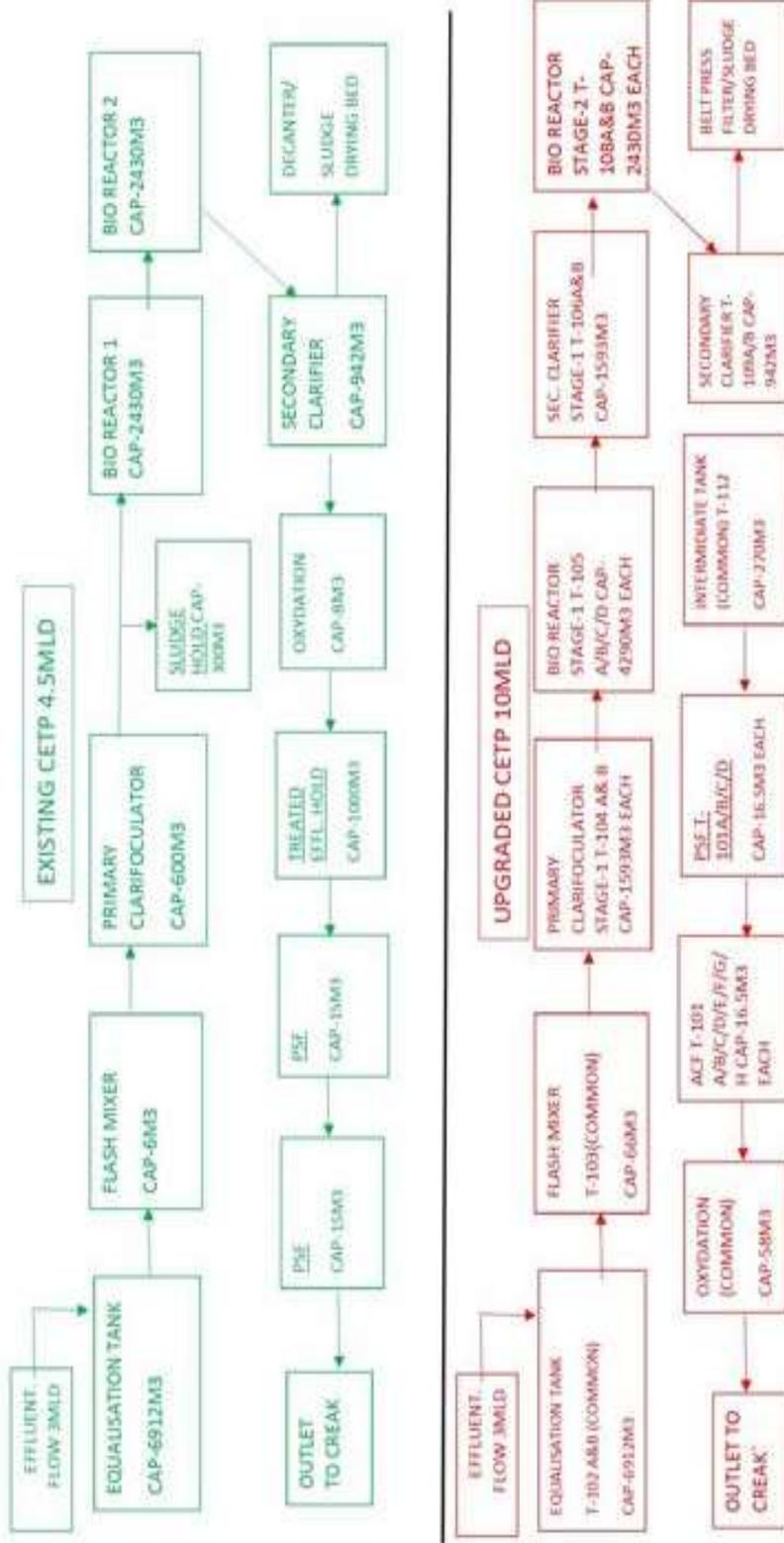


IMAGE 03: FLOW DIAGRAM OF CETP



IMAGE-04: GOOGLE IMAGE OF CETP-LOTE -PARSHURAM

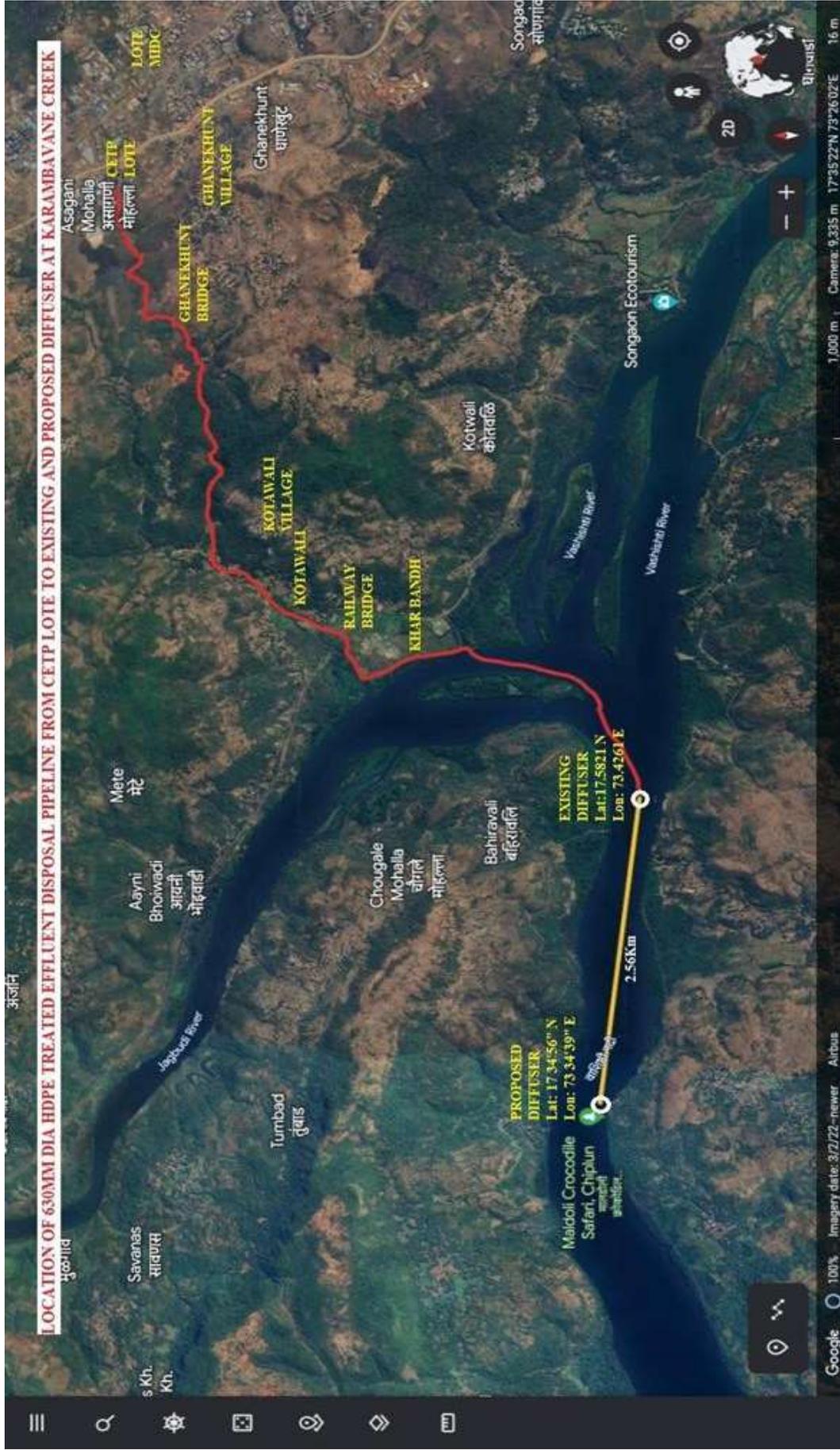


IMAGE-05 TREATED EFFLUENT DISPOSAL PIPELINE PATH

5.0. SITE VISIT AND MONITORING-

5.1 SITE VISIT AND SAMPLING AT CETP-

Site visit of CETP was carried out by the Joint Committee on 15.05.2023 along with officials from CPCB and MPCB. Shri Rakshe EE, MIDC Ratnagiri, Shri Haldankar, Assistant Engineer, MIDC Chiplun, along with other Officials and representatives from Contractor/Operator- M/s Aqua Chem Enviro Engineers Pvt Ltd were present during the visit and provided the information and data. **The sampling carried out on 15.05.2023 and 16.05.2023** on grab and composite mode at different stages of CETP including Inlet and Outlet of CETP to find out the adequacy of the CETP to meet with the prescribed standards. Grab sampling was carried out three times i.e. Morning (11:30 AM -12.45 PM) on 15.05.2023, Night (00.30 AM- 1:15 AM and Morning (11:30 AM -12.45 PM) on 16.05.2023. The Composite sampling was carried out for 24 hrs with an interval 2 hrs from 15.05.2023 (11:30AM) to 16.05.2023 (09:30AM).

The sampling location descriptions are given in **Table-03**, as below-

TABLE-03 DETAILS OF SAMPLING LOCATIONS AT CETP

| Sr. No. | Sampling Location Description(s) |
|---------|--|
| 01 | Inlet to CETP |
| 02 | Outlet of Equalization Tank (Outlet of ET) |
| 03 | Outlet of Primary Clarifier (Outlet of PC) |
| 04 | Outlet of Secondary Clarifier – I (Stage –I) (Outlet of SC-I) |
| 05 | Outlet of Secondary Clarifier – II (Stage-II) (Outlet of SC-II) |
| 06 | Final Outlet of CETP (after tertiary treatment) (Outlet of CETP) |

5.2 River Sonpatra & Natural Drain Sampling

Natural drain which passes through MIDC Industrial area and along the boundary of the CETP meets with River *Sonpatra* which meets with River *Jagbudi*. River *Jagbudi* meets with River *Vashisthi* which ultimately meets with the Arabian Sea through *Karambavane and Dabhol Creeks* (as locally called). The sampling was carried out on 15.05.2023 at this river *Sonpatra* and in Natural Drains to see any contamination in the river through drains or leakages, if any from the pipeline as it passes along the/under the bed of the river *Sonpatra*. It is informed that untreated sewage from nearby villages also discharges into natural drains and rivers.

The details sampling locations are given in **Table-04** as below-

TABLE-04 DETAILS OF SAMPLING LOCATIONS– RIVER AND NATURAL DRAINS

| Sr. No. | Sampling Location Description(s) | Code |
|----------------|---|-------------|
| 01 | Kotwali Nallah (Natural Drain-I) near CETP, the natural drain which passes from MIDC area and further meeting with river Sonpatra | SWND-I |
| 02 | River Sonpatra near Kotwali Village (after meeting with Kotwali Nallah) | SWRS-I |
| 03 | Natural Drain-II near Kotwali Village merging with Sonpatra river on north side | SWND-II |
| 04 | River Sonpatra after confluence of above (II) & (III) | SWRS-II |

The sampling locations are shown in the sketch attached as **Annexure-VI**.

5.3 SEDIMENT SAMPLING FROM RIVER BED, NATURAL DRAINS

As there was incident of pipeline leakage occurred on 03.10.2022 at location near Kotwali, also referred in the present Application. The joint committee visited the location. It was informed that the leakage was immediately rectified by MIDC on the same day. The discharge through pipeline was stopped after knowing the leakage and during the rectification work. MPCB issued letters to MIDC who is responsible for operation & maintenance of the pipeline, and also issued proposed direction under the Water (P & CP) Act, 1974 and the Air (P & CP) Act 1981 & H & OW (T & TM) Rules 2016 dated 14.10.2022. The reply received from the MIDC and Lote-Parshuram Environment Protection Co-Op. Society Ltd. are provided along with aforesaid issued letter and proposed directions are provided at **Annexure-VII**

During the visit, there was no visible leakages observed from the pipeline. However, some oily traces were observed in small quantities near air valves. This may be due to leakages from Air Valve from disposal pipeline which might happened sometimes. The river bed was found rocky/with stones/with negligible sand/soil due to hilly terrain.

The sediments samples were collected from upstream side (towards east direction) from the bed of the river Sonpatra adjacent to past leakage (on 03.10.2022) location, in the down stream side of the leakage location in Sonpatra River (towards west direction) and from Natural Drain-

II which merged with Sonpatra river on north side. The sediment samples were collected from Natural Drain –II for reference as there was no effect of leakages on this side, as informed. The sampling details are given in **Table-05**, as follows and locations are shown in the sketch attached as **Annexure-VI**.

TABLE-05 DETAILS OF SAMPLING LOCATIONS– SEDIMENTS IN RIVER ND NATURAL DRAINS

| Sr.No. | Sampling Location Description(s) | Code |
|---------------|---|-------------|
| 01 | River Sonpatra near Kotwali Village (Kotwali Nallah/Natural Drain-I), the natural drain which passes from MIDC area and further meeting with river Sonpatra (Location-01) | SSRS-1 |
| 02 | River Sonpatra near Kotwali Village (Kotwali Nallah/Natural Drain-I), the natural drain which passes from MIDC area and further meeting with river Sonpatra)- (Location-02) | SSRS-2 |
| 03 | Natural Drain-II near Kotwali Village merged with Sonpatra river on north side | SSND-II-1 |
| 04 | Natural Drain-II near Kotwali Village merged with Sonpatra river on north side | SSND-II-2 |
| 05 | River Sonpatra after confluence of Natural Drain-II near Kotwali Village merged with Sonpatra river on north side | SSRS-3 |
| 06 | River Sonpatra after confluence of Natural Drain-II near Kotwali Village merged with Sonpatra river on north side | SSRS-4 |
| 07 | River Sonpatra after confluence of Natural Drain-II near Kotwali Village merged with Sonpatra river on north side | SSRS-5 |
| 08 | River Sonpatra after confluence of Natural Drain-II near Kotwali Village merged with Sonpatra river on north side | SSRS-6 |
| 09 | Kotwali Nallah (Natural Drain-I), the natural drain which passes from MIDC area and further meeting with river Sonpatra | SSND-I-1 |
| 10 | Kotwali Nallah (Natural Drain-I), the natural drain which passes from MIDC area and further meeting with river Sonpatra | SSND-I-2 |
| 11 | Kotwali Nallah (Natural Drain-I), the natural drain which passes from MIDC area and further meeting with river Sonpatra | SSND-I-3 |

5.4 1 MLD IN SITU TREATMENT PROJECT FOR KOTWALI NALLAH AT KOTWALI VILLAGE UNDER REJUVENATION OF VASHISHTI RIVER

1 MLD In-situ wastewater treatment project for the treatment of water flowing in the Kotwali Nallah (having chance of contamination due to sewage and industrial effluent mostly due to rainy season) for rejuvenation of Vashishti river at kotwali village. The project is provided with phytoid and floating rafter technology. MPCB had issued work order to M/s. Technogreen Environmental Solutions (TES) for the In-situ treatment project. The water flowing in the Kotwali Nallah is diverted to this project and after treatment again discharge into small

channels used for irrigation by the nearby farmers. In case of not in use for irrigation, water finds its way in to river Sonpatra.

This project consists of receiving/collection sump, screen chamber, sedimentation tank, floating rafter and wetland crates. The details including layout, process description of the project are provided in **Annexure-VIII**.

The sampling at this project is carried out at different stages as detailed below-

- I. Inlet to In-situ Treatment
- II. Inlet of First Row
- III. Outlet of First Row
- IV. Inlet of Third Row
- V. Outlet of Third Row
- VI. Final Outlet of In-situ treatment

5.5 ANALYSIS RESULTS OF THE WATER, WASTEWATER AND SEDIMENT SAMPLING-

The water and wastewater samples were analysed at the Regional Laboratory, MPCB, Chiplun and sediment samples were analysed at M/s Shreeji Aqua Treatment Pvt Ltd Chikhali, Pune which is MoEF&CC recognised Laboratory.

The analysis results of the samples collected at CETP, Sonpatra River, Kotwali Nallah/Natural drains, In-situ Treatment Project and Sediments are given in-

- **Annexure - IX-A** Analysis Results of Sampling at CETP,
- **Annexure - IX-B** Analysis Results of Sampling at Sonpatra River, Nallah/Natural drains
- **Annexure - IX-C** Analysis Results of Sampling at In-situ Treatment Project
- **Annexure - IX-D** Analysis Results of Sampling of Sediments from Natural Drains/River beds

MPCB carry out weekly sampling at Inlet and outlet of CETP. The analysis results complied for five years i.e. 2018 to 2023 are compiled and provided at **Annexure-X**.

6.0 OBSERVATIONS AND FINDINGS:

6.1 INCIDENT OF LEAKAGE OF DISPOSAL PIPELINE, SAMPLING & ANALYSIS OF SEDIMENT, WATER IN RIVER SONPATRA NEAR INCIDENT PLACE- ASSESMENTN OF DAMAGE

- 6.1.1** CETP treated effluent discharge pipeline was leaked at Sonpatra River near Kotwali village on 03-10-2022 at 2:30 pm. The pipeline workers noticed the above said incidence and informed to the MIDC & CETP office. CETP discharge was immediately stopped after knowing the incident of leakage. Further, MIDC rectified the issue and stopped the leakages of the pipeline. MPCB issued letters to MIDC who is responsible for operation & maintenance of the pipeline, and also issued proposed direction dated 14.10.2022 under the Water (P & CP) Act, 1974 and the Air (P & CP) Act 1981 & H & OW (T & TM) Rules 2016 The reply received from the MIDC and CETP are provided along with aforesaid issued letter and proposed directions are provided at **Annexure-VII**.
- 6.1.2** The work of daily maintenance, repairs, watch & ward of effluent collection and treated effluent disposal system is looked after by MIDC. MIDC has engaged agency and Annual Maintenance Contract (AMC) has been awarded to the same. The AMC include daily watch & ward of effluent collection system by engaging two persons. The contract labour are equipped with Jeep, Driver, Tools & Plants, a cellular mobile phone for rapid communication etc. required for attending emergency breakdown of effluent pipeline. The provision of super sucker cleaning machine mounted on Track with vacuum pump 4000 cum/hr and High pressure jetting pump with 260 LPM capacity & pressure 140 Bar. With high pressure jetting hose 3000 PSI, 25mm die 120 m length. with quick couplers -30 m is also made in above AMC work.
- 6.1.3** The sediments samples, water samples were collected from the River Sonpatra, Kotwali Nallah (Natural Drain-I) which passes from MIDC area/near CETP in upstream side and further meets with river Sonpatra and Natural Drain-II near Kotwali Village merging with Sonpatra river on north side. The analysis results of the water samples and sediment samples are given in **Annexure - IX-B and Annexure - IX-D**.
- 6.1.4** The analysis results of the sediments for the analysed parameter(s) as shown in the **Annexure - IX-D** are compare with the Soil (Screening and Response Levels) as prescribed in the GUIDANCE DOCUMENT FOR ASSESSMENT AND REMEDIATION OF CONTAMINATED SITES IN INDIA under NPRPS, 1st Edition, December 2015, MoEF& CC,

Gol. The screening levels (based on the Canadian CCME Environmental Quality Guidelines) and Response Levels (Dutch Interventional levels) are important to assess the level of contamination in Soil/Sediments. The screening levels are generic concentrations of the hazardous substances in Soil/sediments at or below which, potential risks to human health or the environment are not likely to occur and where no further investigation and assessment is needed. In India, there are no specific levels for assessing soil contamination. Therefore, Canadian CCME Environmental Quality Guidelines is used as preliminary screening levels in Indian Situation for four category of land use pattern- Agricultural, residential/Parkland, industrial and commercial.

It is observed from the analysis results of the sediments that the concentration of the parameters/pollutants are below the Screening Levels (based on the Canadian CCME Environmental Quality Guidelines) and therefore potential risks to human health or the environment are not likely to occur and no further investigation and assessment is needed.

6.1.5 The analysis of samples collected from the natural drains and river Sonpatra show there is contamination of Kotwali Nallah/Natural Drain-II near CETP (COD-60 mg/l, BOD: 3.4 mg/l) as it traversed through the MIDC area and might received domestic/industrial effluent. There was no discharge found observed in to this drain from CETP. The quality of water in the Sonpatra river, downstream of Kotwali Nallah, is BOD: 2.6 mg/l, COD: 35.02 mg/l, DO: 5 mg/l which merged with the Natural Drain-I on north side with BOD: 2.2 mg/l, COD: 22.8 mg/l & DO: 5.9 mg/l. Kotwali nallah/Darin and Sonpatra river also receives untreated sewage from nearby villages. The quality of the water flowing after confluence is BOD:2.4 mg/l, COD: 34 and DO: 5.6 mg/l which meets with Jagbudi river. (Refer, **Annexure-IX-B** for analysis results- Sonpatra River, natural Drains/Kotwali nallah)

6.1.6 The analysis results of samples collected at In-Situ project reveal that inlet quality with BOD: 1.8 mg/l, COD: 32 mg/l, DO: 5.4 mg/l whereas BOD: 1.8 mg/l, COD: 16. Mg/l and DO: 6 mg/l. It is observed that there is reduction by 51%. No change is observed in the BOD. (Refer, **Annexure-IX-C** for analysis results- In Situ project).

6.2 ADEQUACY OF THE CETP TO MEET WITH THE NORMS AS PER COMMITTEE VISIT & MONITORING

6.2.1 During the visit and monitoring (on 15-05-2023 to 16-05-2023), CETP was found in operation with primary, secondary and tertiary treatment with flow 2.8 -2.9 MLD respectively, against the 10 MLD design capacity.

6.2.2 CETP has been upgraded to 10 MLD capacity with primary, secondary and tertiary treatment. However, actual flow to CETP was in the range of 2.6 MLD- 5.1 MLD (2022-23) which shows that the CETP is operated at 25-50% of the capacity. Out of all treatment units, CETP operates with half of primary, secondary and tertiary treatment units and almost other half units are kept standby.

6.2.3 Grab and composite sampling carried out at different stages of treatment including Inlet and Outlet of CETP and Analysis results are given in **Annexures-IX A**. It is observed from the analysis results that the concentrations of inlet parameters are within the Inlet/Design Standards and the concentration of the all the analysed parameters at the final outlet of CETP are within the discharge standards prescribed by MPCB except for parameter Cyanide. The summarised results for few criteria pollutants are given in following **Table-06**.

TABLE 06- SUMMARISED RESULTS FOR FEW CRITERIA POLLUTANTS

| Sr. No. | Parameters | Design Values/ Inlet Standards | Grab Sampling-1 GS-1 | | Grab Sampling-2 GS-2 | | Grab Sampling-3 GS-3 | | Composite Sampling CS | | Discharge Standards |
|---------|------------|-----------------------------------|-------------------------|------|-------------------------|------|-------------------------|------|--------------------------|-------|---------------------|
| | | | I | O | I | O | I | O | I | O | |
| 1 | pH | 5.5-9.0 | 7 | 7.3 | 7.8 | 7.5 | 7.9 | 7.7 | 7.9 | 7.7 | 6.0-9.0 |
| 2 | TSS | - | 131 | 41 | 56 | 39 | 86 | 49 | 66 | 45 | 100 |
| 3 | TDS | - | 4864 | 4720 | 3725 | 3711 | 3412 | 3276 | 3849 | 3811 | - |
| 4 | BOD | 1200* | 310 | 70 | 210 | 60 | 210 | 74 | 190 | 60 | 100 |
| 5 | COD | 2500* | 934.4 | 192 | 636 | 180 | 660 | 184 | 589.2 | 171.2 | 250 |

| Grab Sampling-1 15.05.2023-MORNING 11:30 AM to 12:15 PM | Grab Sampling-2 16.05.2023-NIGHT 00:30 AM to 12:15 AM | Grab Sampling-3 16.05.2023-MORNING 11:45 AM to 12:15 PM | Composite Sampling 11:30 AM of 15.05.2023 to 09:30 AM of 16.05.2023 |
|---|---|---|---|
|---|---|---|---|

6.2.4 It is observed from the above **Table-06** that the average % reduction of BOD is 70.50 (GS1-77.41%, GS2-71.42%, GS3-64.76%, CS-68.42%, Average Reduction: 70.50%) and average % reduction of COD is 73.50 % (GS1-79.45 %, GS2-71.69 %, GS3-72.12 %, CS-70.94 % Average Reduction: 73.50%) due to treatment system provided at CETP.

Considering the reduction in the range 70-75% of BOD and COD with present treatment systems, CETP is adequate to treat inlet effluent quality of BOD in the range: 330-400 mg/l and COD in the range: 830-1000 mg/l to meet with norms BOD: 100 mg/l and COD: 250 mg/l. It is informed that CETP is design for BOD: 1200 mg/l and COD: 2500 mg/l, considering reduction 70-75% as above, CETP may be able to reduce BOD & COD up to 300- 360 mg/l & 625- 750 mg/l which will not meet with the discharge standards.

Therefore, there is need to operate the treatment units efficiently, control the inlet quality of effluent coming from member industries, revise the inlet norms based on the feasibility & treatability, install advance chemical treatment etc.

6.2.5 The inlet quality of the effluent is very lean during the committee visit and monitoring in the mid May 2023 which might be due to controlled discharge from member industries, no discharges from potential industries, storage of effluent by the member industries, non-operation of some industries etc.

6.3 NON-COMPLIANCE OF CETP BASED ON THE PAST SAMPLING BY MPCB (Period April 2018-April 2023)

6.3.1 MPCB carry out weekly sampling at the inlet and outlet of CETP. The period considered for the verification of the violations is **five years** (April 2018 to April 2023 considering the registration of this Original Application (April 2023) referring Rule-15 (3) The NGT Act, 2010 under relief, compensation & restitution. Accordingly, the results for the parameters viz pH, TSS, BOD, COD & TDS are compiled and given at **Annexure-X**

6.3.2 It is observed from the analysis results (**Annexure-X**), out of 252 sampling carried during the last five years (April 2018 to April 2023), CETP complied with discharge standards in 165 sampling and non-complied with discharge standards in 87 sampling.

It is observed that CETP was found complied and non-complied in between period. Performance of the CETP improved since 2020 due to up-gradation work.

The number of violation days calculated (year wise) for the considered period and given in the **Table-07**

TABLE 07- NO OF DAYS OF NON-COMPLIANCES

| Year | No of days of Non-Compliances |
|-------|-------------------------------|
| 2018 | 268 |
| 2019 | 145 |
| 2020 | 38 |
| 2021 | 92 |
| 2022 | 56 |
| 2023 | 15 |
| Total | 614 |

It is also to mention here that the CETP was not conforming to the discharge standards mostly since its inception in 2003. MPCB has taken various actions including directions are enumerated in subsequent section.

CETP violated the discharge standards due to-

- Inadequate treatment and improper operation of treatment units/process installed in CETP.
- Discharge of effluent not conforming to the discharge standards by member industries i.e. defaulting industries.

6.4 ENVIRONMENTAL COMPENSATION FOR THE NON-COMPLIANCE OF THE CETP:

Considering the non-compliance of discharge standards and other directions of MPCB, the committee finds it appropriate to compute environmental compensation by using methodology/formula given in **“Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund”**. The same has also been referred by the Hon’ble NGT in its order (para 14 to 16) dated 28/8/2019 in the matter of Original Application No. 593/2017 titled Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors., and also used by various other Committees constituted by Hon’ble NGT in various other matters, such as-

- Original Application (OA) No. 38 of 2019 (WZ) (Aryavart Foundation Vs M/s Green Environment Services Co.op Society Ltd. (CETP) and Ors)-Hon'ble National Green Tribunal, Principal Bench, New Delhi
- Original Application No.510/2019 (WZ) (Aditya Singh Chauhan Vs State of Gujarat & Ors), Hon'ble NGT, PB, New Delhi,
- I.A. No. 94/2020 In Original Application No. 7/2020 (WZ) (Aryavart Foundation Vs M/s Naroda Enviro Projects Ltd. (CETP) & Ors.), Hon'ble NGT, PB, New Delhi.

Environmental Compensation (EC) in Rupees - $EC=PI \times N \times R \times S \times LF$

Where,

| <i>EC</i> | <i>Environmental Compensation in Rs. (INR)</i> | | | | | | | | | | | | | | | | |
|------------|---|------------------------------|------------|----------------------------------|------------------------------|----------|--------------------|------------|----------|-------------------|-------------|----------|--------------------|------------|----------|---------------------|------------|
| <i>PI</i> | <i>Pollution Index of industrial sector. It was suggested that the average pollution index of 80, 50 and 30 may be taken for calculating the Environmental Compensation for Red, Orange and Green categories of industries, respectively.</i> | | | | | | | | | | | | | | | | |
| <i>N</i> | <i>Number of days of violation that took place</i> | | | | | | | | | | | | | | | | |
| <i>R</i> | <i>R is a factor in Rupees, which may be a minimum of 100 and maximum of 500. It is suggested to consider R as 250, as the Environmental Compensation in cases of violation.</i> | | | | | | | | | | | | | | | | |
| <i>S</i> | <i>Factor for scale of operation S could be based on small/medium/large industry categorization, which may be 0.5 for micro or small, 1.0 for Medium and 1.5 for large units.</i> | | | | | | | | | | | | | | | | |
| <i>LF</i> | <p><i>Location factor could be based on population of the city/town and location of the industrial unit. For the industrial unit located within municipal boundary or up to 10 km distance from the municipal boundary of the city/town, following factors (LF) may be used:</i></p> <table border="1"> <thead> <tr> <th><i>Sl.</i></th> <th><i>No. Population* (million)</i></th> <th><i>Location Factor# (LF)</i></th> </tr> </thead> <tbody> <tr> <td><i>1</i></td> <td><i>Less than 1</i></td> <td><i>1.0</i></td> </tr> <tr> <td><i>2</i></td> <td><i>1 to <5</i></td> <td><i>1.25</i></td> </tr> <tr> <td><i>3</i></td> <td><i>5 to <10</i></td> <td><i>1.5</i></td> </tr> <tr> <td><i>4</i></td> <td><i>10 and above</i></td> <td><i>2.0</i></td> </tr> </tbody> </table> <p><i>*Population of the city/town as per the latest Census of India #LF will be 1.0 in case unit is located >10km from municipal boundary For critically polluted areas / Ecologically Sensitive areas, the scope of LF may be examined further.</i></p> | | <i>Sl.</i> | <i>No. Population* (million)</i> | <i>Location Factor# (LF)</i> | <i>1</i> | <i>Less than 1</i> | <i>1.0</i> | <i>2</i> | <i>1 to <5</i> | <i>1.25</i> | <i>3</i> | <i>5 to <10</i> | <i>1.5</i> | <i>4</i> | <i>10 and above</i> | <i>2.0</i> |
| <i>Sl.</i> | <i>No. Population* (million)</i> | <i>Location Factor# (LF)</i> | | | | | | | | | | | | | | | |
| <i>1</i> | <i>Less than 1</i> | <i>1.0</i> | | | | | | | | | | | | | | | |
| <i>2</i> | <i>1 to <5</i> | <i>1.25</i> | | | | | | | | | | | | | | | |
| <i>3</i> | <i>5 to <10</i> | <i>1.5</i> | | | | | | | | | | | | | | | |
| <i>4</i> | <i>10 and above</i> | <i>2.0</i> | | | | | | | | | | | | | | | |

The factors, considered for calculating Environmental Compensation for CETP-Lote-Parshuram, are given in the following **Table-08**

TABLE 8-FACTORS CONSIDERED FOR CALCULATING ENVIRONMENTAL COMPENSATION

| | Factor | Value |
|----|--|--|
| PI | Pollution Index of the Industrial Sector | 80 (Red Category as per Consent issued by the MPCB) |
| N | Number of days the violation has taken place | 614 (01.04.2018- 30.04.2023) MIDC has taken over the operation & maintenance of Lote-Parshuram CETP and engaged operator –M/s Aquachem Enviro Engineers Pvt. Ltd (AEEPL) from 1st March 2018 |
| R | Factor of EC in Rupees | Rs. 500* Committee consider- R-Rs. 500/- referring order dated 06.02.2020 of Hon'ble NGT, Principal Bench, New Delhi in Original Application (OA) No. 510 of 2019 in the matter of Aditya Singh Chauhan v/s State of Gujarat related to non-compliance of CETP at Narol operated by M/s Narol Textile Infrastructure and Enviro Management (NTIEM), Ahmedabad. The same is considering that the majority of industries are in 'Red' category, CETP itself is 'Red' category, and almost continuous non-compliance of consented parameters i.e. discharge standards for more than five years therefore, instead of R-250 which may be normal factor, present situation require the factor to be higher. |
| S | Factor for scale of operation of industrial unit | 1.5 (CETP- large scale operation as per consent issued by MPCB) |
| LF | Location Factor | 1.0 (Population of Lote-Parshuram & nearby villages less than 1 million as per Census-2011) |

Thus, Environmental Compensation (EC) calculated as:

| Name of Operator(s) | Period of Violation | Env Compensation |
|---|---|--|
| MIDC (contractor- M/s Aquachem Enviro Engineers Pvt. Ltd (AEEPL) for the operation & maintenance) | 01.04.2018- 30.04.2023 (614 days) | EC (Rs)= PI x N x R x S x LF EC (Rs)= 80x614x500x1.5x1 EC (Rs)= 3,68,40, 000 |
| | Total (Five years) = | Total EC (Rs)= 3,68,40,000 |

Therefore, Environmental Compensation Rs. 3,68,40,000 (Rs. Three crore sixty Eight lakh forty thousand) may be impose on MIDC for causing environmental damage to the environment due to violation of environmental norms and directions of MPCB.

6.5 RESPONSIBILITY FOR PAYING ENVIRONMENTAL COMPENSATION DUE TO NON-COMPLIANCE

CETP operator on account of inadequate treatment and improper operation of treatment units/process installed in CETP that led for the violation of the discharge standards. Here, in this case MIDC being operator is responsible for payment of Environmental Compensation for causing environmental damage due to violation of environmental norms for the period of violation considered, as above. MIDC has taken over the operation & maintenance of CETP from Lote-Parshuram Environment Protection Co-op Society Ltd due to direction dated 06.03.2017 from MPCB under Section- 33- A of the Water (Prevention & Control of Pollution) Act, 1974. MIDC has engaged operator –M/s Aquachem Enviro Engineers Pvt. Ltd (AEEPL) from 1st March 2018 for operation & maintenance of CETP.

As Design/inlet norms of the CETPs are not meeting as observed from the Inlet results (inlet effluent quality) given in **Annexure-X** as member industries sometimes discharges effluent without meeting with their respective outlet standards due to inadequate and improper operation of their ETP. Therefore, member Industries are also responsible for the violation of the discharge standards by CETP.

Presently, the operator of CETP i.e. MIDC is responsible for maintaining inlet quality through MoU/Agreement with member industry including collection of samples at Outlet of ETP, charging, penal pattern, disconnection industry outlet etc. The operator has not provided list of defaulting industries to MPCB.

6.6 OTHER OBSERVATIONS-

6.6.1 13 Industries have been provided with effluent quantity and quality monitoring system through SCADA and connected with CETP. It is informed that the work for installing the above system is in progress.

- 6.6.2** Online Continuous Effluent Monitoring System (OCEMS) has installed in the CETP for pH, Flow, BOD, COD, SS and connected with MPCB & CPCB Server.
- 6.6.3** Smell felt in the premises of CETP.

6.7 ACTIONS TAKEN BY MPCB-

- 6.7.1** Due to non-compliances of CETP, MPCB have issued various Directions u/s 33A of the Water (Prevention and Control of Pollution) Act, 1974 and u/s 31A of the Air (Prevention and Control of Pollution) Act, 1981 vide letters dtd. 9/1/2018,7/2/2018,20/3/2018,24/01/2019,14/02/2019,11/09/2019,13/11/2020,27/01/2021,5/3/2021,2/12/2021,22/07/2022,14/10/2022,24/01/2023 respectively **(Annexure –XI)**
- 6.7.2** MPCB had filed Criminal Case No 01/2016 **(Annexure-XII)** against CETP (M/s. Lote Parshuram Environment Protection Co-op Society Ltd) before the Hon'ble JMFC- -Khed due to non-compliances, which is pending before the Hon'ble Court.

7.0 CONCLUSIONS

A. GENERAL

- 7.1** CETP- M/s Lote Parshuram Environment Protection Co-Op. Society Ltd was operated by Lote Parshuram Environment Protection Co-Op. Society Ltd since its established for the capacity of 4.5 MLD in the year 2003 which was further up-graded/expanded to capacity of 10 MLD. The up-gradation/expansion completed in the year 2018. The up-gradation/expansion of CETP carried out considering the non-compliances the discharge standards and expansion of the industrial units/area. Treated effluent is disposed by pipeline of **7.732 Km** at Karambavane Creek which is estuarine portion of Vashisthi & Jagbudi river, as per suggestion by National Institute of Oceanography (NIO).
- 7.2** In view of continuous non-compliance of the discharge standards by the seven CETPs including CETP at Lote-Parshuram in Maharashtra, MPCB directed under Section- 33 A of the Water (P & CP) Act, 1974 vide letter dated 06.03.2017 to MIDC to take over the operation of the non- conforming CETPs within a period of 3 months i.e. on or before 31.05.2017. MIDC has taken over the operation & maintenance of CETP from Lote

Parshuram Environment Protection Co-Op. Society Ltd. and engaged operator –M/s Aquachem Enviro Engineers Pvt. Ltd (AEEPL) from 1st March 2018. Operation & maintenance of drainage network inside MIDC industrial area and treated effluent disposal line are looked after by MIDC.

B. COMMITTEE VISIT, MONITORING OF CETP, RIVER SONPATRA, DAMAGE ASSESSMENT DUE TO LEAKAGE OF DISPOSAL PIPELINE, ENV COMPENSATION DUE TO NON-COMPLIANCE OF CETP WRT DISCHARGE STANDARDS

7.3 The committee visited CETP, location of incident of pipeline leakage occurred on 03.10.2022 near Kotwali, River Sonpatra, In-Situ project and carried out sampling at CETP, Sediment & surface water sampling at river Sonpatra, Natural drains and In-situ treatment project. Grab and composite mode sampling carried out at different stages of CETP including Inlet and Outlet of CETP to find out the adequacy of the CETP to meet with the prescribed standards.

7.4 CETP treated effluent discharge pipeline was leaked at Sonpatra River near Kotwali village on 03-10-2022 at 2:30 pm. CETP discharge was immediately stopped after knowing the incident of leakage through pipeline workers. The work of daily maintenance, repairs, watch & ward of effluent collection and treated effluent disposal system is looked after by MIDC. MIDC has engaged agency through Annual Maintenance Contract (AMC) which include daily watch & ward of effluent collection system by engaging two persons. The contract labour are equipped with Jeep, Driver, Tools & Plants, a cellular mobile phone for rapid communication etc. required for attending emergency breakdown of effluent pipeline.

7.5 Though, CETP is upgraded to 10 MLD capacity with primary, secondary and tertiary treatment. However, actual flow to CETP was in the range of 2.6 MLD - 5.1 MLD (2022-23) which shows that the CETP is operated at 25-50% of the capacity. Out of all treatment units, CETP operates with almost half of primary, secondary and tertiary treatment units and other half units are kept on standby.

It is observed from the analysis results of the CETP that the concentrations of inlet parameters are within the Inlet/Design Standards and the concentration of the all the

analysed parameters at the final outlet of CETP are within the discharge standards prescribed by MPCB except for parameter Cyanide.

The inlet quality of the effluent is very lean during the committee visit and monitoring which might be due to controlled discharge from member industries, no discharges from potential industries, storage of effluent by the member industries, non-operation of some industries etc.

- 7.6** The analysis of samples collected from the natural drains and river Sonpatra show there is contamination of Kotwali Nallh/Natural Drain-II near CETP (COD-60 mg/l, BOD: 3.4 mg/l) as it traversed through the MIDC area and might receive domestic/industrial effluent. There was no discharge found observed in to this drain from CETP.
- 7.7** The analysis results of the sediments for the analysed parameter show that the concentration of the parameters/pollutants are below the Screening Levels (based on the Canadian CCME Environmental Quality Guidelines) and therefore potential risks to human health or the environment are not likely to occur and no further investigation and assessment is needed.
- 7.8** MPCB carry out weekly sampling at the inlet and outlet of CETP. The period considered for the verification of the violations is five years (April 2018 to April 2023) considering the registration of this Original Application (April 2023) referring Rule-15 (3) The NGT Act, 2010 under relief, compensation & restitution. Thus, total five years are considered. Accordingly, the results for the parameters viz pH, TSS, BOD, COD & TDS are compiled.

It is observed from the analysis results (**Annexure-X**), out of 252 sampling carried during the last five years (April 2018 to April 2023), CETP complied with discharge standards in 165 sampling and non-complied with discharge standards in 87 sampling. Performance of the CETP improved since 2020 due to up-gradation work. It is also to mention here that the CETP was not conforming to the discharge standards mostly since its inception in 2003. MPCB has taken various actions including filing of criminal case in Hon'ble CJM.

7.9 Considering the non-compliance of discharge standards and other directions of MPCB, the committee computed Environmental Compensation by using CPCB methodology which is referred in the Hon'ble NGT in its order dated 28/8/2019 in the matter of Original Application No. 593/2017 (Paryavaran Suraksha Samiti & Anr. Vs UoI & Ors., and used by various committees in the Hon'ble NGT matters (para 6.4 above). Environmental Compensation-Rs. 3,68,40,000 (Rs. Three crore sixty-Eight lakh Forty Thousands) for causing environmental damage to the environment due to violation of Environmental norms (non-compliances of discharge standards) during the period April 2018-April 2023 for 614 no of non-compliances days.

7.10 The operator of the CETP is overall responsible for the violations and thus responsible for paying compensation, the operator may consider to collect part of compensation from defaulting industries those were responsible for the not meeting with Inlet/Design Norms which resulted into non-compliances of discharge standards at the Outlet of CETP.

C. ADEQUACY OF CETP TO MEET THE DISCHARGE STANDARDS-

7.11 Based on the analysis results of the monitoring carried out during the Committee Visit, it is observed that the average % reduction of BOD is 70.50 and average % reduction of COD is 73.50 % due to treatment system provided at CETP. Considering the reduction in the range 70-75% of BOD and COD with present treatment systems, CETP is adequate to treat inlet effluent quality of BOD in the range: 330-400 mg/l and COD in the range: 830-1000 mg/l to meet with norms BOD: 100 mg/l and COD: 250 mg/l. It is claimed that CETP is design for BOD: 1200 mg/l and COD: 2500 mg/l, considering reduction 70-75% as above, CETP may be able to reduce BOD & COD up to 300- 360 mg/l & 625- 750 mg/l which will not meet with the discharge standards.

Therefore, there is need to operate the treatment units efficiently, control the inlet quality of effluent coming from member industries, revise the inlet norms based on the feasibility & treatability, install advance chemical treatment etc.

8.0 RECOMMENDATIONS

8.1 Inlet Norms w.r.t. BOD and COD may be limited to BOD: 400 mg/l and COD: 1000 mg/l to meet with the discharge standards i.e. BOD: 100 mg/l & COD: 250 mg/l, considering para 6.2 & 7.10, as above.

Detailed adequacy study through reputed Institute/Organisation may be carried out to decide/finalise Inlet norms of the existing up-graded CETP (10 MLD with reported design values -BOD: 1200 mg/l & COD: 2500 mg/l).

8.2 Environmental Compensation-Rs. 3,68,40,000 (Rs. Three crore sixty-Eight lakh Forty Thousands) may be imposed for causing environmental damage to the environment due non-compliances of discharge standards during the period April 2018-April 2023 for 614 no of non-compliances days.

8.3 Member Industries to ensure discharge of treated effluent to CETP (through MIDC network) as per their respective consented discharge standards.

8.4 CETP operator shall not accept the effluent from member industries who are failed to comply the direction issued by the Board towards installation of two ways SCADA system, installation, and effective operation of OCEMS, strainer, positive discharge, one day holding tank, NRV etc.

8.5 CETP Operator shall improve and implement mechanism to monitor/charge/ surveillance of member industries to control inlet quality of the CETP so that CETP can meet with discharge standards.

8.6 The list of defaulting industries shall be provided to MPCB for action against defaulting industry.

8.7 The various directions issued by MPCB (para 6.7) to CETP- M/s Lote Parshuram Environment Protection Co-op Society Ltd, and also letter issued to MIDC shall be strictly complied with.

8.8 CETP operator shall take adequate measures to be taken to control smell nuisance and permanent shed shall be constructed to store the sludge removed from filter press and dispose to CHWTSDF in time.

8.9 MIDC shall continue to take adequate measures and utmost care to detect the leakages in CETP discharge pipeline, carry out period maintenance of drainage network carrying industrial effluent and ensure that there shall be no leakages/overflow from pumps/pipes/sumps which results into discharge to nearby water bodies.

ANNEXURE-17

**BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI**

**Original Application No. 125/2018
(M.A. Nos. 334/2018 & 793/2018)
(Earlier O.A. No.163/2017 (WZ))**

IN THE MATTER OF:**Arvind Pundalik Mhatre****Vs.****Ministry of Environment, Forest and Climate Change &Ors.**

**CORAM : HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

Present: Applicant :

**Dr. Sudhakar E. Avhad, Mr. Arvind S. Avhad,
Mr. Lalit Mohan and Mr. Chetan R. Nagare, Mr.
Karri Venkat Reddy, Advs.**

Respondents :

**Mr. Mukesh Verma, Adv. Dr. Y.B. Santakke, Director
and Dr. AN Harshvardh, RP for MPPCB
Mr. Prakash Kumar Singh for Central Pollution
Control Board
Mr. Shaurya Sahah, Adv.
Ms. Sakshi Popli, Adv. for Mr. Divya Prakash Pande,
Adv for MoEF & CC
Mr. Karan Mathur, Adv. and Mr. Iro D'costa, Adv.
Mr. Amit Kumar and Mr. Kumar Abhishek, Advs.
Mr. Guruprasad Pal and Ms. Ramni Taneja, Advs.
Mr. Rajiv Bansal, Sr. Adv., Mr. Kush Sharma, Mr.
Prateek Gautam and Ms. Kamna Singh, Advs.
Mr. Tarunvir Singh Khehar, Ms. Guneet
Khehar and Mr. Sandeep Mishra, Advs.**

| Date and Remarks | Orders of the Tribunal |
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| <p>Item No. 05 August 17, 2018 SS & DV</p> | <p>1. The grievance raised in these proceedings relates to discharge of effluents in river Kasardi, having adverse impact on the environment. Though a Common effluent treatment plant (CETP) is being managed by the "Taloja CETP Co-operative Society Limited" since 2013, the problem continues.</p> <p>2. On 04thApril, 2018, the matter was considered by this Tribunal, in the light of the joint inspection report, submitted in pursuance of earlier order of the Tribunal. The joint inspection was conducted by the Central Pollution Control Board and the Maharashtra Pollution Control Board. In the said report, it was found that effluents not meeting the standards, were being</p> |

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| | <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>discharged as the CETP was not properly maintained. The Tribunal recorded the statement of the respondents that fresh tender was to be issued for the maintenance of the CETP.</p> <p>3. It was noted that the effluent discharge was high and alarming and was going into the creek wali from which the water was being used for drinking as well. The Taloja CETP Co-operative Society was directed to forthwith stop the discharge which was not meeting the parameters. The Society was also required to deposit a sum of Rs. 5 Crore with the District Magistrate to be kept in a separate fund. The said Society was also directed to commence the work of upgrading the CETP. Thereafter, the Pollution Control Board was directed to conduct an inspection after one month to suggest effective ways to prevent discharge which was not meeting the parameters and also to submit an action plan.</p> <p>4. On 11th May, 2018, it was noted that the CETP was not made functional. Accordingly, the Pollution Control Board was directed to ensure that the industries not operating their ETPs and releasing their untreated effluents be shut down.</p> <p>5. On 31st May, 2018, the Tribunal noted that 18 industries were shut down and Show Cause Notices were given to others. Direction was issued to close down other industries continuing to release untreated effluents or not having consent to operate.</p> <p>6. Again, on 11th July, 2018, this Tribunal referred to the affidavit of the Society dated 11th July, 2018 to the</p> |
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| | <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>effect that there was huge accumulation of sludge in the sump which was to be removed for which 4 months time was required, there was need to repair 4-5 motors for pumping of the effluents from the sump collection tank; the pipelines were required to be repaired as the same were leaking; the oxygen diffusion system was to be replaced; aeration tank was to be cleaned up; tender has been issued for the sludge removal; present status of the CETP was as per Maharashtra Pollution Control Board parameters; 18 industries were closed and Show Cause Notices were given to 92 industries, on account of which there is fall in the inlet COD levels coming into the Taloja CETP. The Tribunal noted that there was no occasion to reconsider the direction for depositing of Rs. 5 Crore as CETP was still not fully functional and untreated effluents were being discharged for about 5 years. Accordingly, a fresh inspection was directed to be carried out by the Central Pollution Control Board and the Maharashtra Pollution Control Board. It was noted that the turnover of the industries in the area was about Rs. 6,000 Crores annually. There was imminent danger to the life of the local population and to the fauna. It was also observed that further amount may be required to be deposited on assessment of damage to the environment.</p> <p>7. Today, a joint inspection report of inspection conducted by the Central Pollution Control Board and Maharashtra Pollution Control Board on 31st July, 2018, has been furnished. The report <i>inter-alia</i> states that out of 229 effluent generating units, 195 units were sending their effluents to the CETP. The Maharashtra Pollution</p> |
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| | <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>Control Board has issued closure directions to 34 members and show cause directions to 119 units (learned counsel for Maharashtra Pollution Control Board states that 119 is a typing error for 149). The flow meter at the CETP at the inlet and outlet was not operational. Effective aeration was not provided due to choking in the pores of diffusers in the aeration tank. Housekeeping of CETP was poor. Huge quantity of sludge was found stored near the collection tank of the CETP.</p> <p>8. It was concluded by the joint inspection team that due to closure of 34 units and show cause directions to 149 units, inlet quality was controlled. There was reduction in the concentration of COD. Final conclusion is as follows:-</p> <p><u>“CONCLUSION AND RECOMMENDATIONS:</u></p> <p><i>Due to closure directions and show cause directions from MPCB to member units 195 out of total effluent generating industrial units in the MIDC are discharging effluent to CETP. Thus, CETP is receiving controlled flow and concentration load in terms of COD and BOD. In spite of that CETP is not able to meet the norms. In full capacity the situation may be much worse. It can be inferred that the inlet condition is temporarily controlled due to closure directions of units. The inlet concentration though well within the design parameters of CETP except pH (acidic range) and Ammonical Nitrogen. The overall reduction of about 22% in the concentration of COD, from inlet to final outlet, indicates poor performance of CETP.</i></p> <p><i>The CETP has not yet started implementing most of the recommendations made by the joint team of Central Pollution Control Board and MPCB during earlier visit. The only work of de-sludging from the collection tank near distribution chamber has been initiated. The de-sludging activity, handling storage of sludge was not found satisfactory. No proper records for the sludge removal and disposal are maintained by the CETP.</i></p> <p><i>The diffused aeration system was not found adequate in terms of physical condition and performance.</i></p> <p><i>The sludge dewatering, handling and storage</i></p> |
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| | <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>system practiced by CETP found to be unsatisfactory as the SDBs of phase-II is not provided with leachate collection and transfer system. SDBs of Phase-I having leachate collection tank and flexible pipes are reportedly used for transfer of leachate to aeration tank. However, proper and fixed transfer system of leachate to equalization tank needs to be provided for both the phase. The decanter installed at the phase-II was not working.</p> <p>Civil structure, railing of collection tank, aeration tank was found damaged and needs improvement.</p> <p>The OCEMS and flow meter installed by the CETP at the inlet and outlet was not operational during visit as sensors were observed submerged in the sludge and proper working of sensor in such condition is technically not possible. Leakages from sludge transfer pump, glad leakage, accumulation of acidic wastewater near sludge drying beds of phase-II, storage of sludge on open land adjacent to sludge drying bed near collection tank and overall housekeeping shows negligent approach.</p> <p>The final outlet sample collected from CETP significantly exceeds MPCB discharge standards for the concentration of TSS, FDS, COD, BOD, NH₃-N, TKN, phenols, PO₄-P, Cl, S₂, CN, Fe and Pb. MIDC has to provide the final disposal point in the deep sea as suggested by NIO. MIDC also need to repair and maintain the leakage in the discharge pipeline.</p> <p>It is therefore concluded that the CETP has not taken sincere efforts for execution of recommendations given in the earlier reports submitted to Hon'ble NGT. MPCB is in the opinion that change of the management committee of CETP, administration of Registrar of Societies to newly elected committee are the reason for the same. Thus, CETP continue to violate the MPCB discharge norms.</p> <p>It is recommended that CETP should devise systematic time bound approach to address the issues starting from the very first step of treatment scheme to the end. The CETP management is required to revisit the recommendations made in earlier as well as in present reports and also to integrate efforts as stakeholders to implement them without further delay.”</p> <p>9. The above conclusion clearly shows that the substantial improvement has not taken place and the CETP continues to violate the Maharashtra Pollution</p> |
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| <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>Control Board discharge norms. Recommendations have been made that CETP should devise time bound approach to address the issues and to integrate the efforts of the stakeholders and thus implement them without any further delay. We have no reason to reject the report jointly submitted by the Central Pollution Control Board and the Maharashtra Pollution Control Board.</p> <p>10. On being repeatedly asked the learned Counsel for the Maharashtra Pollution Control Board has not be able to furnish any reply to the question as to why in spite of such serious violations no prosecution has been initiated. Only explanation now furnished is that the default is on the part of the CETP. If the CETP is not working and the effluents continue to be discharged into the river against the norms, the industries whose effluents are being discharged cannot be said to be complying with the law and cannot be absolved of liability under the criminal law.</p> <p>11. The Maharashtra Pollution Control Board must forthwith perform its legal duties in this regard. The Board cannot remain content with show cause notices if untreated effluents are discharged. Show cause notice must be followed up by further legal action. It is not clear as to why inspite of show cause notice, proceedings are being kept pending for such long time even in emergent situation and in the face of clear inspection reports. There is no clear stand by the Maharashtra Pollution Control Board as to what steps are to be taken for restoring the damage to the environment already caused. We also do not find any action plan for examining the fate of the</p> |
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| | <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>victims who may have suffered on account of pollution in the river.</p> <p>12. In above circumstances, we are left with no alternative but to direct that appropriate action be taken under the civil and criminal laws against the erring industries as well as for failure of MIDC and the CETP Co-operative Society, to perform their duties. Action may have to be considered against office bearers who are presently running the Society as well as those who were earlier managing the same so as to stop any discharge above the norms prescribed under the law. The Maharashtra Pollution Control Board may take administrative action against the erring officials besides taking steps for restoring the damage to the environment and also for the rehabilitation for affected inhabitants in the area.</p> <p>13. In view of complex nature of the problem and also the magnitude of the damage already done and which is being continued, we will enhance the amount of Rs.5 Crore required to be deposited by the Society to Rs. 10 Crore to be deposited with the District Magistrate within one month. The Society may collect the amount from defaulting industrial units.</p> <p>14. Next question is how the order is to be executed. Section 25 of the NGT Act provides for execution of the order as a decree of Civil Court. Either Tribunal has to act as Civil Court or transfer the execution to Civil Court. When pollution is patent, there is no difficulty in requiring remedial measures being taken for protection of environmental. Execution remains a challenge. Coercive</p> |
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| <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>measures prescribed include filing complaint for prosecution under the Act or attachment and arrest under the CPC. The situation of the present nature requires continuous action not only to ensure that pollution stops but also that the damage is restored. In such situation, sui generis proceeding needs to be adopted for execution with this being done order of the Tribunal will remain on paper. The Tribunal has, in several earlier orders, including similar cases in the context of pollution of rivers Ganga, Ghaggar and Hindon appointed monitoring/execution committees headed by former High Court Judges to ensure credible mechanism. This experience appears to have helped the situation. Accordingly, to handle the situation in the present case, we constitute a Monitoring Committee to execute the order of this Tribunal as follows:</p> <ol style="list-style-type: none"> i. Justice V.M. Kanade, former Judge of Bombay High Court (Phone No. 98203082207), Chairman. ii. Representative of Central Pollution Control Board, Member. iii. Collector of the area, Member. <p>15. The Committee will take following steps:</p> <ol style="list-style-type: none"> (i) Take stock of all the actions taken so far in the light of the various directions of the Tribunal. (ii) Propose time bound action plan to deal with the problem. The Committee may suggest the framework for implementation. Preferably a |
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| | <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>comprehensive, integrated and inclusive strategy with clear measurable indicators of progress and success.</p> <p>16. The online mechanism for monitoring the performance of individual ETPs and Common Effluent Treatment Plant (CETP) should also be connected to the servers of CPCB and State Pollution Control Boards so that the CPCB can also monitor the data.</p> <p>17. The Monitoring Committee may also setup a website for receiving and giving information on the subject.</p> <p>18. The Committee may also involve educational institutions for expectations, awareness and feedback about the results.</p> <p>19. All the authorities concerned in the State Maharashtra will co-operate and co-ordinate with the Monitoring Committee. The Monitoring Committee can seek such technical and scientific assistance as may be required from any relevant authority.</p> <p>20. We request the Chief Secretary, Maharashtra to provide all support and facilities to the said Committee to perform its functions. The Committee may send its quarterly reports to this Tribunal by e-mail. The Chief Secretary, Maharashtra may determine the honorarium to be paid to the Committee in consultation with the members. The Committee may requisition the services of such technical experts as may be necessary and may also carry out physical visits to the sites, whenever necessary. They will be entitled to logistic support for performing</p> |
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| <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>these functions to be provided under the directions of the Chief Secretary, Maharashtra. The Committee may assume its charge within two weeks from today. The Committee may prepare its Action Plan which may have target of ensuring compliance of prescribed standards preferably within three months. It may meet at such intervals as considered appropriate but once every month and fix next targets. The Committee will be free to take up all incidental issues. All Concerned authorities are expected to cooperate with the Committee subject to any objection being put forward before this Tribunal. The Committee will be free to seek any further directions from this Committee by Email.</p> <p>21. The above team to make a plan so that damage caused can be reversed and further damage prevented. Execution of such plan is to be overseen Any objection to working of the team can be considered by the Tribunal.</p> <p>22. The logistic support if required for functioning of the Committee may also be provided by the Maharashtra Pollution Control Board. The Committee will have an action plan prepared for rectifying the situation and fixing the responsibility on the erring persons and institutions and to oversee the implementation of the action plan.</p> <p>23. The State of Maharashtra may fix their honorarium/remuneration in consultation with the members. A copy of this order be sent to the Chief Secretary, State of Maharashtra for compliance by E-Mail.</p> <p>24. The Action Plan be prepared by the Committee</p> |
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| | <p>Item No. 05</p> <p>August 17, 2018</p> <p>SS & DV</p> | <p>within one month. The Joint Inspection Committee of the Central Pollution Control Board/Maharashtra Pollution Control Board may submit monitoring analysis report of the industries in question responsible for the discharge of the effluents beyond the norms to the Monitoring Committee at the earliest.</p> <p>25. The application is disposed of.</p> <p>A copy of this order be forwarded to all concerned through e-mail with a direction to file a report of action taken within three months through e-mail at filing.ngt@gmail.com.</p> <p>List for consideration of the Report of the Monitoring Committee on 05th March, 2019.</p> <p>....., CP (Adarsh Kumar Goel)</p> <p>....., JM (Dr. Jawad Rahim)</p> <p>.....,EM (Dr. Nagin Nanda)</p> <p style="text-align: right;">17.08.2018</p> |
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Item No. 01

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 125/2018
(Earlier O. A. No. 163/2017 (WZ)
(I.A. No.209/2019, M.A. No.99/2019 & M.A. No.103/2019)

(With report dated 19.07.2019)

Arvind Pundalik Mhatre

Applicant(s)

Versus

Ministry of Environment and Forest &
Climate Change & Ors.

Respondent(s)

Date of hearing: 03.09.2019

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For Applicant (s):

Dr. Sudhakar E. Avhad, Mr. Chetan R. Nagare
and Mr. Arvind S. Avhad, Advocates

For Respondent(s):

Mr. Mukesh Verma, Advocate for MPCB
Ms. Shyamali Gadre and Ms. Ramni Teneja,
Adocates, Mr. S.D. Patil and Mr. R.P. Patil, MIDC
officers

ORDER

1. The matter pertains to remedial action against pollution caused by the discharge of industrial effluents in Taloja industrial area on the outskirts of Mumbai.
2. The matter has been dealt with by this Tribunal on several dates and orders have been passed having regard to the fact situation depicted in inspection reports filed before this Tribunal from time to time. The record clearly shows that

untreated industrial effluents were being discharged in a water body causing damage to the eco system and health of the inhabitants. Faced with such situation, this Tribunal directed the CETP operator to deposit interim compensation in the sum of Rs. 5 crores to the District Magistrate vide order dated 04.04.2018. Since the pollution continued, further compensation of Rs. 5 Crores was required to be paid by the CETP operator vide order dated 17.08.2018.

3. In view of the repeated failure on the part of the regulatory authorities and the CEPT operators, a Monitoring Committee headed by a former Judge of the Bombay High Court was appointed to propose a time bound action plan. The report of Justice V.M. Kanade was considered vide order dated 09.04.2019. The action plan proposed steps for upgradation of the CETP. The Cooperative Society operating the CETP passed a resolution for take over of the CETP by Maharashtra Industrial Development Corporation (MIDC). MIDC started working around 01.11.2018 but the pollution was not stopped. Accordingly, vide order dated 09.04.2019, this Tribunal directed that industries which are source of pollution be shut down till remedial action is taken. We noted that MIDC as well as MPCB were unable to provide any other option. The MPCB was directed to suspend consent to operate of the industries not meeting the norms and permit them only after the remedial steps are taken. CETP operator was required to deposit balance of amount of Rs. 6.1 Crores towards compensation for the damage to the environment. The amount was to be

deposited with the District Magistrate for restoration of the environment.

4. We have today considered the action taken report filed by MPCB on 20.07.2019 and the status report filed on behalf of the MIDC. The reports show that outlet parameters from the CETP are not achieving the norms due to non-completion work of the upgradation of CETP. Current status of work of CETP is reported as follows:-

- “(i) Phase I CETP :- Taloja CETP phase I having capacity of 12.5 MLD is at present in operation.
 (ii) Phase II CETP :- Taloja CETP Phase – II having capacity of 10 MLD has been rehabilitated and upgraded completely. The Phase – II plant is commissioned and will be made in operational very soon.”

5. Status of operation of CETP *inter-alia* is shown as follows:-

“CETP Phase I plant 12.5 MLD capacity operation were continued and effluent being treated through Phase – I plant taking Phase – II plant 10 MLD capacity under shut down for rehabilitation, removal of sludge etc.”

6. Conclusion in the report of the MPCB is shown as follows:-

“In view of the above facts and circumstances, it is concluded that after commissioning of Phase – II i.e. August 2019 10 MLD effluent will be treated as per norms and remaining effluent of 7 MLD will be segregated at source from large industries who is achieving MPCB’s standard for outlet COD below 250 mg/litr will be taken separately and discharged at CETP outlet directly. Hence, total effluent generation quantity upto 17 MLD will be discharged at COD of 250 mg/litres which is as per MPCB norms and it is allowed for disposal. At the same time, CETP 1st Phase renovation, upgradation work will be started and all the work will be completed upto Nov. 2019 and total CETP functioning will be come into force from Dec. 2019.”

7. The status report filed by the MIDC shows that the amount of Rs. 3.90 Crores which was required to be deposited has not been done though a part of the amount is said to have been collected.
8. It is, thus, obvious that CETP operator i.e. MIDC is continuing to commit criminal offence under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 in discharging effluents beyond norms. It is also violating the orders of the Tribunal regarding the payment of compensation as well as not discharging effluents in violation of norms. The MPCB has also not ensured stopping of violation of law.
9. Faced with the above, learned counsel for the MIDC has stated that within 15 days only 10 MLD effluents will be received which can be treated and remaining amount of effluents will not be received by CETP. Learned counsel for MPCB has also made a similar statement that this arrangement will be enforced and necessary order passed. We take the statements on record but we have no answer why it has not been done so far and why violation of law has been allowed to continue.
10. Even though for clear violation of law and the order of this Tribunal, we are inclined to direct civil imprisonment of the CEO of MIDC and Deputy CEO (Environment), MIDC as well as Member Secretary, MPCB, however, taking liberal view, in view of the statement that by 30.09.2019 compliance of orders of this Tribunal in respect of deposit of compensation in accordance with the terms of Agreement as well as stopping of

discharge of polluting effluents will be ensured. We direct that MIDC is liable to deposit further sum of Rs. 5 Crores for causing pollution after its taking over of CETP operation around 01.11.2018 till date. We further direct that if the remaining amount of compensation as per earlier orders as well as the current amount is not deposited by 30.09.2019, salary of CEO, MIDC, Deputy CEO (Environment), MIDC and Member Secretary, MPCB be stopped till compliance.

11. Let a further compliance report be filed by CEO, MIDC and Member Secretary, MPCB on or before 15.10.2019 by e-mail at judicial-ngt@gov.in.
12. The amount of compensation may be recovered from the members contributing to the effluent as per agreement but failure of the members to deposit will not be a ground not to make the deposit which will remain basic responsibility of MIDC.
13. In view of further developments after passing of the order dated 17.08.2018, the Monitoring Committee may conclude its proceedings by 30.09.2019 and file its final report before 15.10.2019.
14. The joint Committee of CPCB and MPCB may verify status of discharge of effluents on the site as on 15.10.2019 and furnish a report to this Tribunal by e-mail at judicial-ngt@gov.in by 31.10.2019.

15. A copy of this order be sent Chief Secretary, Maharashtra and CPCB for necessary action by e-mail.

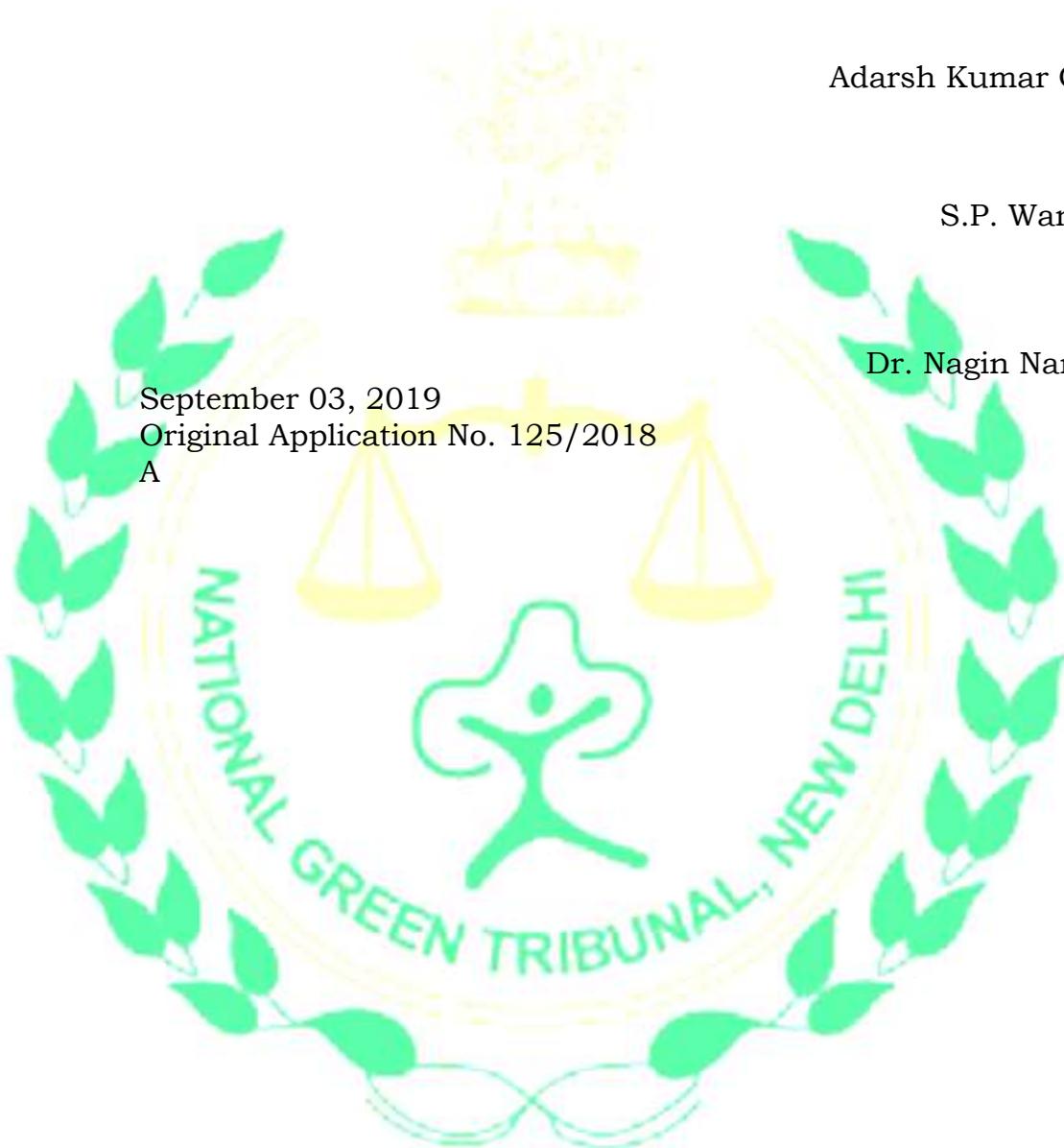
List for further consideration on 04.11.2019.

Adarsh Kumar Goel, CP

S.P. Wangdi, JM

Dr. Nagin Nanda, EM

September 03, 2019
Original Application No. 125/2018
A





Ref:RBHDRO/MPCB/LTR/146/2021-22

To,

Date: 12.08.2022

The Regional Officer,

MPCB Raigad,

Raigad Bhavan, 6th floor, Sector - 11,

C.B.D Belapur, Navi Mumbai- 400 614.

Sub: Direction under section33(A) of Water (Prevention & Control of Pollution) Act, 1974, 31(A) of Air ((Prevention & Control of Pollution) Act, 1981.

Sir,

With regards to your letter No.-MPCB/ROR/Direction/2022/2208080004 (B) dated 08.08.2022, we are complying to your directions as below-

| S.N. | Directions | Comply |
|-------------|---|--|
| 1. | You shall complete up-gradation and revamping work of CETP within stipulated time period i.e. by 30 th August 2022 as committed by MIDC. | Almost completed the civil works and will be starting the commissioning of the mechanical equipment which is expected to be completed by 30 th August provided the heavy rains and flooding of the plant is reduced to favourable condition |
| 2. | MIDC and CETP authority shall put all the existing CETP units in operation and operate it scientifically and ensure the disposal of treated effluent shall achieve consented standards. | The plant is operating even though the up-gradation work is going on. We are complying with the specific outlet standards prescribed in the consent order for disposal of treatment effluent which can be seen from Mpcb portal. |

| | | |
|----|--|---|
| 3. | MIDC and CETP authority shall dispose Hazardous Waste/ETP sludge to the CHWTSDF immediately. | All the Hazardous Waste/ETP sludge had been already removed and disposed off to MWML, Taloja. |
| 4. | MIDC and CETP authority shall make necessary treatment provisions during the up-gradation of the existing units. | Present CETP plant is designed for 22.5 MLD, however only 10 MLD effluent is being received. There are 2 numbers of Primary Clarifloculator each one is having treatment capacity of 10 MLD. For secondary treatment there are 3 numbers of Aeration tank and 2 numbers of Secondary Clarifier with each having treatment capacity of 10 MLD, hence by keeping one tank in operation we are upgrading the other tank without affecting the treatment process. Moreover, we have also constructed some new units simultaneously like Anoxic Tank, Sludge Thickner Tank, Inlet Chamber, Distribution Chambers and MCC Rooms which is not affecting the treatment process. |
| 5. | MIDC shall curtail water supply of the member industries by 50% with reference to Boards consent quality till completion of the up-gradation and revamping work of CETP. | Present plant is designed for 22.5 MLD, however only 10 MLD effluent is being received. Already less than 50% effluent is coming to CETP, hence there appears no need to curtail further water supply of the member industries. The further water supply curtailment may cause great harm to Industry with production loss. Some of the industries have shifted to Gujarat and some more might go to elsewhere. |

The work of OCMS, provision of NRV, two way SCADA system etc. need to be taken by RIA CETP Co- Operative Society Limited and the individual industries. RBIPPL & HYDROAIR (JV) is assigned up gradation and operation & Maintenance of CETP and scope is within battery limit of CETP.

The CETP Plant is operated scientifically and the units required for up-gradation work also being implemented as per Consultant CH2M and tender conditions. it is planned to complete and commission CETP Plant by end of November 2022. There is slight delay in progress of work due to heavy rains and flood situations.

You are requested to please take the issue of control of color, odour and TDS at factory level with RIA CETP Cooperative Society Limited.

Thanking you
Yours faithfully

For RBIPPL Hydro Air (JV)



H B Singh

Copy Submitted to : Hon'ble Chairman, MPCB, Mumbai.
Copy Submitted to : Hon'ble Joint Director (WPC), MPCB, Mumbai.
Copy Submitted to : Regional Officer, MPCB, Raigad.
Copy Submitted to : Sub-Regional Officer, MPCB, Raigad-2.
Copy Submitted to : Chief Engineer, MIDC(HQ), Mumbai.
Copy Submitted to : Superintending Engineer, MIDC(K), Mumbai.
Copy Submitted to : Executive Engineer, MIDC(Alibag), Mumbai.
Copy Submitted to : Superintending Engineer, MIDC(K), Mumbai.
Copy Submitted to : Deputy Engineer, MIDC (Roha), Mumbai.