

MOHAMED SATHAK A J COLLEGE OF ENGINEERING

34, Rajiv Gandhi Salai (OMR), Siruseri IT Park, Chennai - 603103



CRITERION: 7.1.4

Water conservation Facilities Available in the Institution

| S.No | Department |
|------|---|
| 1 | Rain Water Harvesting |
| 2 | Borewell/Open Well Recharge |
| 3 | Construction of Tanks and Bunds |
| 4 | Waste Water Recycling |
| 5 | Maintenance of Water Bodies and Distribution System in the Campus |

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Chennai-603 103.

1. Rain Water Harvesting



Rain Water Harvesting at Right Side Wing of the Main Building

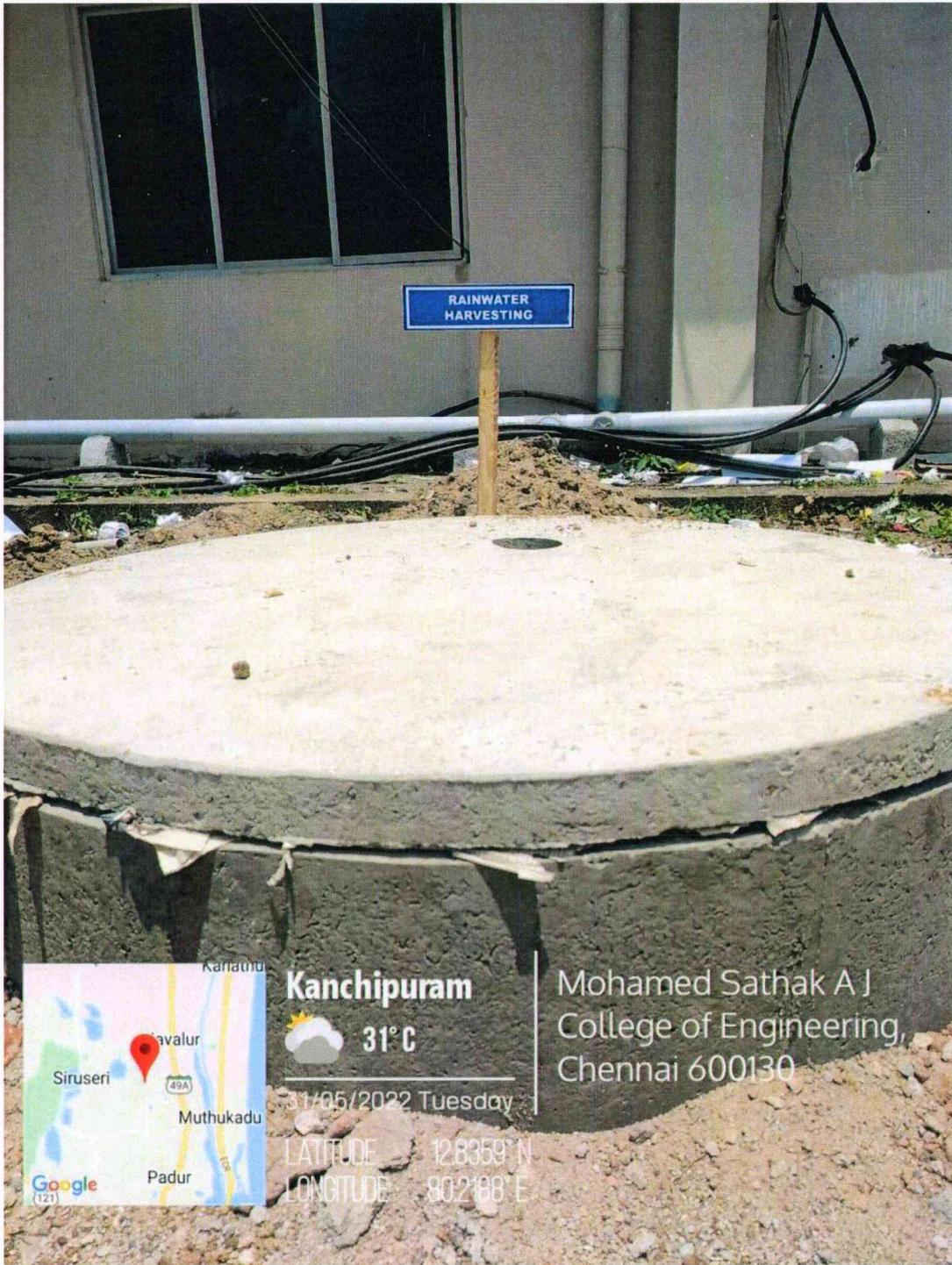
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Rain Water Harvesting at Left Side Wing of the Main Building

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Rain Water Harvesting at Left Side Wing of the Main Building

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2. Borewell/Open Well Recharge

For our Institution Water supply to Main Campus Building, Boys Hostel 1&2 and Hostel Mess are provided from the Two Open well Recharge pit Near Workshop and Boys Hostel. Nearly 20,000 to 25,000 liters of water is used every day. In order to recharge the open wells pits were constructed in different Dimensions with coarse gravel for adequate infiltration of water. This helps in increasing the ground water level.



Open Well Recharge System near Workshop

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Open Well Recharge Pits near Boys Hostel

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Bore Well near Workshop

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3. Construction of Tanks and Bunds

The Institution has built Over head tanks in all the building. The Capacity of the Tank varies for each building. The Institution has 18 overhead tanks, few Sump and Sintex tank in which the Sump tank in Hostel 1 & 2 has the high capacity of 35,000 liters of water. Remaining tanks has the capacity of 22,000 & 5000 liters. Consumption of water changes according to the needs of the People in all these buildings. The Open well is the main source for the total supply of water. Overall Capacity of College Water Tank is 3, 38,500 liters.



Water Tank on Center Main Building

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Water Tank on Right Wing of Main Building


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Water Tank on Left Wing of Main Building

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4. Waste Water Recycling

The institution always stresses on the need of saving each and every drop of water. On condition with this, the college has taken initiatives to use the waste water to water the trees. Every day, college needs approximately 10,000 liters of water for the plants. The institution has set up a plant which has the capacity of 25,000 liters of water. The recycling plant does the work of recycling. Approximately 10,000 liters of water recycle every day which comes from the different building and used for the garden.



Sewage Treatment Plant Inside

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Sewage Treatment Plant beside Hostel III


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5. Maintenance of Water Bodies and Distribution System in Campus

1. RO Plant in our College

For our Institution RO Water supply to Main Campus Building, Boys Hostel 1&2 and Hostel Mess is provided from the RO plant Near Workshop and Boys Hostel. Nearly 15,000 liters of water is used regularly.



RO Plant near Workshop – Pic 1

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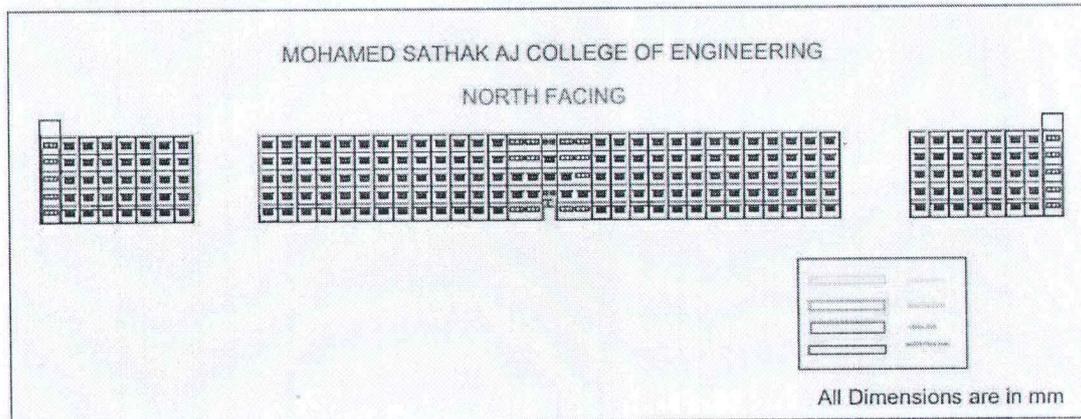
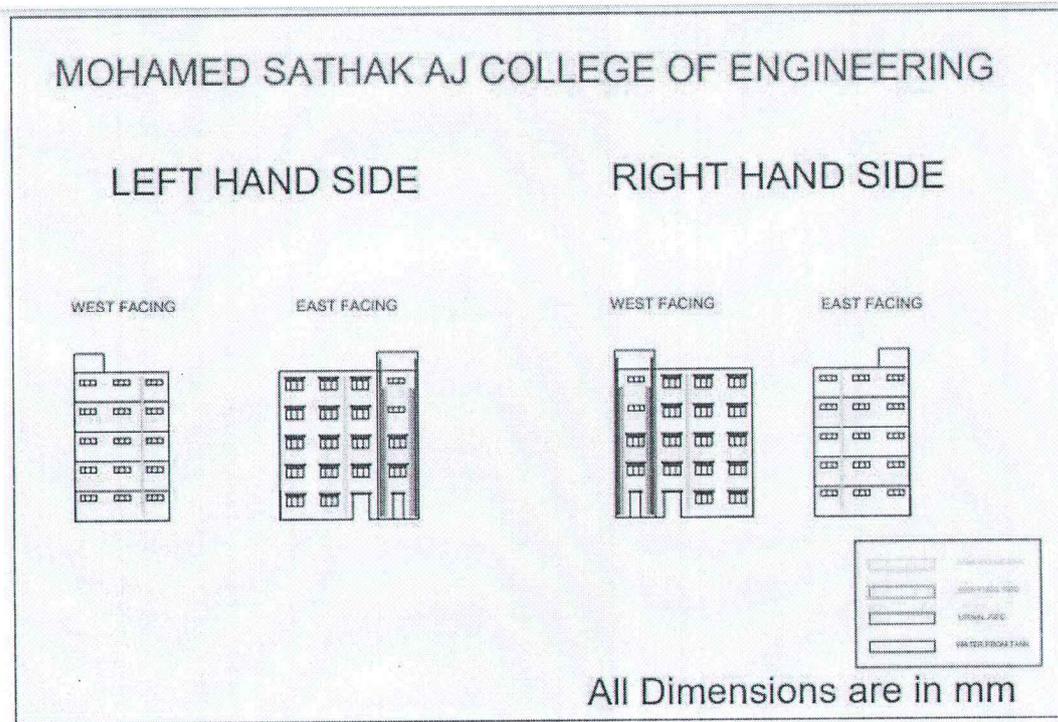
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RO Plant near Workshop – Pic 2

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2. Distribution of Water Pipeline in Main Campus



Pictorial Representation of Water Distribution System

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MOHAMED SATHAK AJ COLLEGE OF ENGINEERING

LEFT HAND SIDE

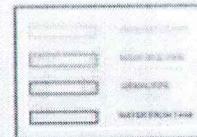
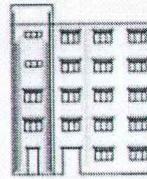
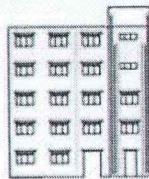
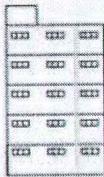
RIGHT HAND SIDE

WEST FACING

EAST FACING

WEST FACING

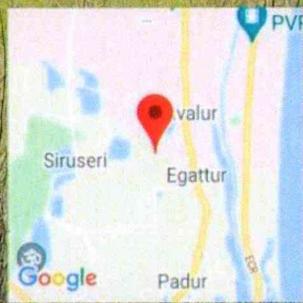
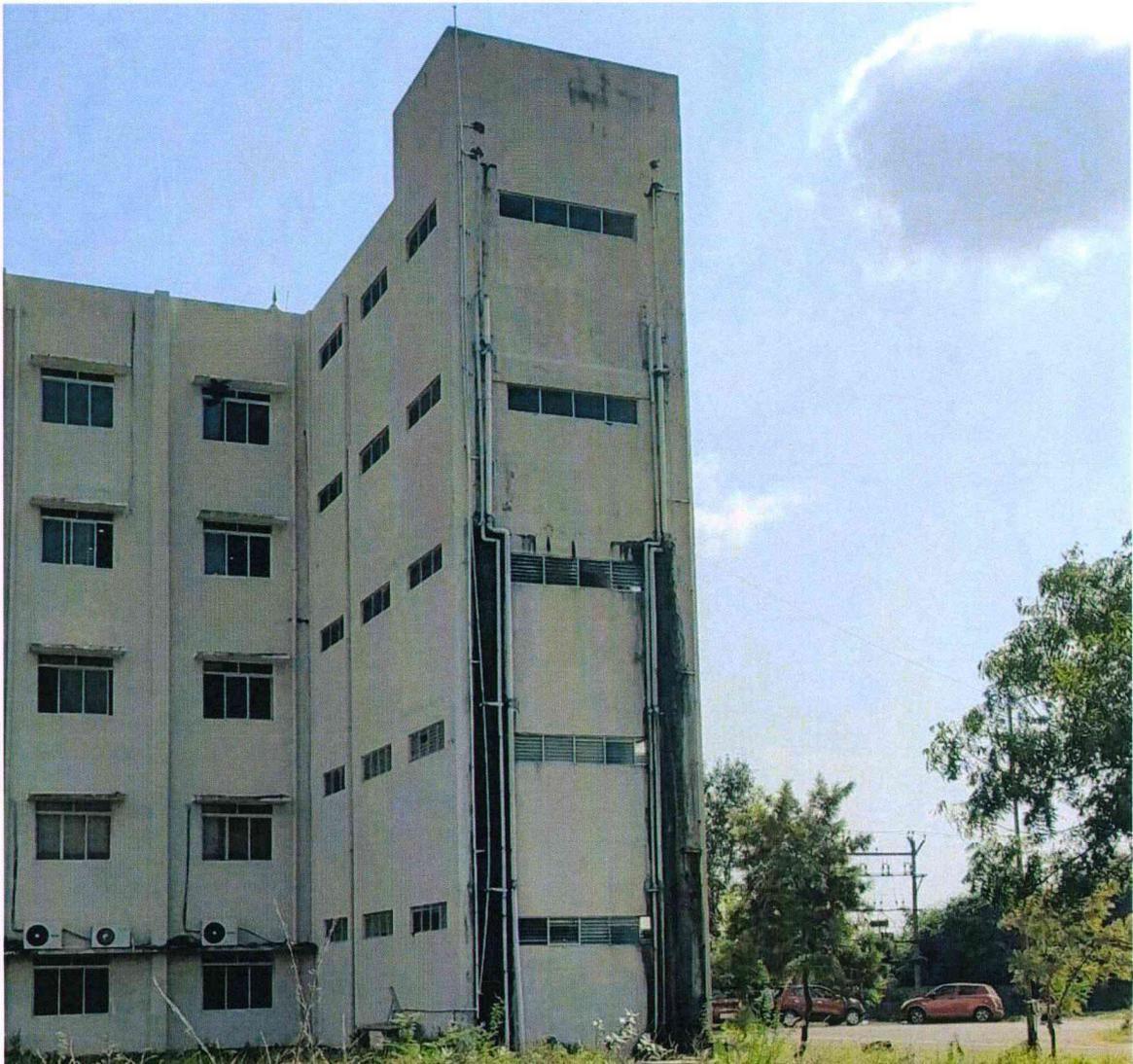
EAST FACING



All Dimensions are in mm

Pictorial Representation of Water Distribution System

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Kanchipuram
31°C
17/02/2022 Thursday
LATITUDE 12.8357° N
LONGITUDE 80.2188° E

Mohamed Sathak A J
College of Engineering
Siruseri 600130

Water Pipeline of Left wing in Main Building

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Photo of Waste Water to Garden

Mohamed Sathak A.J.

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Photo of Waste Water to Garden

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Report No: 211239801

Page 1 of 1

Issued To,
THE PRINCIPAL,
Mohamed sathak A.J.college of Engineering,
siruseri sipcot IT park, OMR,
Chennai-603103, Tamil Nadu.
Ph: +91 - 8610337011

Submitted Sample
Date of Report : 04.01.2022
Received on : 29.12.2021
Commenced on : 29.12.2021
Completed on : 04.01.2022

Sample Referred by : Ram Water Technologies (+91 - 9941033777)
Place of Supply : Tamil Nadu
Sample Code No : T 21 12 398-01
Sample Name : Water Sample
Sample Identification : Raw Water

| Sl. No | Test Parameters | Unit | Result | Requirement Limit as per IS 10500:2018 | | Test Method |
|--------|---|-------|---------------|--|--|------------------------------|
| | | | | Acceptable Limit (Max) | Permissible Limit in the absence of other source (Max) | |
| I | Chemical Examinations: | | | | | |
| 1 | Appearance | -- | Clear | -- | -- | Visual Examination |
| 2 | pH @ 25°C | -- | 7.97 | 6.5 - 8.5 | -- | IS 3025 Part 11 1983 RA 2017 |
| 3 | Colour | Hazen | 1.0 | 5 | 15 | IS 3025 Part 4 2021 |
| 4 | Odour | -- | Agreeable | Agreeable | Agreeable | IS 3025 Part 5 2018 |
| 5 | Turbidity | NTU | 0.10 | 1 | 5 | IS 3025 Part 10 1984 RA 2017 |
| 6 | Electrical Conductivity @ 25°C | µS/cm | 837 | -- | -- | IS 3025 Part 14 2013 RA 2019 |
| 7 | Total Suspended Solids | mg/l | Nil | -- | -- | IS 3025 Part 17 1984 RA 2017 |
| 8 | Total Dissolved Solids | mg/l | 527 | 500 | 2000 | IS 3025 Part 16 1984 RA 2017 |
| 9 | Total Hardness as CaCO ₃ | mg/l | 315 | 200 | 600 | IS 3025 Part 21 2009 RA 2019 |
| 10 | Calcium Hardness as CaCO ₃ | mg/l | 233 | -- | -- | IS 3025 Part 40 1994 RA 2019 |
| 11 | Magnesium Hardness as CaCO ₃ | mg/l | 81 | -- | -- | IS 3025 Part 46 1994 RA 2019 |
| 12 | Calcium as Ca | mg/l | 94 | 75 | 200 | IS 3025 Part 49 1994 RA 2019 |
| 13 | Magnesium as Mg | mg/l | 20 | 30 | 100 | IS 3025 Part 46 1994 RA 2019 |
| 14 | Phenolphthalein Alkalinity as CaCO ₃ | mg/l | Nil | -- | -- | IS 3025 Part 23 1986 RA 2019 |
| 15 | Total Alkalinity as CaCO ₃ | mg/l | 309 | 200 | 600 | IS 3025 Part 23 1986 RA 2019 |
| 16 | Chloride as Cl | mg/l | 148 | 250 | 1000 | IS 3025 Part 32 1988 RA 2019 |
| 17 | Sulphate as SO ₄ | mg/l | 51 | 200 | 400 | IS 3025 Part 24 1986 RA 2019 |
| 18 | Total Iron as Fe | mg/l | 0.094 | 0.30 | No Relaxation | IS 3025 Part 53 2003 RA 2019 |
| 19 | Silica as SiO ₂ | mg/l | 31.4 | -- | -- | IS 3025 Part 35 1988 RA 2019 |
| 20 | Residual Free Chlorine | mg/l | 80L (DL-0.10) | 0.2 | 1.0* | IS 3025 Part 26 2021 |
| 21 | Carbonate Hardness as CaCO ₃ | mg/l | 309 | -- | -- | IS 3025 Part 21 2009 RA 2019 |
| 22 | Non-Carbonate Hardness as CaCO ₃ | mg/l | 6.0 | -- | -- | IS 3025 Part 21 2009 RA 2019 |
| II | Microbiological Examinations: | | | | | |
| 1 | Coliform | -- | Present | Shall not be detectable in any 100 ml of Sample. | | IS 1622 : 1981 RA 2019 |
| 2 | E.Coli | -- | Absent | Shall not be detectable in any 100 ml of Sample. | | IS 1622 : 1981 RA 2019 |

* To be applicable only when water is Chlorinated. BDL-Below Detection Limit DL-Detection Limit

Remarks: The Submitted Sample of Water does not meet the Chemical requirement of Permissible Limit in the absence of other source as per IS:10500:2018 Drinking Water Specification, with respect to the above tested Parameters.

sd
Verified by
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Authorized Signatory

- The Test Results relate only to the items tested.
- This Test Report shall not be reproduced anywhere except in full and in the same format without the written approval of GLIPL.
- The tested items will not be retained for more than 15 days from the date of issue of Test Report unless otherwise approved with the Customer or as required by the applicable regulations.
- The Laboratory's responsibility under this report is limited to proven willful negligence and will in no case be more than the invoiced amount.


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 603 103.

RO Water Test Report for Plant 1.



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Report No: 211239901

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Issued To,
THE PRINCIPAL,
Mohamed sathak A.J.college of Engineering,
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Chennai-603103, Tamil Nadu.
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Submitted Sample
Date of Report : 04.01.2022
Received on : 29.12.2021
Commenced on : 29.12.2021
Completed on : 04.01.2022

Sample Referred by : Ram Water Technologies (+91 - 9941033777)
Place of Supply : Tamil Nadu
Sample Code No : T 21 12 399-01
Sample Name : Water Sample
Sample Identification : Treated Water

| Sl. No | Test Parameters | Unit | Result | Requirement Limit as per IS 10500:2018 | | Test Method |
|---|---|-------|---------------|--|--|------------------------------|
| | | | | Acceptable Limit (Max) | Permissible Limit in the absence of other source (Max) | |
| I Chemical Examinations: | | | | | | |
| 1 | Appearance | -- | Clear | -- | -- | Visual Examination |
| 2 | pH @ 25°C | -- | 7.97 | 6.5 - 8.5 | -- | IS 3025 Part 11 1983 RA 2017 |
| 3 | Colour | Hazen | 1.0 | 5 | 15 | IS 3025 Part 4 2021 |
| 4 | Odour | -- | Agreeable | Agreeable | Agreeable | IS 3025 Part 5 2018 |
| 5 | Turbidity | NTU | 0.10 | 1 | 5 | IS 3025 Part 10 1994 RA 2017 |
| 6 | Electrical Conductivity @ 25°C | µS/cm | 125 | -- | -- | IS 3025 Part 14 2013 RA 2019 |
| 7 | Total Suspended Solids | mg/l | NI | -- | -- | IS 3025 Part 17 1994 RA 2017 |
| 8 | Total Dissolved Solids | mg/l | 81 | 500 | 2500 | IS 3025 Part 16 1994 RA 2017 |
| 9 | Total Hardness as CaCO ₃ | mg/l | 49 | 300 | 600 | IS 3025 Part 21 2009 RA 2019 |
| 10 | Calcium Hardness as CaCO ₃ | mg/l | 37 | -- | -- | IS 3025 Part 40 1991 RA 2019 |
| 11 | Magnesium Hardness as CaCO ₃ | mg/l | 12 | -- | -- | IS 3025 Part 46 1994 RA 2019 |
| 12 | Calcium as Ca | mg/l | 15 | 75 | 200 | IS 3025 Part 49 1991 RA 2019 |
| 13 | Magnesium as Mg | mg/l | 3.0 | 30 | 100 | IS 3025 Part 46 1994 RA 2019 |
| 14 | Phenolphthalein Alkalinity as CaCO ₃ | mg/l | NI | -- | -- | IS 3025 Part 23 1986 RA 2019 |
| 15 | Total Alkalinity as CaCO ₃ | mg/l | 36 | 200 | 600 | IS 3025 Part 23 1986 RA 2019 |
| 16 | Chloride as Cl | mg/l | 15 | 250 | 1000 | IS 3025 Part 32 1988 RA 2019 |
| 17 | Sulphate as SO ₄ | mg/l | 37 | 200 | 400 | IS 3025 Part 24 1986 RA 2019 |
| 18 | Total Iron as Fe | mg/l | BDL (DL-0.02) | 0.30 | No Relaxation | IS 3025 Part 53 2003 RA 2019 |
| 19 | Silica as SiO ₂ | mg/l | BDL (DL-0.05) | -- | -- | IS 3025 Part 35 1988 RA 2019 |
| 20 | Residual Free Chlorine | mg/l | BDL (DL-0.10) | 0.2 | 1.0* | IS 3025 Part 26 2021 |
| 21 | Carbonate Hardness as CaCO ₃ | mg/l | 49 | -- | -- | IS 3025 Part 21 2009 RA 2019 |
| 22 | Non-Carbonate Hardness as CaCO ₃ | mg/l | Absent | -- | -- | IS 3025 Part 21 2009 RA 2019 |
| II Microbiological Examinations: | | | | | | |
| 1 | Coliform | -- | Absent | Shall not be detectable in any 100 ml of Sample. | | IS 1622 : 1981 RA 2019 |
| 2 | E.Coli | -- | Absent | Shall not be detectable in any 100 ml of Sample. | | IS 1622 : 1981 RA 2019 |

**** End of Report****

* To be applicable only when water is Chlorinated. ; BDL-Below Detection Limit DL-Detection Limit

Remarks: The Submitted Sample of Water meets the Chemical requirement of Permissible Limit in the absence of other source as per IS:10500:2018 Drinking Water Specification, with respect to the above tested Parameters.

sd
Verified by

Authorized Signatory

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- The Laboratory's responsibility under this report is limited to proven willful negligence and will in no case be more than the Invoiced amount.

RO Water Test Report for Plant 2

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