

**REPORT OF JOINT COMMITTEE IN COMPLIANCE WITH ORDER OF HON'BLE NGT DATED 04.09.2025 IN THE SUO MOTO MATTER- ORIGINAL APPLICATION NO.73/2025 (WZ) [ORIGINAL APPLICATION NO.297 /2025 (PB)] RELATED TO FUTALA LAKE, NAGPUR**

**1.0 BACKGROUND:**

Original Application No. 297 of 2025 (PB) (OA No. 73 of 2025 (WZ)) registered for exercise of suo motu jurisdiction by Hon'ble NGT, Principal Bench, New Delhi based News Item titled "Futala Lake's charm fades amid neglect and poor maintenance appeared in 'The Times of India' dated 25.05.2025.

The matter pertains to the deteriorating condition of Futala Lake, located in Nagpur, Maharashtra, reportedly due to sustained negligence and inadequate maintenance. As highlighted in the referenced news article, the lake is facing serious hygiene issues and environmental degradation.

Hon'ble NGT (PB) vide order dated 05.06.2025 transferred the matter to Hon'ble NGT Western Zone Bench, Pune for appropriate further action.

Subsequently, the matter was heard on 04.09.2025, and as per Paragraph 4 of the Hon'ble NGT order dated 04.09.2025 (Uploaded on 23.09.2025), the Hon'ble Tribunal constituted a Joint Committee comprising the Central Pollution Control Board (CPCB), Maharashtra Pollution Control Board (MPCB) and the Nagpur Municipal Corporation (NMC) with MPCB as Nodal Agency.

The Joint Committee has been directed to visit the site in question and after inspection of the site, submit a report to Hon'ble Tribunal w.r.t the position of cleanliness of Futala Lake within one month.

The relevant portion of the order dated 04.09.2025 is reproduced as below -

*"4. We deem it appropriate to constitute a Joint Committee comprising one member each of Central Pollution Control Board (CPCB), Maharashtra Pollution Control Board(MPCBC), Nagpur Municipal Corporation (NMC) and MPCB shall be the nodal*

agency thereof. We direct the Joint Committee to visit the site in question and after inspection thereof, submit a report to this tribunal as to what is the position of cleanliness of Futala Lake within one month".

The copy of Order of Hon'ble NGT WZB Pune dated 04.09.2025 is provided at **Annexure-I.**

## 2.0 THE JOINT COMMITTEE:

In compliance with the order date 04.09.2025, Joint Committee constituted with following members as below-

| Sr. No. | Name of Member & Designation                              | Organisation/Dept  |
|---------|---|--|
| 01      | Shri Pratik Bharne<br>Scientist 'F' and Regional Director | Central Pollution Control Board<br>(CPCB)                  |
| 02      | Smt. Hema Deshpande<br>Regional Officer, MPCB, Nagpur.    | Maharashtra Pollution Control<br>Board (MPCB)-Nodal Agency |
| 03      | Shri Rajkumar Meshram,<br>Assistant Commissioner          | Nagpur Municipal Corporation<br>(NMC)                      |

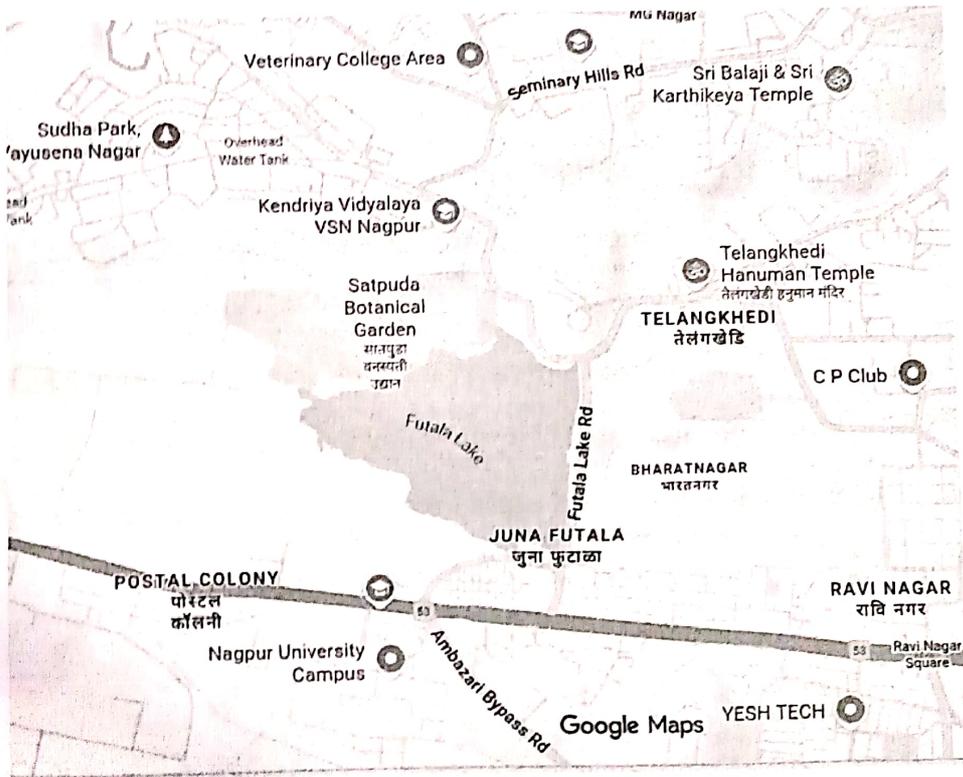
## 3.0 FUTALA LAKE NAGPUR

Futala lake is one of the largest Man Made Waterbody (Lake) in Nagpur city. It was, also known as Telangkhedi Tank, was constructed by the Bhonsale Rulers in 1799 for irrigation and drinking water needs, with a catchment area exceeding 200 hectares. It is located in the western part of the city near Vayusena Nagar having area of water body about 48.58 Ha. The major activity in the Lake are fishing and recreation/tourism. The water from the said lake is not used for drinking/ irrigation purpose, as reported by NMC Officials.

The Lake is broadly sounded by:

| Directions        | Area/Activity/Infrastructure/Establishments  |
|-------------------|--|
| East              | Futala Lake beautification/recreation Project (consisting of Viewing Gallery, Commercial Spaces, Multi-level Parking Plaza). Plaza is constructed after 18-meter wide concrete road in east direction of road. |
| North-East        | Natural Drain carrying overflow from Lake, Bridge, Vayusaena Nagar Road  |
| North             | Vayusena Road leading to Kendriya Vidyalaya, VSN Nagpur, Food Stall/Hawkers on Road side (unauthorised) , Maharashtra Pashu Va Matya Vigyan Vidyapith  |
| North-West        | Satpuda Botanical Garden, Pvt Lawn DC Lakeside Lawn-Commercial Activity  |
| West, South-West  | Open land, Agricultural Land, Forest land ( No such development, Human Settlement)   |
| South, South-East | Kashmiri Vasti/Hutments, Navi Futala Vasti, NMC Parking Area, Hanuman Temple   |

The **Google Image-1 & Image-2** showing Futala lake and nearby area is given as below-





#### 4.0 SITE VISIT & MONITORING- FUTALA LAKE NAGPUR

##### 4.1 SITE VISIT:

Joint Committee visited the Site-Futala Lake and nearby area on 04.11.2025 in compliance with the aforesaid order dated 04.09.2025.

The committee was accompanied by Officials of MPCB and NMC-

- I. Shri Kishor Pusadkar, I/c Sub- Regional officer, MPCB, Nagpur -1.
- II. Shri D.V. Nehe, Scientific Officer, In-charge, Regional Laboratory, MPCB, Nagpur
- III. Smt Sheetal Udhade, FO, MPCB, Nagpur
- IV. Shri Rajesh Dufare, Executive Engineer, NMC, Nagpur
- V. Shri Pramod Mokhande, Dept Deputy Engineer, NMC, Nagpur
- VI. Shri Deendayal Tembhekar, Zonal Officer (Dharampeth Zone), NMC, Nagpur

The committee also discussed about responsibilities of activities including cleanliness, maintenance of walls, surrounding area and activities of Futala Lake beautification/recreation Project carried out in Futala lake etc with officials of Public Work Division (PWD) and Maha-Metro Rail Corporation, Nagpur.

The photographs taken during the visits are provided at **Annexure-II**.

#### 4.2 MONITORING:

Total 12 water samples collected from Futala Lake from all sides/directions, in the middle area and also overflow of water into natural drain (north-east direction) to assess the water quality due to activities in the surrounding area.

The details of the sampling locations are given as below-

| Sr. No. | Location(s)  | Code |
|---------|--|------|
| 01      | Futala lake Near Gate No. 4 Boat Parking, Viewing Gallery of Project (East Direction)                    | S1   |
| 02      | Futala lake towards Hanuman Temple, NMC Parking Area, South-East Direction of Lake                       | S2   |
| 03      | Futala lake towards Hanuman Temple (in between two ramps NMC Parking area, South Direction)              | S3   |
| 04      | Futala lake towards <i>Kashimiri Vasti</i> /Hutment area Compound wall (South Side of Lake)              | S4   |
| 05      | Futala lake towards NCC Office, South-East Direction of Lake   | S5   |
| 06      | Futala lake towards Satpuda Botanical Garden, North-west direction                                       | S6   |
| 07      | Futala lake towards D.C. Lake Side Lawn (Commercial Activity)  | S7   |
| 08      | Futala lake towards Vayusena Road Corner 1 (North-East Direction of Lake)                                | S8   |
| 09      | Futala lake towards Temporary Food Stalls/Hawkers (unauthorised) on Vayusena Road-2 (North side of Lake) | S9   |
| 10      | Futala Lake overflow in natural drain on Vayusena Road ( North-east Direction)                           | S10  |
| 11      | Near Fountain (Middle of Lake)   | S11  |
| 12      | Middle of Futala Lake  | S12  |

The water samples were analysed for the 15 parameters viz. pH, Dissolved Oxygen (DO), BOD, Faecal Coliform, Total Coliform, Faecal Streptococci, COD, Total Kjeldahl Nitrogen (TKN), Ammonical Nitrogen (NH<sub>3</sub>-N), Nitrate Nitrogen (NO<sub>3</sub><sup>-</sup>), Turbidity, Total Dissolved Solid (TDS), Total Fixed Solid (TFS), Total Suspended Solid, (TSS), Phosphate.

The analysis results are given in **Annexure-III**.

Officials/Staff of Regional Office & Regional Laboratory, MPCB, Nagpur is accompanied the Joint Committee for the sampling. The analysis of water samples is carried out at Regional Laboratory, MPCB, Nagpur.

## 5.0 OBSERVATIONS AND FINDINGS

### 5.1 BASED ON SITE VISIT:

- a) The littering of Solid waste i.e plastic bottles, plastic carry bags, paper plates/cups along with the *Nirmalya* was observed in the corners of Lake towards North, North-East Side (Vayusena Road Food Stall/Hawkers, Near Pvt DC lake Side Lawn and towards South-East side- NMC Parking Area, Hanuman Temple. These littering of waste is done by people visiting to lake side and residence of *Navi Futala Vasti and Kashmiri Vasti*. The solid waste in this area is collected by NMC.
- b) There are many unauthorised Food stalls/Hawkers on road in North side of Futala Lake. The food waste is collected by Tata SAG enviro Company as engaged by Hawkens, as informed by NMC.
- c) It is informed by NMC officials that various measures are being taken by NMC for cleaning of solid waste and to avoid littering of waste as enumerated below-
  - Pots for the collection *Nirmalya* generated due to various religious activities
  - Deployment of sweepers for cleaning of floating solid waste inside the lake and on the banks, roads nearby
  - Solid waste collection from *Kashmiri Vasti*.

- d) *Kashmiri Vasti* (un-authorized) is located in South, Sout-East direction of the Lake which is parted by road to *Navi Futala Vasti*. There are about 145-160 Houses/hutments in this Vasti with @ 450 citizens. The slope of this Vasti is towards Lake and there are high chances of intrusion of untreated sewage into the Lake. It is informed that there is no sewerage network to collect the sewage and treatment. The toilets in the houses are provided with septic tanks. There is also one common toilet in this *vasti*.
- e) There are 8 Gaushalas (Cattles/Cows) in this Kashmiri vasti and solid waste from these Gaushalas are store/kept on bank of the Lake. There are mixing of wastewater/waste due to activities of Gaushalas in to the Lake.
- f) The activities of Futala Lake beautification/recreation Project are not in operation during the visit. It is informed that the matter related to this project was heard by Hon'ble Supreme Court and as per Judgment/order in October 2025, the Hon'ble Supreme Court declared Futala Lake a man-made waterbody, not a natural wetland, thereby lifting the stay on the project and allowing construction to proceed.
- g) The Futala Lake beautification/recreation Project is executed by Maharashtra Metro Rail Corporation Limited (MAHA-METRO) for components like a Musical Fountain, Viewing Gallery, and a Multi-Level Parking Plaza. This project is undertaken by Nagpur Improvement Trust through Maharashtra Metro Rail Corporation Limited (MMRCL).
- h) Key elements of the revitalization project:
- Musical Fountain: A multimedia fountain featuring music, laser, and light shows.
  - Viewing Gallery: A spectator gallery with a capacity of 4,000 people has been constructed to offer an uninterrupted view of the fountain shows.
  - Multi-level Parking Plaza: A facility designed to accommodate a large number of cars and two-wheelers (reports vary from 440-700 cars and 770-1000 two-wheelers).

- Commercial Spaces: 18 shops are being developed below the viewing gallery, intended for leasing to local artisans and entities.
  - Road Improvement: An 18-meter wide concrete road was constructed to address chronic traffic congestion in the area.
- i) It was asked to provide the information to the Officials of Maharashtra Metro Rail Corporation Limited (MMRCL) regarding Environment Management Plan (EMP), however, the same has not been provided to the Committee till date. There is need to properly manage the sewage, solid waste & hazardous waste generated from the elements of the project as per Water (P & CP) Act 1974, Air (P & CP) Act 1981, H& OW (M & TM) Rules 2016 & SWM Rules 2016.

## 5.2 BASED ON WATER SAMPLING AND ANALYSIS:

(Please refer **Annexure-II** for photographs and **Annexure-III** for analysis results)

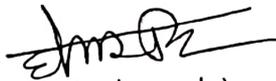
- i) As informed by NMC Officials, water from the Lake is not used for domestic (drinking & bathing) purpose. The lake is used for recreational activities.
- j) The analysis results show: DO-6.8 to 9.0mg/l, BOD:4.40-5.90 mg/l, COD: 16-24 mg/l. Though, BOD in all water samples are more than 3.0 mg/l which is more than Primary Water Quality Criteria for Bathing Water (used for organised outdoor bathing) i.e, BOD > 3.0 mg/l, the Lake/Water is not used for Bathing purpose.
- k) The fishes are observed in the Lake.
- l) Presence of TC & FC reveals contamination due to sewage, gaushala waste from *Kashiri Vasti* side (South, south east directions) and sporadic solid waste disposal from North and South side.
- m) There is no much load of nutrients (Nitrogen & Phosphate) observed in the water samples.

## 6.0 RECOMMENDATIONS

- a. NMC to ensure strict measures to avoid/prevent littering of solid waste in the Lake particularly from activities/residences/commercial activities in North, North-West, South and Sout-East side of the Lake.
- b. Sewage collection Network to be provided for *Kashimiri Vasti* to avoid entry of untreated sewage in the Lake.
- c. CCTV camera to be installed at NMC Parking Area (South-East side) and Food Stall/Hawkers area (North Side) along with vigilance and awareness among the citizens for not throwing/littering of waste.
- d. NMC shall take appropriate actions against unauthorized food hawkers/hutments/houses/commercial activities in the area surrounding the lake found polluting the lake wrt disposal of solid waste and sewage.
- e. Recreation Project activities required to implement Environment Management Plan (EMP) for proper management of solid waste/hazardous waste, sewage generated from infrastructures developed/being developed to avoid damage to water quality & cleanliness of the Lake.
- f. Walls which are collapsed on North and South/South-east side of the Lake to be repaired as soon as possible.
- g. Gaushalas in the *Kashimiri Vasti* area to be regulated, as per recently published CPCB (Revised July 2021) "Guidelines for Environmental Management of Dairy Farms and Gaushalas", if falling in the criteria/guidelines.



(Pratik Bharne)  
Sc 'F' & Regional Director,  
CPCB RD Pune



(Hema Deshpande)  
Regional Officer, MPCB,  
Nagpur



(Rajkumar Meshram)  
Assistant commissioner,  
NMC, Nagpur

Item No.4 (Pune Bench)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
WESTERN ZONE BENCH, PUNE**

[THROUGH PHYSICAL HEARING (WITH HYBRID OPTION)]

**ORIGINAL APPLICATION NO.73 OF 2025 (WZ)  
[Original Application No.297 of 2025 (PB)]**

In Re.: News Item titled "Futala Lake's  
Charm Fades Amid Neglect and Poor  
Maintenance", appearing in the Times  
Of India dated 25.05.2025

**Versus**

CPCB & Ors.

... **Respondents**

Date of hearing : 04.09.2025

**CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER  
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER**

Respondents : Mr. Aniruddha Kulkarni, Advocate along with Mr. Savyasachi  
Bharadwaj, Advocate for R-1/CPCB  
Mr. Pratik D. Khedikar, Advocate holding for Mr. Girish Kute,  
Advocate for R-2/NMC  
Ms. Pooja Natu, Advocate holding for Ms. Manasi Joshi,  
Advocate for R-3/MPCB

**ORDER**

1. From the side of respondent No.2 - Nagpur Municipal Corporation, learned counsel Mr. Pratik D. Khedikar, holding brief of learned counsel Mr. Girish Kute, has appeared and states that affidavit-in-reply dated 03.09.2025 has been filed, stating therein that beautification of Futala Lake premises has been undertaken by Nagpur Improvement Trust (NIT) and Maharashtra Metro Rail Corporation Limited (MMRCL), which was challenged by an NGO Swaccha Association in Public Interest Litigation (PIL) No. 4 of 2023, which was disposed of by the Hon'ble Bombay High Court,

Nagpur Bench vide judgment dated 30.11.2023 (copy of said judgment is not annexed with the reply). We direct learned counsel for respondent No.2 to place a copy of the said judgment on record within three days. It is stated in the said affidavit that the Hon'ble High Court directed MMRCL as well as respondent No.2 – NMC to ensure that the activities undertaken by them do not result in causing any damage to the lake and that they shall ensure that the water-body where the floating banquet hall, floating restaurants as well as the artificial banyan trees are proposed, are kept clean and properly maintained by taking all necessary precautions/steps in that regard. The MMRCL has made ample facility of public toilets/urinals in the viewing gallery of musical fountain, which can resolve the issue of public toilet in the vicinity of Futala Lake. However, Swacch Association has challenged the judgment of the Hon'ble High Court dated 30.11.2023, referred to above, before the Hon'ble Supreme Court of India by filing Special Leave to Appeal Petition (Civil) No.1420 of 2024, wherein, vide order dated 12.02.2024, notices were issued to the respondents and further directing status quo to be maintained in all respects and that no fresh construction shall be carried out. The status quo has been extended by the Hon'ble Supreme Court from time to time and direction was issued to the MMRCL and NIT to keep the complex closed. It is stated in the affidavit that the Hon'ble Supreme Court recently, after hearing the parties on 18.08.2025, has closed the matter for judgment. However, the same is yet to be pronounced.

2. From the perusal of above affidavit, it appears that the matter is subjudice before the Hon'ble Supreme Court and the matter is reserved for pronouncement of judgment. In view of that, we direct learned counsel for respondent No.2 to place on record in the present proceeding copies of all previous orders passed by the Hon'ble Supreme Court in the aforesaid

Special Leave to Petition from time to time, for our perusal in order to assist us as to whether we should continue to hear this matter or not.

3. Respondent No.2, in its affidavit, has also stated that it is the responsibility of Public Works Department (PWD) to protect and maintain the said tank. We fail to understand as to why this is being stated by them. An elaboration is required on this point before we direct impleadment of PWD in this matter. Rest of the averments made in the affidavit of respondent No.2 would indicate that respondent No.2 wants to impress upon us that they are making all efforts to keep the area clean, but we do not find adequate steps to have been taken for keeping Futala Lake clean. We direct respondent No.2 – NMC to keep the said lake clean and also maintain the same till our next order, failing which we will be left with no option but to issue penal orders in that regard. Learned counsel for respondent No.2, at this stage, seeks time as this matter would be argued by senior counsel, who is not present today. Hence, we grant the time as prayed.

4. We deem it appropriate to constitute a Joint Committee comprising one member each of Central Pollution Control Board (CPCB), Maharashtra Pollution Control Board (MPCB), Nagpur Municipal Corporation (NMC and MPCB shall be the nodal agency thereof. We direct the Joint Committee to visit the site in question and after inspection thereof, submit a report to this Tribunal as to what is the position of cleanliness of Futala Lake within one month.

5. From the side of respondent No.1 – CPCB, learned counsel Mr. Aniruddha Kulkarni has appeared and states that the reply dated 05.08.2025 has been filed.

6. From the side of respondent No.3 – MPCB, learned counsel Ms. Pooja Natu, holding brief of learned counsel Ms. Manasi Joshi, has appeared and

states the reply-affidavit dated 05.08.2025 has been filed, which was considered by us in our previous order.

7. Put up this matter for next consideration on 18.11.2025.

**Dinesh Kumar Singh, JM**

**Dr. Vijay Kulkarni, EM**

September 04, 2025

ORIGINAL APPLICATION NO.73 OF 2025 (WZ)

npj

## ANNEXURE-II

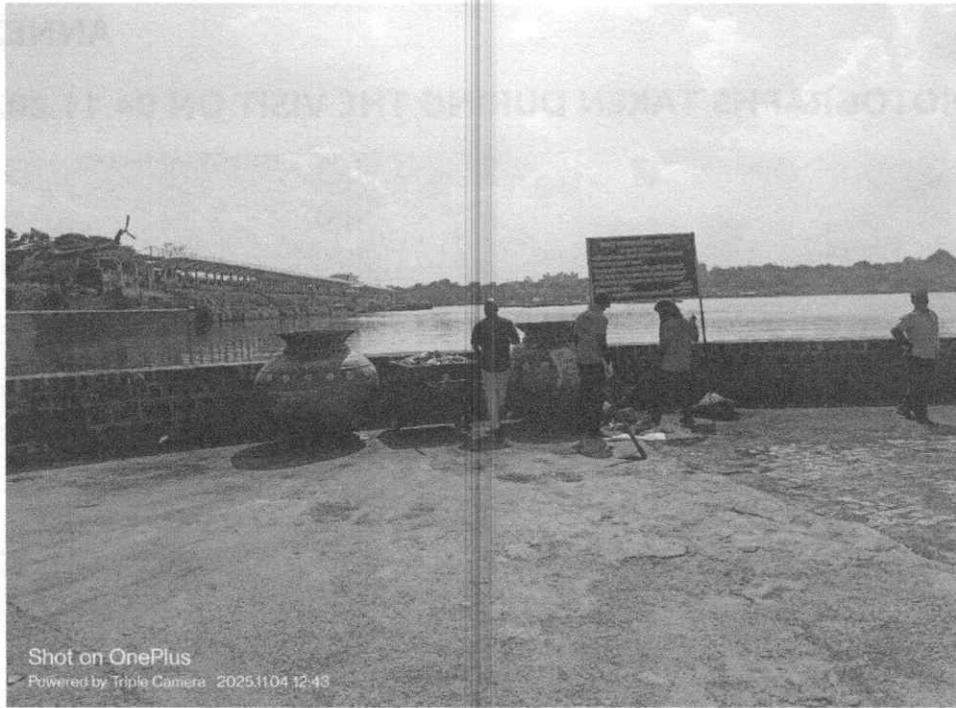
## PHOTOGRAPHS TAKEN DURING THE VISIT ON 04.11.2025



Corner of Lake, Solid waste floating and removal work going on, Overflow of Water into natural drain, Vayusena Road, North-east direction



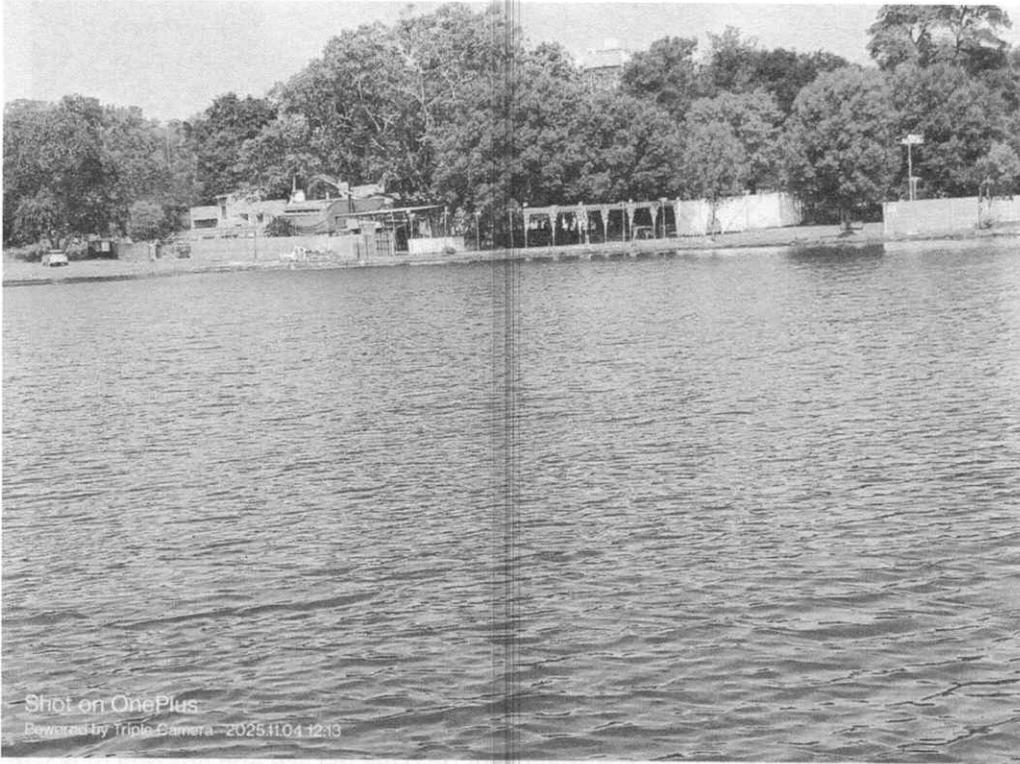
Solid waste in North side of the Lake due to religious activity, collapsed wall



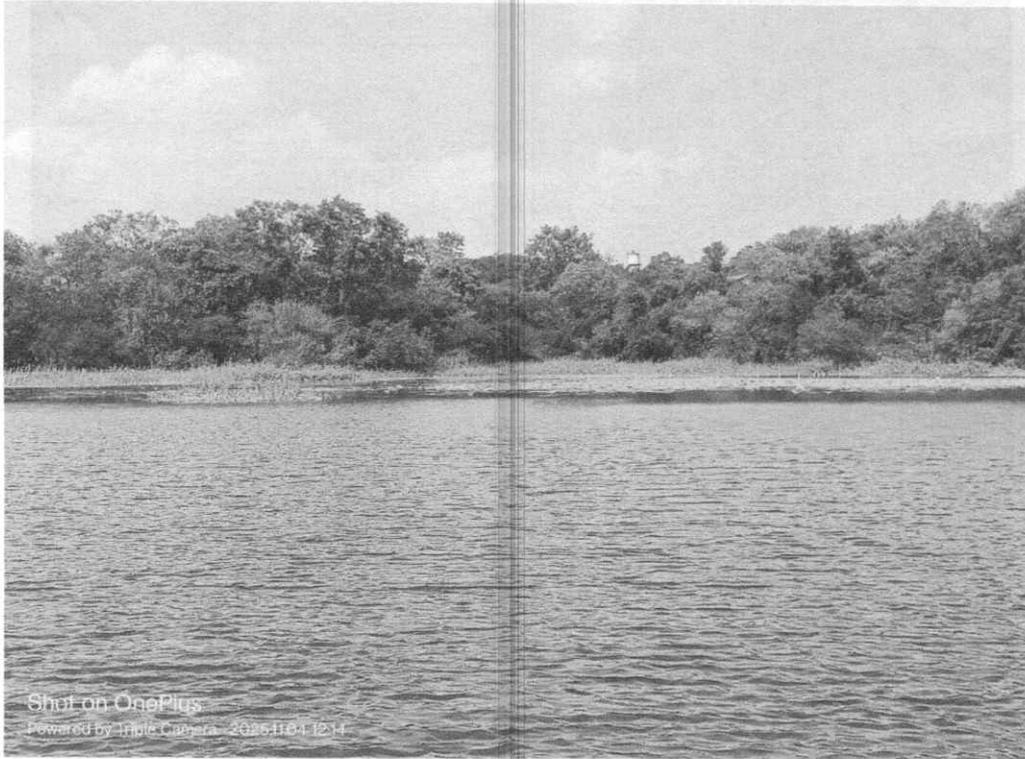
Nirmalya collection Pot and Board for awareness for the people/citizens, North Direction



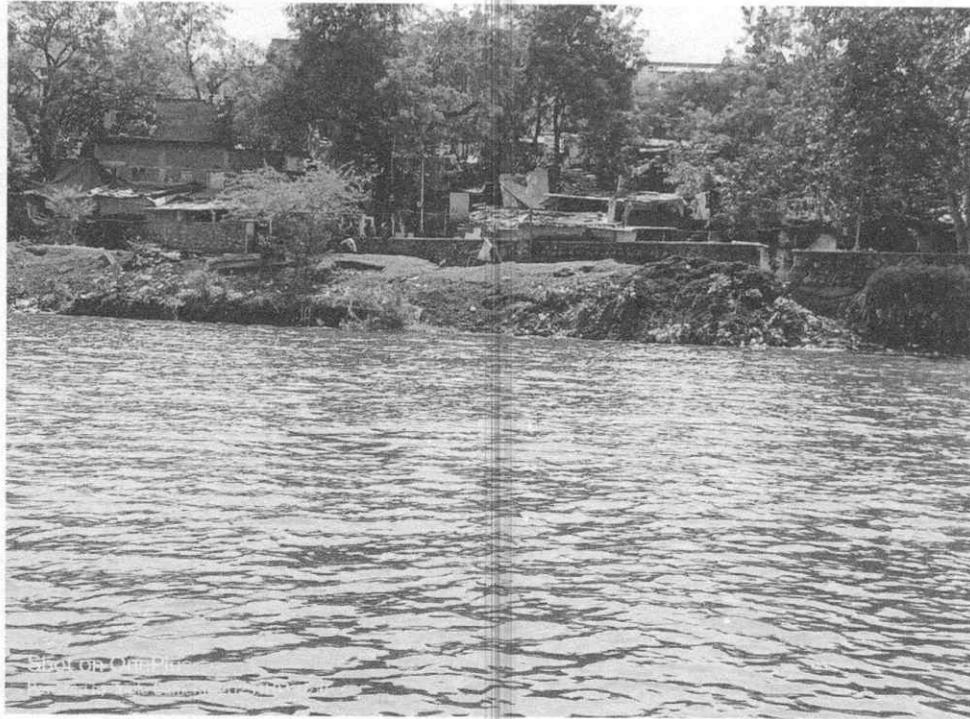
Food Stall/Hawkers in North Direction



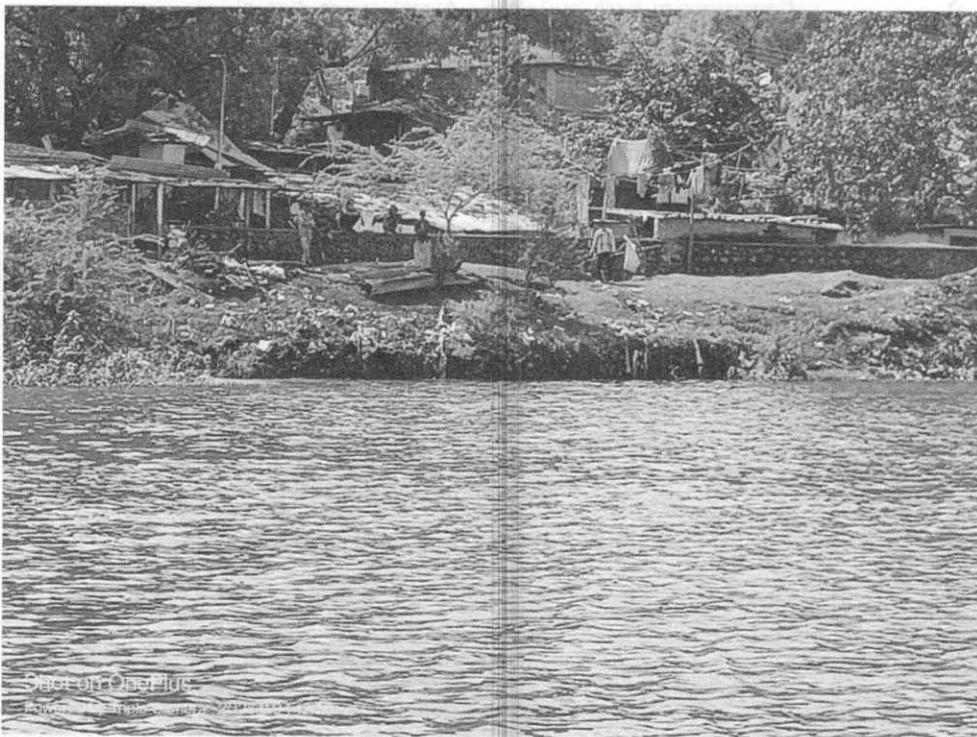
Commercial Activity-Lawn – North-west direction



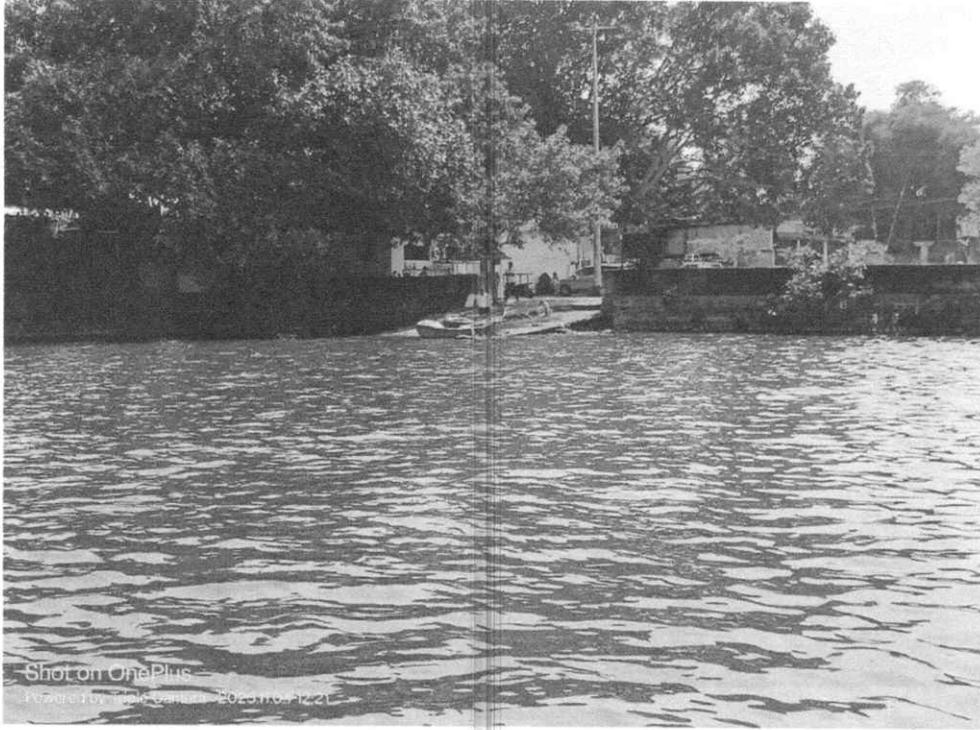
Botanical Garden in North-west directon



*Kashmiri vasti, solid waste from Gaushala kept on bank of Lake and littering of waste*



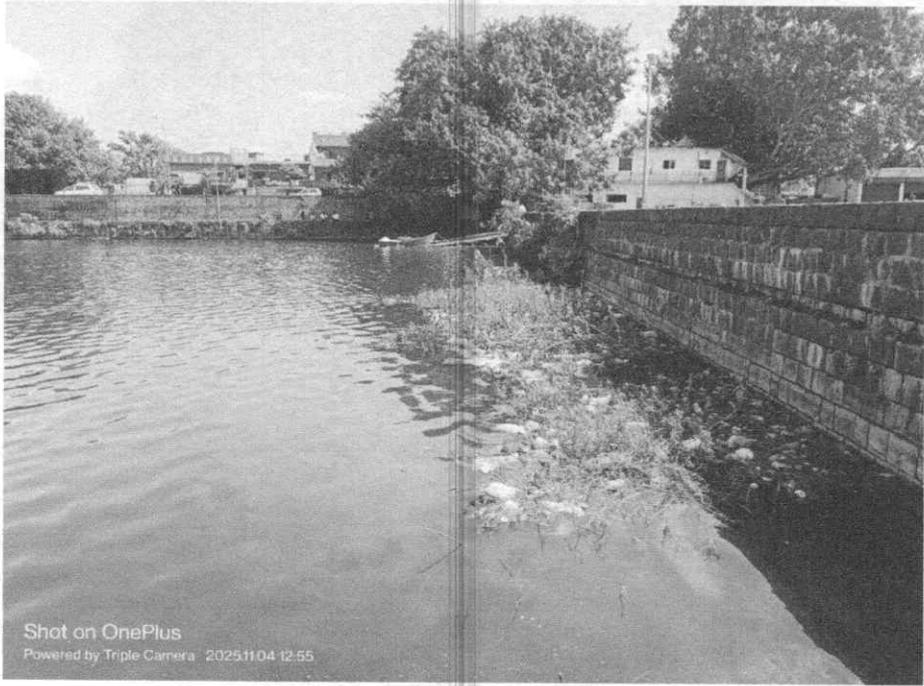
*Hutments/houses in Kashmiri vasti*



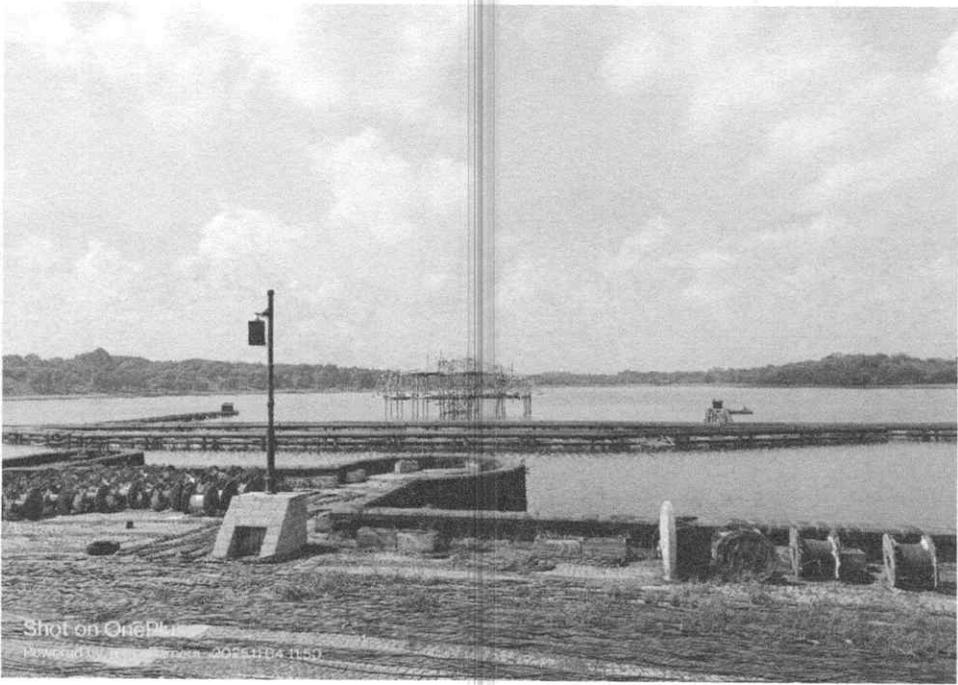
Hanuman Temple in South-East direction



Hanuman Temple, NMC Parking area in South-East direction



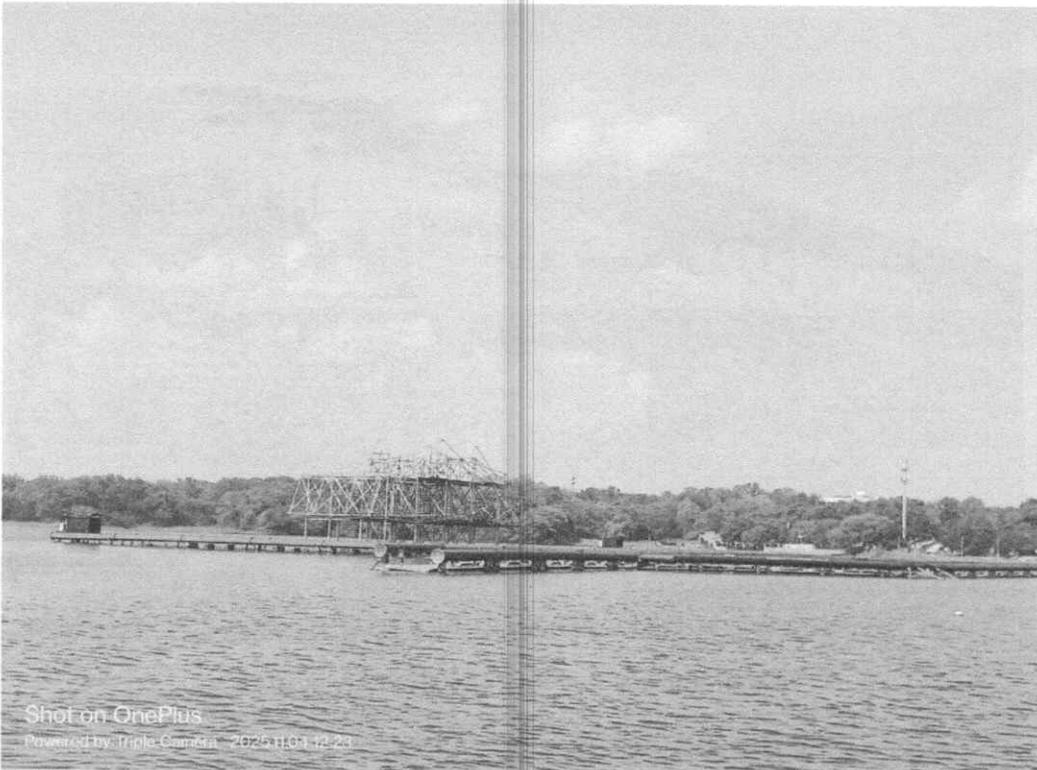
Solid waste, vegetation in the Lake in South-East direction near PMC Parking area



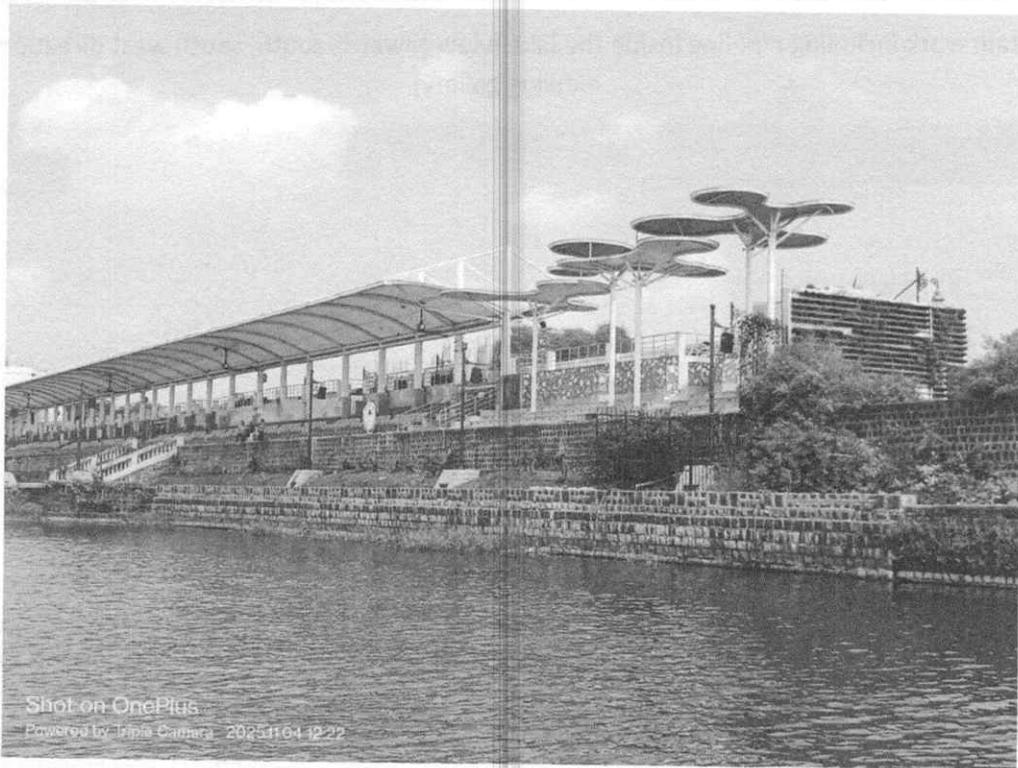
Fountain work including pipeline inside the lake (view towards west direction from viewing gallery)



Fountain work including pipeline inside the lake (view towards south, south west direction from viewing gallery)



Fountain work including pipeline inside the lake (view towards North west direction from viewing gallery)



View of Viewing Gallery from PMC Parking area.

## ANNEXURE-III

## ANALYSIS RESULTS OF WATER SAMPLES COLLECTED FROM FUTALA LAKE NAGPUR

Date of Sample Collection-04.11.2025, Mode of Sampling- Grab

| Sr. No. | Parameter(s)       | Location(s) |      |      |      |      |      |      |      |      |      |       |      |
|---------|--------------------|-------------|------|------|------|------|------|------|------|------|------|-------|------|
|         |                    | S1          | S2   | S3   | S4   | S5   | S6   | S7   | S8   | S9   | S10  | S11   | S12  |
| 1       | pH                 | 8.3         | 8.50 | 8.3  | 8.5  | 8.4  | 8.4  | 8.3  | 8.3  | 8.3  | 8    | 8.4   | 8.40 |
| 2       | DO                 | 7.4         | 9.00 | 6.8  | 8.8  | 8.9  | 7.2  | 7.2  | 6.9  | 7.9  | 7.1  | 7.9   | 8.30 |
| 3       | BOD                | 5.6         | 4.40 | 5.8  | 5.2  | 5    | 4.5  | 5.9  | 5.8  | 4.9  | 5.9  | 5.5   | 5.60 |
| 4       | FC                 | 280         | 220  | 280  | 280  | 280  | 140  | 220  | 280  | 170  | 220  | 220   | 220  |
| 5       | TC                 | 1600        | 1600 | 1600 | 1600 | 350  | 280  | 920  | 1600 | 280  | 350  | 280   | 920  |
| 6       | FS                 | <1.8        | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8 | <1.8  | <1.8 |
| 7       | COD                | 20          | 16   | 20   | 24   | 20   | 16   | 20   | 20   | 16   | 24   | 24    | 20   |
| 8       | TKN                | 4.48        | 3.92 | 1.12 | 3.36 | 2.8  | 3.36 | 2.24 | 2.8  | 3.36 | 2.24 | 3.36  | 2.24 |
| 9       | NH <sub>3</sub> -N | 1.34        | 0.59 | 0.67 | 0.56 | 0.49 | 0.59 | 0.65 | 0.65 | 0.76 | 0.67 | 0.67  | 0.59 |
| 10      | Nitrate Nitrogen   | ND          | ND   | ND   | ND   | ND   | ND   | ND   | ND   | ND   | ND   | ND    | ND   |
| 11      | Turbidity          | 5.8         | 4.10 | 3.2  | 4    | 3.5  | 3.6  | 3.5  | 2.9  | 3.4  | 5.5  | 4     | 3.90 |
| 12      | TDS                | 284         | 293  | 297  | 288  | 303  | 290  | 303  | 289  | 299  | 297  | 292   | 298  |
| 13      | TFS                | 296         | 311  | 308  | 296  | 319  | 296  | 314  | 295  | 307  | 312  | 302   | 308  |
| 14      | TSS                | 12          | 18   | 11   | 8    | 16   | 6    | 11   | 6    | 8    | 14   | 10    | 10   |
| 15      | Phosphate          | ND          | 0.01 | 0.05 | ND   | ND   | ND   | ND   | ND   | 0.01 | ND   | 0.090 | ND   |

Note:

- Concentration of all the values is expressed in mg/l, except pH, TC, FC & FC. TC/FC/FS is expressed in MPN/100 ml.
- TC- Total Coliform, FC- Fecal Coliform, FS: Fecal Streptococci, NH<sub>3</sub>-N: Ammonical Nitrogen, TKN-Total Kjeldhal Nitrogen ND- Not Detectable.

ANALYTICAL RESULTS OF WATER-SAMPLERS

Date of Sample Collection: 04.11.2023. Mode of Sampling: GP

| Sl. No. | Parameter                    | 21  | 22  | 23  | 24  | 25  |
|---------|------------------------------|-----|-----|-----|-----|-----|
| 1       | Ca                           | 0.1 | 0.8 | 0.8 | 0.7 | 0.4 |
| 2       | Mg                           | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3       | Total Hardness               | 0.1 | 0.8 | 0.8 | 0.7 | 0.4 |
| 4       | Chloride                     | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5       | Sulfate                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6       | Total Dissolved Solids (TDS) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7       | Total Suspended Solids (TSS) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8       | Free Chlorine                | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9       | Total Chlorine               | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10      | Residual Chlorine            | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11      | Iron                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12      | Copper                       | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13      | Zinc                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14      | Lead                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15      | Cadmium                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16      | Mercury                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17      | Nitrate                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18      | Nitrite                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 19      | Ammonia Nitrogen             | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20      | Phosphate                    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 21      | Fluoride                     | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22      | Calcium Hardness             | 0.1 | 0.8 | 0.8 | 0.7 | 0.4 |
| 23      | Magnesium Hardness           | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24      | Total Hardness               | 0.1 | 0.8 | 0.8 | 0.7 | 0.4 |
| 25      | Chloride                     | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26      | Sulfate                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27      | Total Dissolved Solids (TDS) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28      | Total Suspended Solids (TSS) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 29      | Free Chlorine                | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30      | Total Chlorine               | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 31      | Residual Chlorine            | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32      | Iron                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 33      | Copper                       | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34      | Zinc                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35      | Lead                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36      | Cadmium                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 37      | Mercury                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38      | Nitrate                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 39      | Nitrite                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40      | Ammonia Nitrogen             | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 41      | Phosphate                    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42      | Fluoride                     | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

RESULTS COLLECTED FROM TITRATIONAL METHOD

| Sl. No. | Parameter                    | 26  | 27  | 28  | 29  | 30  | 31  | 32  | 33  |
|---------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1       | Ca                           | 0.1 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 |
| 2       | Mg                           | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3       | Total Hardness               | 0.1 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 |
| 4       | Chloride                     | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5       | Sulfate                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6       | Total Dissolved Solids (TDS) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7       | Total Suspended Solids (TSS) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8       | Free Chlorine                | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9       | Total Chlorine               | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10      | Residual Chlorine            | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11      | Iron                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12      | Copper                       | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13      | Zinc                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14      | Lead                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15      | Cadmium                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16      | Mercury                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17      | Nitrate                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18      | Nitrite                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 19      | Ammonia Nitrogen             | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20      | Phosphate                    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 21      | Fluoride                     | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22      | Calcium Hardness             | 0.1 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 |
| 23      | Magnesium Hardness           | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24      | Total Hardness               | 0.1 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 |
| 25      | Chloride                     | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26      | Sulfate                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27      | Total Dissolved Solids (TDS) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28      | Total Suspended Solids (TSS) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 29      | Free Chlorine                | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30      | Total Chlorine               | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 31      | Residual Chlorine            | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32      | Iron                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 33      | Copper                       | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 34      | Zinc                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35      | Lead                         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36      | Cadmium                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 37      | Mercury                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 38      | Nitrate                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 39      | Nitrite                      | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40      | Ammonia Nitrogen             | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 41      | Phosphate                    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42      | Fluoride                     | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Handwritten notes and signatures at the bottom of the page, including a signature and date.