

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 125 of 2017

And

Original Application No. 217 of 2017

IN THE MATTER OF:

Court on its own motion

Versus

State of Karnataka

..Respondent

AND

Dr. Kupendra Reddy

..Applicant

Versus

State of Karnataka

..Respondent

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(BALAJI SRINIVASAN)

Advocate for Petitioner

24 Lawyers Chamber

Supreme Court of India

New Delhi.-1

C.C.1546

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FILED ON: - 11/06/2020

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 125 of 2017
And
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State of Karnataka	Versus	..Respondent
Dr. Kupendra Reddy	AND	..Applicant
State of Karnataka	Versus	..Respondent

**AFFIDAVIT ON BEHALF OF THE BANGALORE WATER
SUPPLY AND SEWERAGE BOARD**

I, E.Nithyananda Kumar, son of Eraiah aged 59 years working as Chief Engineer, Wastewater Management, BWSSB, am authorized signatory of the Respondent Bengaluru Water Supply and Sewerage Board ("BWSSB") and as such I am well acquainted with the facts and circumstances of the case. I do hereby solemnly affirm and state on oath as follows.

1. The instant affidavit is being filed as an explanation to the compliances made by BWSSB. The compliances made by BWSSB have been in respect to the following in brief:

- I. Execution of projects for setting up STPs and laying of sewerage network by 30.09.2020
- II. Upgradation of STPs with biological nutrient removal by 30.09.2020

Interim remediation



No. of Corrections Nil


Chief Engineer (WWM)
BWSSB,
Canvey Bhavan,

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- IV. Treated water not to be discharged into the UGB network
- V. Untreated sewage not to enter lakes
- VI. Control on sources of discharge of sewerage
- VII. Action against the erring officers

2. The compliances have been elaborated below:

- I. **Execution of projects for setting up STPs and laying of sewerage network by 30.09.2020**
 - i. **Direction/Order dated 18.12.2019, of this Hon'ble Tribunal**

In para No.28 (i) Dated 18.12.2019 of the NGT order, it is stated that "*Timelines for execution of projects for setting up of STPs and laying of sewerage network may not be extended beyond 30.09.2020. If the works remains incomplete even till 30.09.2020, compensation will be liable to be paid @ Rs. 10 lakh per STP per month which may be liable to recovered from the erring officers, apart from adverse entries in their service records and other adverse action*".



BWSSB Compliance:

- a. **150 MLD Capacity new Sewage Treatment Plant based on activated sludge process with BNR with Power generation (Date of completion 30.07.2020)**

The construction of this 150 MLD STP is taken up at the cost of Rs.297.37 Crore. Date of Completion is 30.07.2020. The overall progress as on 18.03.2020 is 76.04% against the Planned target of

No. of Corrections *nil*

[Signature]
Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,

87.07%. As per observation of the monitoring committee dated 06.03.2020, overall 75.21% progress is achieved against the planned target of 86.38%. the BWSSB states that the pending work will be completed by 30.07.2020

b. Construction of 210 MLD capacity ISPS at Koramangala Sports Complex – including O&M for 7 years (Date of completion 29.01.2020)

The ISPS is ready for operation but the sewerage will be pumped after completion of the 150 MLD STP i.e., 30.07.2020. As per observation of the monitoring committee dated 06.03.2020, ISPS is ready for operation but the sewerage will be pumped after completion of the 150 MLD STP i.e., 30.07.2020.

c. Laying of 1800 mm dia raising main from 210 MLD ISPS to 150 MLD STP – S2D(a) of length 5.315 Km (Date of completion 07.01.2020)

As on 18.03.2020, 3710 RMT of pipeline work is completed as against 5315 RMT. As per observation in the motoring committee report, laying of pipelines in the storm water drains (SWD) is very difficult as the location of the work in this drain is at the end of the valley carrying huge quantity of storm water. At present 3500 RMT of pipeline work is completed as against 5375 RMT. However, this work will be completed before 30.07.2020 when the STP is commissioned.

d. Sarakki – 5.0 MLD STP at Sarakki lake (Date of completion August-2019)



No. of Corrections Nil

Chief Engineer (WWM)
BWSSB,
Sarakki Bhavan.

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It was completed and commissioned on 08.11.2019

e. Chikkabeguru – 5.0 MLD STP (Date of completion March-2020)

The overall progress as on 18.03.2020 is 80.00% against the Planned target of 100.00%. The work is targeted to be completed by 31.03.2020. As per observation in the motoring committee report, the overall progress is 72.00% against the planned target of 92.00%. the work will be completed by 31.03.2020

f. Hulimavu – 10 MLD STP (Date of completion March,2020)

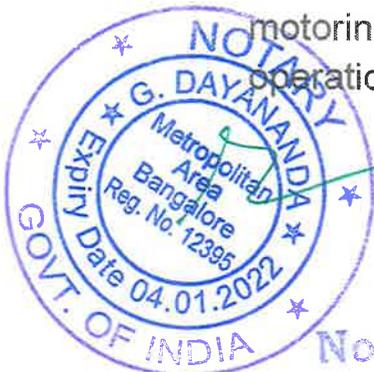
It has been completed and commissioned.

g. Augmenting sewage from Iblur side and conveying to Bellandur Amanikere STP (Laying of sewer sub main) (Date of completion 30.12.2020)

As on 18.03.2020 laying of 1357 RMT of pipeline is completed and laying of balance 1068 mtrs of pipeline will be completed by June-2020. As per observation in the motoring committee report , about 950 mtrs out of 2425 mtrs of 900/600/450 mm dia RCC NP3 pipeline along the alignment is laid. Work is under progress. The work is planned to be completed by 30-06-2020.

h. Agaram – 35 MLD STP (Date of completion Dec, 2019)

It has been completed and commissioned. As per observation in the motoring committee report dated 06-03-2020, the STP is put into operation, presently stabilization of process is under progress. The



No. of Corrections Nil

Chief Engineer (WWM)
BWSBB,
Cauvery Bhavan,
Bangalore.

II. Upgradation of all existing STPs with facilities to removal of Biological Nutrient Removal

i. **Direction/Order of this Hon'ble Tribunal**

In para No.14 Dated 18.12.2019 of the NGT order, it is stated that *"We also found that timelines fixed by this Tribunal have been unilaterally extended without any valid justification and no action has been taken against the erring officers on a specious plea that it was difficult to fix responsibility. Such approach is hardly compliant with the Rule of Law. We particularly disapprove the timeline for upgradation of STPs with Biological Nutrient Removal (BNR) at 248 MLD STP at K&C Valley. The same must not go beyond 30.09.2020 but preferably be completed before 30.06.2020 although earlier timeline fixed by this Tribunal was 30.06.2019. No substantial work has been done in the last one year on this aspect."*

ii. **BWSSB Compliance:**

Based on the concept note developed Professors of IISc and in consultation with the consultants M/s CH2M Hill India Pvt. Ltd., appointed for upgradation of 248 MLD STP at K&C Valley, the estimate prepared for immediate action to achieve Biological Nutrient Removal in 248 MLD STP has been approved by Government of Karnataka including approval to take up the works

from M/s KRIDL under 4G exemption. Proposal is also approved in Board meeting of BWSSB on 27.01.2020. The work orders for consultancy for upgradation of the 248 MLD STP is issued to the



No. of Corrections *Nil*

C. ...
Chief Engineer (WWM)
BWSSB,
Gannur Phosn

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overall progress is 97.24% against the planned target of 100.00%. Presently the treated water is let into Agaram Lake.

- i. **Waste water wet well – 32.5 MLD Capacity near the premises of 90MLD Bellandur Amanikhane STP to augment sewage from the adjoining areas of Bellandur Amanikhane STP (Date of completion 30.09.2020)**

Earth work excavation for wet well portion is in progress. Also, vendor approvals for the equipment are in process. To comply with NGT orders the period of completion has been reduced from 1 year to 7 months and the work order is issued accordingly to complete the work before 30.09.2020.(As per observation in the monitoring committee reported dated 06-03-2020, work order is issued.It is planned to complete by 19.02.2021).

- j. **Proper mechanism should be developed/placed it identify the blockages in the existing UGDs and to attend them mechanically**

BWSSB has 165 Jetting cum suction machines and 40 de-silting machines to clean the UGD lateral network. Procurement of 10 more machines as planned is completed by February 2020 and the new machines are also put into operation.

The monitoring committee report dated 06.03.2020, observed that BWSSB is also having 6 High Pressure desilting machines and one recycler machine for cleaning of sub-mains and main sewers.

As planned additional 10 Jetting cum Suction machines have been procured in February-2020. Maintenance of sewer lines is done

regularly based on the complaints and extensive, massive desilting of sewer lines will also be taken periodically to ensure proper flow of sewage.

No. of Corrections *nil*

[Signature]
Chief Engineer (WWM)
BWSSE,
Cauvery Bhavan,
Bangalore.



consultants M/s CH2M Hill (India) Pvt. Ltd. Also a letter to proceed with the work has been issued to M/s KRIDL for taking up the works.

As per the monitoring committee report dated 06.03.2020, The operating STPs of 90 MLD STP at Bellandur Amanikere, 60 MLD STP at K&C Valley, 5 MLD STP at Sarakki and under construction STP's of 150 MLD at K&C Valley, 5 MLD at Chikkabegur, 10 MLD Hulimavu and 35 MLD STP at Agaram are with Biological Nutrient Removal process.

The working STPs at Cubbon Park and Lalbagh are Tertiary Treatment Plants.

For the 248 MLD (KC Valley), the approval of the State Government is obtained and a work order dated 03.03.2020 has been issued in favour of M/s KRIDL., to compete the work by 30-09-2020. Further, a work order has been issued to M/s CH2M Hill India Pvt. Ltd on 02.03.2020 for project management consultant services for the work of upgradation/rehabilitation of existing STPs at KC Valley. The works are expected to be completed by 30.09.2020 as reported by Chairman, BWSSB.

III. Interim remediation

i. **Order of this Hon'ble Tribunal**

In para No.28 (ii) Dated 18.12.2019 of the NGT order, it is stated that Bengaluru Water Supply and Sewerage Board (BWSSB) must



No. of Corrections Nil

Chief Engineer (WWM)
BWSSB,
Convery Bhavan,



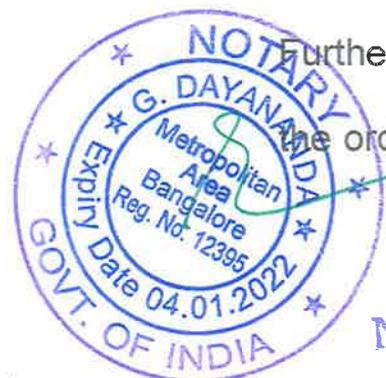
ensure that no sewage/effluent is discharged into the lakes and till setting up of STPs, interim remediation must be done forthwith. Any default in this regard will result in requirement to pay compensation of Rs. 5 lakh per month per inlet into the lakes from 01.02.2020.

ii. BWSSB Compliance

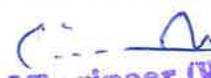
Further to the discussions in the Monitoring committee meetings, site visits on 04.01.2020 and also in the meetings conducted by the Government Authorities at Chief Secretary and Additional Chief Secretary levels, Hon'ble NGT committee has instructed to take up the aeration works in the diversion channels done by BDA at HAL side, Y-Junction of Agara & Koramangala side channels, Iblur and on either sides of Varthur Lake. BWSSB has installed aerating systems in the following 6 locations for the sewage presently flowing in the diversion channels through M/s KRIDL at the following locations:

- 1) HAL side & Kempapura inlet,
- 2) Agaram,
- 3) Koramangala inlet,
- 4) Iblur inlet coming under Bellandur lake and
- 5) Northern &
- 6) Southern side of Varthur lake.

Further, in order to comply with the time line of 01.02.2020 fixed in the orders of the NGT, the aerating systems in the 6 locations were



No. of Corrections Nil


Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,
Bangalore.

installed before 31.01.2020 and same have been observed by the NGT Committee during their inspection of the said location on 21.01.2020.

Subsequently, in order to enhance the interim remediation artificial floating islands have also been installed. Same have also been observed by the NGT Committee during their inspection on 25.02.2020

As per the monitoring committee report dated 06.03.2020, the peripheral diversion channels have been constructed by the BDA in both the lakes and sewage water is flowing through this channel. Entry of sewage water into these lakes have been stopped. Further, the BWSSB have installed aerating systems and has completed by 28.02.2020 at 1) HAL side and Kempapura inlet, 2) Agaram inlet, 3) Koramangala inlet, 4) Iblur inlet coming under Bellandur Lake, 5) Northern and 6) Sothern side of Varthur lake for inline treatment of sewage. Further, in addition the BWSSB is also installing artificial floating islands.

It is submitted that during the rainy season, rain water of the catchment area of KC Valley flows through the Bellandur and Varthur lakes. In the past, flooding in the low laying habitat areas have been reported during the monsoon. The State Government (BDA and BBMP) should take appropriate measures during the de-silting period so that no adverse impact on de-silting as well as flooding in habitat areas take place.



[Signature]
Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,
Bangalore.

No. of Corrections 19/1

IV. Disconnections to ensure that no treated effluent is discharged into BWSSB UGD network

i. **Order of this Hon'ble Tribunal**

In para No.28 (iii) Dated 18.12.2019 of the NGT order, it is stated that *"BWSSB may further ensure that treated water is not discharged into the UGD network. Action may be taken against persons responsible for having allowed this to be done earlier resulting into loss of Rs. 2 Lakhs per day i.e. Rs. 60 Lakhs per month and more than Rs. 7 Crore per year without any justification whatsoever."*

ii. **BWSSB Compliance**

As per the Hon'ble NGT order BWSSB may further ensure that treated water is not discharged into the UGD network. the list provided by KSPCB for 496 buildings having STPs has been inspected by BWSSB engineers and out of 496 buildings 109 buildings UGD connections are disconnected, there is no BWSSB UGD network near 378 buildings, 2 buildings are beyond the 110 village limits of BBMP, 5 buildings addresses are repeated in the list, 1 building address is not traceable and 1 building does not have STP.

BWSSB is identifying the sources of discharge of sewage and will disconnect water supply and UGD connections of the defaulting



No. of Corrections *Nil*

[Signature]
Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,
Bangalore.

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establishments and also send a complaint to KSPCB. If the defaulting establishment is using ground water then the complaint has also to be booked with KSPCB for its action.

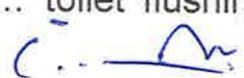
Further, the treated water was allowed as per the conditions stipulated in the order of the consent issued by KSPCB. Under the circumstances, BWSSB request not to take any action against its officials.

As per the monitoring committee report dated 06.03.2020, the BWSSB submits that the excess treated water was allowed to be discharged in the UGD network as per the conditions stipulated in the consent for operation issued to private STPs by KSPCB. After the orders of NGT, the BWSSB in consultants with KSPCB, the connections given for letting treated water to UGDs have been disconnected for 109 units (out of 496 units, in 109 units UGD connections are disconnected; there is no BWSSB UGD network near 378 units; 2 units are beyond the 110 villages limits of BBMP; 5 units addresses are repeated in the list; 1 unit address is not traceable and 1 unit does not have STP). The ACS, UDD, submits that since, treated water was allowed as per the conditions in the order of consent to operate, no action can be taken against the officials of BWSSB in this matter.

In response to the above, the Member Secretary, KSPCB, reports that from the list of 109 Residential/Commercial project total quantity of sewage generated is about 11.462 MLD, out of which by utilizing treated sewage for secondary usage viz... toilet flushing,



No. of Corrections Nil


Chief Engineer (WWM)
BWSSB,
Cauvery Block

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floor washing, vehicle washing and for gardening there is an excess treated sewage of about 4.58 MLD. At present BWSSB is operating 7 sewage treatment plant in Bellandur catchment and 3 more are under stabilization. Total capacity of the 7 operating STP's is 448 MLD and 3 STP's under stabilization is about 50 MLD.

It indicates that the volumetric load from discharge of excess treated sewage into BWSSB UGD is 1.03%. This may be considered as small quantity. The Member Secretary submits that their officers/officials are doing regular monitoring and taking actions to prevent the pollution. He has requested that in this background, no action against the officials may be taken. The NGT is requested to take a view in the above facts and circumstances.

V. To properly design UGD network so as to feed the existing STPs to their full capacity and also to the STPs under construction treated water should be reused.

i. **Order of this Hon'ble Tribunal**

In para No.16 Dated 18.12.2019 of the NGT order, it is stated that We are informed that about 256.7 MLD untreated sewage is entering the lake from five locations which is nothing but a criminal offence which is required to be checked on war footing and violators of law brought to justice, erring officer being appropriately dealt with under the civil, criminal and service law with a view to uphold the Rule of Law. There is large scale breach of public duties by concerned Authorities dealing with the subject and earlier




**Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,
Bangalore.**

No. of Corrections Nil

observations of this Tribunal have fallen on deaf ears and blatantly flouted.

ii. BWSSB Compliance

Details of valley wise works taken up are:

To stop the sewage entering natural drains at 294 locations are identified where sewage is entering into SWD. The work is under progress.

Details of valley wise works taken up are:

1. HAL SWD (Challaghatta Valley) – Totally 23 works are to be taken up for augmenting this flow – Out of which 9 works completed and 10 MLD flow is increased. After completing balance 14 works by September-2020, balance 38 MLD can be augmented.

2. Koramangala and Agaram Valley Totally 48 works are to be taken up for augmenting this flow – Out of which 30 works and the other linking at Mahindra Showroom is completed and 72.44 MLD flow has increased. After completing balance 18 works by September-2020, balance sewage can be augmented.

3. Iblur Catchment area

As on 18.03.2020 out of 2425 mtrs of pipeline, laying of 1357 RMT of pipeline 900/600/450 mm dia RCC NP3 pipeline along the alignment is laid, work is in progress. Laying of balance 1068 mtrs of pipeline will be completed by June-2020.



No. of Corrections Nil

[Signature]
Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,
Bangalore.

4. Kempapura Catchment area

About 950 mtrs of 300 mm dia RCC NP3 pipeline along the alignment is laid, work is in progress to convey the sewage generated in this area to Bellandur Amanikere STP. The work will be completed by April-2020.

Details of flow after completion of total of 39 works out of 74 works proposed for linking

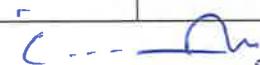
Location	Flow Measurement s as on April-2019 (in MLD)	Flow Measurement s as on March-2020 (in MLD)	Difference augmented to STP (in MLD)
HAL	48.60	31.40	-17.20
Agaram & Koramangala	179.50	114.26	-65.24
218 MLD STP	170	180	10
60 MLD STP	22	51	29
30 MLD STP	26	30	4
90 MLD STP	30	70	40
Total	476.10	476.66	

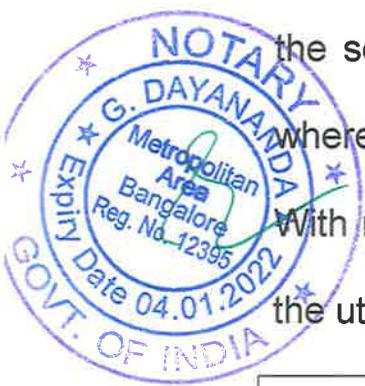
As per the monitoring committee report dated 06.03.2020, to stop the sewage entering natural drains at 294 locations are identified where sewage is entering into SWD. The work is under progress.

With regards to reuse of the treated water, BWSSB has envisaged the utilization as below:

Sl. No	Name of the STP	Capacity (in MLD)	Quantity committed to Minor Irrigation Department (in MLD)	Remarks
A	Existing STPs			
1	K & C Valley	218	218	
2		30	30	
3		60	60	
4	Bellandur Ammanikhane	90	90	
5	Kadabeesanahalli	50	-	Committed to KIADB.
6	Sarakki (Recently commissioned)	5	4	

No. of Corrections nil


Chief Engineer (WWM)
BWSSB,



Total of Existing STPs		453	402	
B	Under Construction STPs			
7	Agara	35	30	
8	K & C Valley	150	120	
9	Hulimavu	10	9	
10	Chikkabegur	5	4	
Total of Under Construction STPs		200	163	
Total		653	565	

For, Iblur work the observations is about 950 mtrs out of 2425 mtrs of 900/600/450 mm dia RCC NP3 pipeline along the alignment is laid. Work is under progress. The work is planned to be completed by 30-06-2020.

VI. Action against erring officers

i. Order of this Hon'ble Tribunal

In para No.28 (vi) Dated 18.12.2019 of the NGT order, it is stated that "Action against erring officers which has not yet been taken must be initiated forthwith as already directed. Failures of officers still in service should be duly reflected in their ACRs.

ii. BWSSB Compliance

Officers who have worked in the prescribed period have been identified and show cause notices have been issued.

As per the monitoring committee report dated 06.03.2020, The ACS (UDD), of State Government has submitted the list of officers who were found responsible for failure in their duties to maintain the lakes. He submits that notices have been issued for initiating the



No. of Corrections

[Signature]
Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,
Bangalore.

action against them. The name of officers with departments is listed here under:

2) BWSSB

Sl. No.	Name	Designation
1	S.M. Basavaraju	Chief Engineer (14.11.2006 to 08.04.2013) & 10.05.2013 to 29.03.2014)
2	S.M. Ramakrishna	Chief Engineer (29.03.2014 to 11.06.2013) & as Chief Engineer WWM (l/c) & (11.06.2014 to 31.07.2014) as Chief Engineer WWM
3	S.R. Roopa Kumar	Additional Chief Engineer (31.010.2007 to 05.06.2008)
4	S.P. Rudra Murthy	Additional Chief Engineer (05.06.2008 to 13.06.2012)
5	V. Mahesh	Additional Chief Engineer (27.03.2013 to 10.07.2015)
6	K.R. Manjunath	Additional Chief Engineer (10.07.2015 to 28.10.2016)
7	B.M. Purushotham	Executive Engineer (29.10.2007 to 23.05.2008)
8	C. Abdul Nazir	Executive Engineer (23.05.2008 to 04.01.2012)
9	B.N. Sidda Gangaiah	Executive Engineer (04.01.2012 to 31.08.2012) & from 31.08.2012 to 15.11.2012
10	C.C. Putta Mallappa	Executive Engineer (15.11.2012 to 26.08.2013)
11	B.S.C. Soma Shekar	Executive Engineer (26.08.2013 to 07.06.2014)

Verification

Verified at Bengaluru on this 21st day of March 2020 at Bangaluru. the contents of the above Affidavit are true and correct to my personal knowledge and on the information received and delivered, are believed to be true and nothing material has been concealed.

DEPONENT
Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,
Bangalore.

DEPONENT
Chief Engineer (WWM)
BWSSB,
Cauvery Bhavan,
Bangalore.



SWORN TO BEFORE ME

21/03/2020
G. DAYANANDA
Advocate & Notary
Govt. of India
61, 2nd Floor, 7th Cross
Malleshwaram
Bangalore - 560 003

No. of Corrections 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION NO. 125 OF 2017

IN THE MATTER OF :-

Court on its own Motion

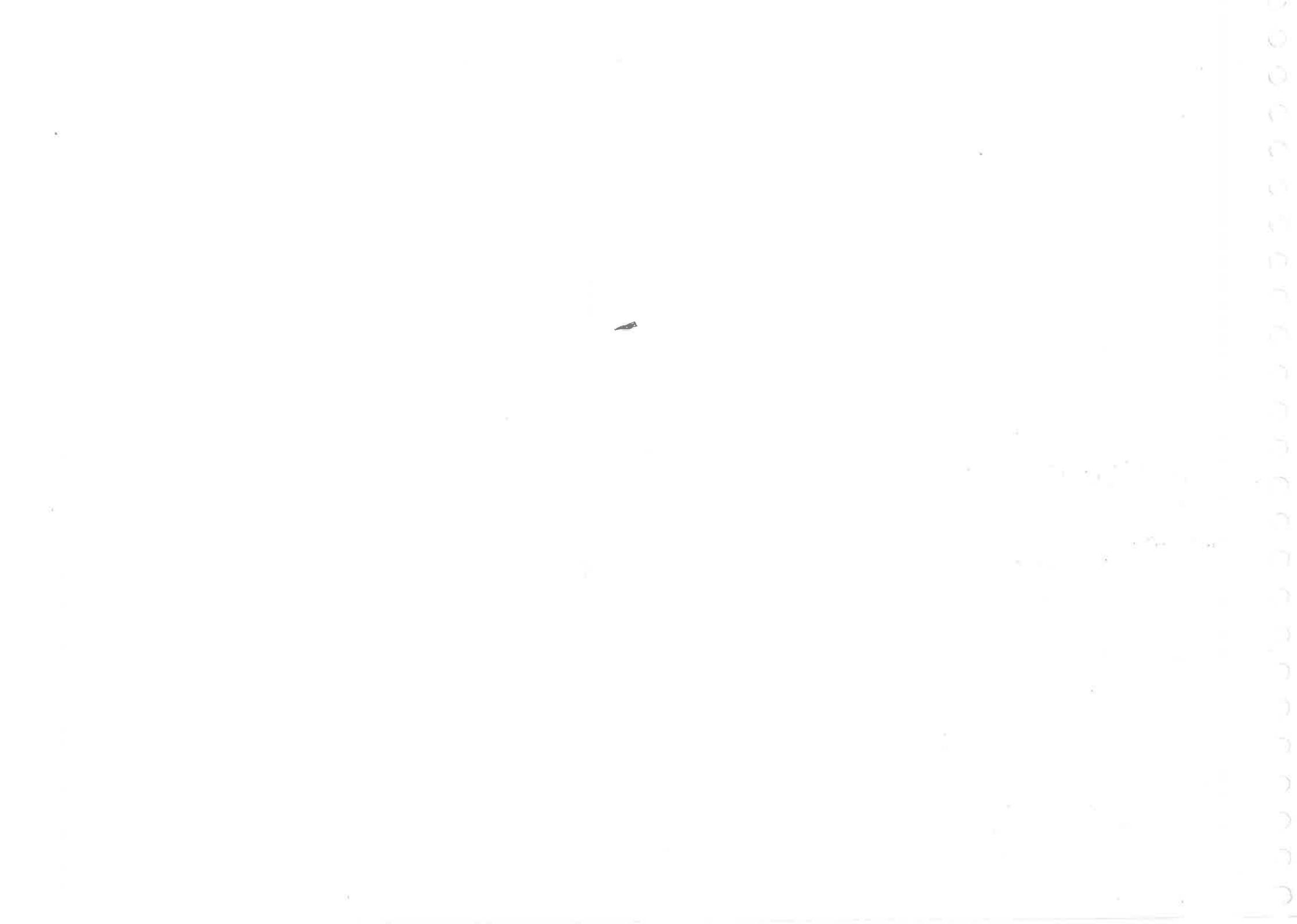
... Applicant(s)

:: VERSUS ::

State of Karnataka

... Respondent(s)

Compliance report in respect of the directions issued by this Hon'ble Tribunal on 18.12.2019 in Suo Moto Application No.125/2017 and O.A 217/2017 regarding restoration of SI Bellandur, Varthur and Agara Lake in respect of BWSSB



Sl. No.	Directions/Recommendations issued by this Hon'ble Tribunal vide Order Dated 18.12.2019	Time line fixed for execution of the action plan by this Hon'ble Tribunal vide order dated 18.12.2019	Compliance / Status of the works		Observations as per Monitoring Committee report dated 06.03.2020	Remarks
			Name of the work/activity/others	Status as on 18.03.2020		
1	In para No.28 (i) Dated 18.12.2019 of the NGT order, it is stated that "Timelines for execution of projects for setting up of STPs and laying of sewerage network may not be extended beyond 30.09.2020. If the works remains incomplete even till 30.09.2020, compensation will be liable to be paid @ Rs. 10 lakh per STP per month which may be liable to recovered from the erring officers, apart from adverse entries in their service records and other adverse action".	30.09.2020	a. 150 MLD Capacity new Sewage Treatment Plant based on activated sludge process with BNR with Power generation Date of completion 30.07.2020	The overall progress as on 18.03.2020 is 76.04% against the Planned target of 87.07%.	Overall 75.21% is progress is achieved against the planned target of 86.38%. the BWSSB states that the pending work will be completed by 30.07.2020	The detailed overall progress report is enclosed in page No. 2 to 4, Annexure-II. The lagging of progress is mainly civil works and installation of plant and machineries. The progress on the work is closely monitored and the work will be completed and the plant will be ready to treat the sewage by 30.07.2020. Progress Report enclosed in Annexure-II Pg. 2 to 4 Photographs enclosed in Annexure-III pg. 2 to 8
			b. Construction of 210 MLD capacity ISPS at Koramangala Sports Complex – including O&M for 7 years: Date of completion	The ISPS is ready for operation. But the sewage will be pumped after completion of the 150 MLD STP i.e. 30.07.2020.		

Sl. No.	Directions/Recommendations issued by this Hon'ble Tribunal vide Order Dated 18.12.2019	Time line fixed for execution of the action plan by this Hon'ble Tribunal vide order dated 18.12.2019	Compliance / Status of the works		Observations as per Monitoring Committee report dated 06.03.2020	Remarks
			Name of the work/activity/others	Status as on 18.03.2020		
			29.01.2020			
			c. Laying of 1800 mm dia raising main from 210 MLD ISPS to 150 MLD STP – S2D(a) of length 5.315 Km Date of completion 07.01.2020	Laying of pipelines in the storm water drains (SWD) is very difficult as the location of the work in this drain is at the end of the valley carrying huge quantity of storm water. At present 3710 RMT of pipeline work is completed as against 5315 RMT.	Laying of pipelines in the storm water drains (SWD) is very difficult as the location of the work in this drain is at the end of the valley carrying huge quantity of storm water. At present 3500 RMT of pipeline work is completed as against 5375 RMT. However, this work will be completed before 30.07.2020 when the STP is commissioned.	This work will be completed before 30.07.2020 when the STP is commissioned. Progress Report enclosed in Annexure-II Pg. 9 Photographs enclosed in Annexure-III pg. 15 to 18
			d. Sarakki – 5.0 MLD STP at Sarakki lake	Date of completion August-2019	Completed and commissioned on 08.11.2019.	Presently the treated water is let into Sarakki Lake. Photographs enclosed in Annexure-III pg. 20 to 21
			e. Chikkabeguru – 5.0 MLD STP Date of completion March-2020	The overall progress as on 18.03.2020 is 80.00% against the Planned target of 100.00%.	The overall progress is 72.00% against the planned target of 92.00%. the work will be completed by 31.03.2020	The work will be completed by March-2020 Progress Report enclosed in Annexure-II Pg. 15 Photographs enclosed in Annexure-III pg. 23

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			Name of the work/activity/others	Status as on 18.03.2020		
						to 25
			f. Hulimavu – 10 MLD STP Date of completion March-2020	Completed and commissioned.	Completed and commissioned.	Presently the treated water is let into Hulimavu Lake. Photographs enclosed in Annexure-III pg. 27 to 30
			g. Augmenting sewage from Iblur side and conveying to Bellandur Amanikere STP (Laying of sewer sub main) Date of completion 30.12.2020	As on 18.03.2020 laying of 1357 RMT of pipeline is completed	About 950 mtrs out of 2425 mtrs of 900/600/450 mm dia RCC NP3 pipeline along the alignment is laid. Work is under progress. The work is planned to be completed by 30-06-2020.	Laying of balance 1068 mtrs of pipeline will be completed by June-2020.
			h. Agaram – 35 MLD STP Date of completion Dec-2019	Completed and commissioned	The STP is put into operation, presently stabilization of process is under progress. The overall progress is 97.24% against the planned target of 100.00%	Presently the treated water is let into Agaram Lake. Photographs enclosed in Annexure-III pg. 32 to 34
			i. Waste water wet well – 32.5 MLD Capacity near the premises of 90MLD Bellandur	Earth work excavation for wet well portion is in progress. Also, vendor approvals for the equipments	Work order is issued. It is planned to complete by 19.02.2021.	To comply with NGT orders the period of completion has been reduced from 1 year to 7

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			Amanikhane STP to augment sewage from the adjoining areas of Bellandur Amanikhane STP Date of completion 30.09.2020	are in process.		months and the work order is issued accordingly to complete the work before 30.09.2020.
			j. A proper mechanism should be developed/placed it identify the blockages in the existing UGDs and to attend them mechanically.	BWSSB has 165 Jetting cum suction machines and 40 de-silting machines to clean the UGD lateral network. Procurement of 10 more machines as planned is completed by February 2020 and the new machines are also put into operation.	BWSSB has 165 Jetting cum suction machines and 40 de-silting machines to clean the UGD lateral network. 10 more machines are under procurement and by February 2020, BWSSB will be in a position clear the manholes once in a year. 6 High Pressure desilting machines and one recycler machine are engaged in cleaning of sub-mains and main sewers.	As planned additional 10 Jetting cum Suction machines have been procured in February-2020. Maintenance of sewer lines is done regularly based on the complaints and extensive, massive desilting of sewer lines will also be taken periodically to ensure proper flow of sewage.
2	In para No.14 Dated 18.12.2019 of the NGT order, it is stated that We also found that timelines fixed by this Tribunal have been unilaterally extended without any valid justification and no action	30.09.2020	Proposal for upgradation of all existing STPs with facilities to removal of Biological Nutrient Removal at 248 MLD	The Hon'ble NGT has clearly stated that 248 MLD capacity STPs at K&C Valley have to be made BNR compliant by 30-09-2020. Based on the	The operating STPs of 90 MLD STP at Bellandur Amanikere, 60 MLD STP at K&C Valley, 5 MLD STP at Sarakki and under construction STP's of 150 MLD at K&C Valley, 5 MLD at Chikkabegur, 10 MLD Hulimavu and 35 MLD STP at Agaram are with Biological Nutrient Removal process.	In order to comply for the NGT orders BWSSB is immediately taking up necessary works for achieving BNR by

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	has been taken against the erring officers on a specious plea that it was difficult to fix responsibility. Such approach is hardly compliant with the Rule of Law. We particularly disapprove the timeline for upgradation of STPs with Biological Nutrient Removal (BNR) at 248 MLD STP at K&C Valley. The same must not go beyond 30.09.2020 but preferably be completed before 30.06.2020 although earlier timeline fixed by this Tribunal was 30.06.2019. No substantial work has been done in the last one year on this aspect.		STP at K&C Valley.	concept note developed by Professors of IISc and in consultation with the consultants M/s CH2M Hill India Pvt. Ltd., appointed for upgradation of 248 MLD STP at K&C Valley, the estimate prepared for immediate action to achieve Biological Nutrient Removal in 248 MLD STP has been approved by Government of Karnataka including approval to take up the works from M/s KRIDL under 4G exemption. Proposal is also approved in Board meeting of BWSSB on 27.01.2020. The work orders for consultancy for upgradation of the 248 MLD STP is issued to the	The working STPs at Cubbon Park and Lalbagh are Tertiary Treatment Plants. For the 248 MLD (KC Valley), the approval of the State Government is obtained and a work order dated 03.03.2020 has been issued in favour of M/s KRIDL., to complete the work by 30-09-2020. Further, a work order has been issued to M/s CH2M Hill India Pvt. Ltd on 02.03.2020 for project management consultant services for the work of upgradation/rehabilitation of existing STPs at KC Valley. The works are expected to be completed by 30.09.2020 as reported by Chairman, BWSSB.	30.09.2020, which will be part and parcel of the entire upgradation works. The entire upgradation work other than BNR along with Bio-solids handling will be taken up simultaneously by floating tenders.

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				consultants M/s CH2M Hill (India) Pvt. Ltd. Also a letter to proceed with the work has been issued to M/s KRIDL for taking up the works.		
3	In para No.28 (ii) Dated 18.12.2019 of the NGT order, it is stated that Bangaluru Water Supply and Sewerage Board (BWSSB) must ensure that no sewage/effluent is discharged into the lakes and till setting up of STPs, interim remediation must be done forthwith. Any default in this regard will result in requirement to pay compensation of Rs. 5 lakh per month per inlet into the lakes from 01.02.2020.	01.02.2020	Interim remediation.	Further to the discussions in the Monitoring committee meetings, site visits on 04.01.2020 and also in the meetings conducted by the Government Authorities at Chief Secretary and Additional Chief Secretary levels, Hon'ble NGT committee has instructed to take up the aeration works in the diversion channels done by BDA at HAL side, Y-Junction of Agara & Koramangala side	The peripheral diversion channels have been constructed by the BDA in both the lakes and sewage water is flowing through this channel. Entry of sewage water into these lakes have been stopped. Further, the BWSSB have installed aerating systems and has completed by 28.02.2020 at 1) HAL side and Kempapura inlet, 2) Agaram inlet, 3) Koramangala inlet, 4) Iblur inlet coming under Bellandur Lake, 5) Northern and 6) Southern side of Varthur lake for inline treatment of sewage. Further, in addition the BWSSB is also installing artificial floating islands. It is submitted that during the rainy season, rain water of the catchment area of KC Valley flows through the Bellandur and Varthur lakes. In the past, flooding in the low laying habitat areas have been reported during the monsoon. The State Government (BDA and BBMP) should take appropriate measures during the de-silting	In order to comply with the time line of 01.02.2020 fixed in the orders of the NGT, the aerating systems in the 6 locations were installed before 31.01.2020 and same have been observed by the NGT Committee during their inspection of the said location on 21.01.2020. Subsequently, in order to enhance the interim remediation artificial floating islands have

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				<p>channels, Iblur and on either sides of Varthur Lake.</p> <p>BWSSB has installed aerating systems in the following 6 locations by 31.01.2020, through M/s KRIDL at the following locations:</p> <ol style="list-style-type: none"> 1) HAL side & Kempapura inlet, 2) Agaram, 3) Koramangala inlet, 4) Iblur inlet coming under Bellandur lake and 5) Northern & 6) Southern side of Varthur lake. <p>Same have been inspected by the NGT Monitoring Committee during their inspections on 21.01.2020.</p>	<p>period so that no adverse impact on de-silting as well as flooding in habitat areas take place.</p>	<p>also been installed. Same have been observed by the NGT Committee during their inspection on 25.02.2020</p> <p>Photographs enclosed in Annexure-III pg. 36 to 52</p>

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				Also, bio-remedial installations of artificial floating islands have been installed for the inline treatment.		
4	In para No.28 (iii) Dated 18.12.2019 of the NGT order, it is stated that "BWSSB may further ensure that treated water is not discharged into the UGB network. Action may be taken against persons responsible for having allowed this to be done earlier resulting into loss of Rs. 2 Lakhs per day i.e. Rs. 60 Lakhs per month and more than Rs. 7 Crore per year without any justification what so ever.		Disconnections to ensure that no treated effluent is discharged into BWSSB UGD network.	As per the Hon'ble NGT order BWSSB may further ensure that treated water is not discharged into the UGD network. Further, the list provided by KSPCB for 496 buildings having STPs has been inspected by BWSSB engineers and out of 496 buildings 109 buildings UGD connections are disconnected, there is no BWSSB UGD network near 378 buildings, 2 buildings are beyond the 110 village limits of BBMP, 5 buildings addresses are repeated in	The BWSSB submits that the excess treated water was allowed to be discharged in the UGD network as per the conditions stipulated in the consent for operation issued to private STPs by KSPCB. After the orders of NGT, the BWSSB in consultants with KSPCB, the connections given for letting treated water to UGDs have been disconnected for 109 units (out of 496 units, in 109 units UGD connections are disconnected; there is no BWSSB UGD network near 378 units; 2 units are beyond the 110 villages limits of BBMP; 5 units addresses are repeated in the list; 1 unit address is not traceable and 1 unit does not have STP). The ACS, UDD, submits that since, treated water was allowed as per the conditions in the order of consent to operate, no action can be taken against the officials of BWSSB in this matter. In response to the above, the Member Secretary, KSPCB, reports that from the list of 109 Residential/Commercial project total quantity of sewage generated is about 11.462 MLD, out of which by	BWSSB has disconnected the UGD connections of buildings having STPs who are letting excess treated water into UGD network. Further, BWSSB has already written to KSPCB authorities informing them that KSPCB to see that private STPs are functioning as per discharge standards.

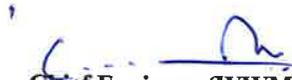
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				<p>the list, 1 building address is not traceable and 1 building does not have STP.</p> <p>BWSSB is identifying the sources of discharge of sewage and will disconnect water supply and UGD connections of the defaulting establishments and also send a complaint to KSPCB. If the defaulting establishment is using ground water then the complaint has also to be booked with KSPCB for its action.</p> <p>Further, the treated water was allowed as per the conditions stipulated in the order of the consent issued by KSPCB. Under</p>	<p>utilizing treated sewage for secondary usage viz... toilet flushing, floor washing, vehicle washing and for gardening there is an excess treated sewage of about 4.58 MLD. At present BWSSB is operating 7 sewage treatment plant in Bellandur catchment and 3 more are under stabilization. Total capacity of the 7 operating STP's is 448 MLD and 3 STP's under stabilization is about 50 MLD.</p> <p>It indicates that the volumetric load from discharge of excess treated sewage into BWSSB UGD is 1.03%. This may be considered as small quantity. The Member Secretary submits that their officers/officials are doing regular monitoring and taking actions to prevent the pollution. He has requested that in this background, no action against the officials may be taken. The NGT is requested to take a view in the above facts and circumstances.</p>	

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				the circumstances, BWSSB request not to take any action against its officials.																																																																																	
5	In para No.16 Dated 18.12.2019 of the NGT order, it is stated that We are informed that about 256.7 MLD untreated sewage is entering the lake from five locations which is nothing but a criminal offence which is required to be checked on war footing and violators of law brought to justice, erring officer being appropriately dealt with under the civil, criminal and service law with a view to uphold the Rule of Law. There is large scale breach of public duties by concerned Authorities dealing with the subject and earlier observations of this Tribunal have fallen on deaf ears and blatantly flouted.	30.09.2020	To properly design UGD network so as to feed the existing STPs to their full capacity and also to the STPs under construction treated water should be reused.	<p>Details of valley wise works taken up are:</p> <p>1. HAL SWD (Challaghatta Valley) – Totally 23 works are to be taken up for augmenting this flow – Out of which 9 works completed and 10 MLD flow is increased. After completing balance 14 works by September-2020, balance 38 MLD can be augmented.</p> <p>2. Koramangala and Agaram Valley Totally 48 works are</p>	<p>To stop the sewage entering natural drains at 294 locations are identified where sewage is entering into SWD. The work is under progress.</p> <p>With regards to reuse of the treated water, BWSSB has envisaged the utilization as below:</p> <table border="1"> <thead> <tr> <th>Sl. No</th> <th>Name of the STP</th> <th>Capacity (in MLD)</th> <th>Quantity committed to Minor Irrigation Department (in MLD)</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td colspan="5">A Existing STPs</td> </tr> <tr> <td>1</td> <td></td> <td>218</td> <td>218</td> <td></td> </tr> <tr> <td>2</td> <td rowspan="2">K & C Valley</td> <td>30</td> <td>30</td> <td></td> </tr> <tr> <td>3</td> <td>60</td> <td>60</td> <td></td> </tr> <tr> <td>4</td> <td>Bellandur Ammanikhane</td> <td>90</td> <td>90</td> <td></td> </tr> <tr> <td>5</td> <td>Kadabeesanahalli</td> <td>50</td> <td>-</td> <td>Committed to KIADB.</td> </tr> <tr> <td>6</td> <td>Sarakki (Recently commissioned)</td> <td>5</td> <td>4</td> <td></td> </tr> <tr> <td colspan="2">Total of Existing STPs</td> <td>453</td> <td>402</td> <td></td> </tr> <tr> <td colspan="5">B Under Construction STPs</td> </tr> <tr> <td>7</td> <td>Agara</td> <td>35</td> <td>30</td> <td></td> </tr> <tr> <td>8</td> <td>K & C Valley</td> <td>150</td> <td>120</td> <td></td> </tr> <tr> <td>9</td> <td>Hulimavu</td> <td>10</td> <td>9</td> <td></td> </tr> <tr> <td>10</td> <td>Chikkabegur</td> <td>5</td> <td>4</td> <td></td> </tr> <tr> <td colspan="2">Total of Under Construction STPs</td> <td>200</td> <td>163</td> <td></td> </tr> <tr> <td colspan="2">Total</td> <td>653</td> <td>565</td> <td></td> </tr> </tbody> </table>	Sl. No	Name of the STP	Capacity (in MLD)	Quantity committed to Minor Irrigation Department (in MLD)	Remarks	A Existing STPs					1		218	218		2	K & C Valley	30	30		3	60	60		4	Bellandur Ammanikhane	90	90		5	Kadabeesanahalli	50	-	Committed to KIADB.	6	Sarakki (Recently commissioned)	5	4		Total of Existing STPs		453	402		B Under Construction STPs					7	Agara	35	30		8	K & C Valley	150	120		9	Hulimavu	10	9		10	Chikkabegur	5	4		Total of Under Construction STPs		200	163		Total		653	565		<p>The flow in the SWD's were measured in the month of April-2019 and the details of flow are as follows:</p> <p>HAL-48.60</p> <p>Agaram & Koramangala (Y-Junction)-179.50</p> <p>Total-228.10 MLD</p> <p>The flow details of STP's at K&C Valley, Bellandur on the day of measurement were, 218 MLD-170 MLD 60 MLD-22 MLD 30 MLD-26MLD 90 MLD-30 MLD Total-248 MLD</p> <p>After carrying out major interlinking/new pipeline works on the upstream side, the flow</p>
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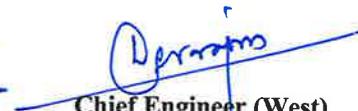
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				to be taken up for augmenting this flow – Out of which 30 works and the other linking at Mahindra Showroom is completed and 72.44 MLD flow has increased. After completing balance 18 works by September-2020, balance sewage can be augmented.	<p>Details of flow after completion of total of 39 works out of 74 works proposed for linking</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Flow Measurements as on April-2019 (in MLD)</th> <th>Flow Measurements as on March-2020 (in MLD)</th> <th>Difference augmented to STP (in MLD)</th> </tr> </thead> <tbody> <tr> <td>HAL</td> <td>48.60</td> <td>31.40</td> <td>-17.20</td> </tr> <tr> <td>Agaram & Koramangala</td> <td>179.50</td> <td>114.26</td> <td>-65.24</td> </tr> <tr> <td>218 MLD STP</td> <td>170</td> <td>180</td> <td>10</td> </tr> <tr> <td>60 MLD STP</td> <td>22</td> <td>51</td> <td>29</td> </tr> <tr> <td>30 MLD STP</td> <td>26</td> <td>30</td> <td>4</td> </tr> <tr> <td>90 MLD STP</td> <td>30</td> <td>70</td> <td>40</td> </tr> <tr> <td>Total</td> <td>476.10</td> <td>476.66</td> <td></td> </tr> </tbody> </table>	Location	Flow Measurements as on April-2019 (in MLD)	Flow Measurements as on March-2020 (in MLD)	Difference augmented to STP (in MLD)	HAL	48.60	31.40	-17.20	Agaram & Koramangala	179.50	114.26	-65.24	218 MLD STP	170	180	10	60 MLD STP	22	51	29	30 MLD STP	26	30	4	90 MLD STP	30	70	40	Total	476.10	476.66		<p>was measured in the 1st week of March-2020, the details are as follows: HAL-31.4 MLD Agaram &Koramangala (Y-Junction)-114.26 Total-145.66 MLD</p> <p>The flow details of STP's at K&C Valley, Bellandur on the day of measurement were, 218 MLD-180 MLD 30 MLD-30 MLD 90 MLD-70 MLD Total-331 MLD As can be seen from the above, it is clear that the flow in the SWD to an extent of 82.44 MLD has been reduced and same are being augmented to STP's.</p>
Location	Flow Measurements as on April-2019 (in MLD)	Flow Measurements as on March-2020 (in MLD)	Difference augmented to STP (in MLD)																																			
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				3. Iblur Catchment area	About 950 mtrs out of 2425 mtrs of 900/600/450 mm dia RCC NP3 pipeline along the alignment is laid. Work is	Laying of balance 1068 mtrs of pipeline will be																																

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				<p>As on 18.03.2020 out of 2425 mtrs of pipeline, laying of 1357 RMT of pipeline 900/600/450 mm dia RCC NP3 pipeline along the alignment is laid, work is in progress.</p> <p>4. Kempapura Catchment area About 950 mtrs of 300 mm dia RCC NP3 pipeline along the alignment is laid, work is in progress to convey the sewage generated in this area to Bellandur Amanikere STP.</p>	under progress. The work is planned to be completed by 30-06-2020.	<p>completed by June-2020.</p> <p>The work will be completed by April-2020</p>
6	In para No.28 (vi) Dated 18.12.2019 of the NGT order, it is stated that "Action against erring officers which has not yet been taken must be initiated forthwith as already directed. Failures of officers still in service		Action against erring officers	Officers who have worked in the prescribed period have been identified and show cause notices have been issued	The ACS (UDD), of State Government has submitted the list of officers who were found responsible for failure in their duties to maintain the lakes. He submits that notices have been issued for initiating the action against them. The name of officers with departments are listed here under:	

Sl. No.	Directions/Recommendations issued by this Hon'ble Tribunal vide Order Dated 18.12.2019	Time line fixed for execution of the action plan by this Hon'ble Tribunal vide order dated 18.12.2019	Compliance / Status of the works		Observations as per Monitoring Committee report dated 06.03.2020	Remarks																																				
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	should be duly reflected in their ACRs.				2) BWSSB <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Name</th> <th>Designation</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>S.M. Basavaraju</td> <td>Chief Engineer (14.11.2006 to 08.04.2013) & 10.05.2013 to 29.03.2014)</td> </tr> <tr> <td>2</td> <td>S.M. Ramakrishna</td> <td>Chief Engineer (29.03.2014 to 11.06.2013) & as Chief Engineer WWM (I/c) & (11.06.2014 to 31.07.2014) as Chief Engineer WWM</td> </tr> <tr> <td>3</td> <td>S.R. Roopa Kumar</td> <td>Additional Chief Engineer (31.010.2007 to 05.06.2008)</td> </tr> <tr> <td>4</td> <td>S.P. Rudra Murthy</td> <td>Additional Chief Engineer (05.06.2008 to 13.06.2012)</td> </tr> <tr> <td>5</td> <td>V. Mahesh</td> <td>Additional Chief Engineer (27.03.2013 to 10.07.2015)</td> </tr> <tr> <td>6</td> <td>K.R. Manjunath</td> <td>Additional Chief Engineer (10.07.2015 to 28.10.2016)</td> </tr> <tr> <td>7</td> <td>B.M. Purushotham</td> <td>Executive Engineer (29.10.2007 to 23.05.2008)</td> </tr> <tr> <td>8</td> <td>C. Abdul Nazir</td> <td>Executive Engineer (23.05.2008 to 04.01.2012)</td> </tr> <tr> <td>9</td> <td>B.N. Sidda Gangaiah</td> <td>Executive Engineer (04.01.2012 to 31.08.2012) & from 31.08.2012 to 15.11.2012</td> </tr> <tr> <td>10</td> <td>C.C. Putta Mallappa</td> <td>Executive Engineer (15.11.2012 to 26.08.2013)</td> </tr> <tr> <td>11</td> <td>B.S.C. Soma Shekar</td> <td>Executive Engineer (26.08.2013 to 07.06.2014)</td> </tr> </tbody> </table>	Sl. No.	Name	Designation	1	S.M. Basavaraju	Chief Engineer (14.11.2006 to 08.04.2013) & 10.05.2013 to 29.03.2014)	2	S.M. Ramakrishna	Chief Engineer (29.03.2014 to 11.06.2013) & as Chief Engineer WWM (I/c) & (11.06.2014 to 31.07.2014) as Chief Engineer WWM	3	S.R. Roopa Kumar	Additional Chief Engineer (31.010.2007 to 05.06.2008)	4	S.P. Rudra Murthy	Additional Chief Engineer (05.06.2008 to 13.06.2012)	5	V. Mahesh	Additional Chief Engineer (27.03.2013 to 10.07.2015)	6	K.R. Manjunath	Additional Chief Engineer (10.07.2015 to 28.10.2016)	7	B.M. Purushotham	Executive Engineer (29.10.2007 to 23.05.2008)	8	C. Abdul Nazir	Executive Engineer (23.05.2008 to 04.01.2012)	9	B.N. Sidda Gangaiah	Executive Engineer (04.01.2012 to 31.08.2012) & from 31.08.2012 to 15.11.2012	10	C.C. Putta Mallappa	Executive Engineer (15.11.2012 to 26.08.2013)	11	B.S.C. Soma Shekar	Executive Engineer (26.08.2013 to 07.06.2014)	
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Chief Engineer (WWM)
BWSSB


Chief Engineer (East)
BWSSB


Chief Engineer (West)
BWSSB


Chief Engineer (P)
BWSSB


EIC
BWSSB

ANNEXURE – II Progress Report

INDEX

SL NO.	PARTICULARS	Page No.
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d	5 MLD STP AT SARAKKI	11-13
e	5 MLS STP AT CHIKKA BEGUR	14-16
f	10 MLD STP AT HULIMAVU	17-19
g	35 MLD STP AT AGARA	20-22

**150 MLD AT K&C
Valley**

Design and Construction of 150 MLD Sewage Treatment Plant at K&C Valley, Bengaluru

Date of Commencement:31st July 2017

Project Completion Date:30th July 2020.

Overall Progress as per Construction Programme as on 15.03.2020.

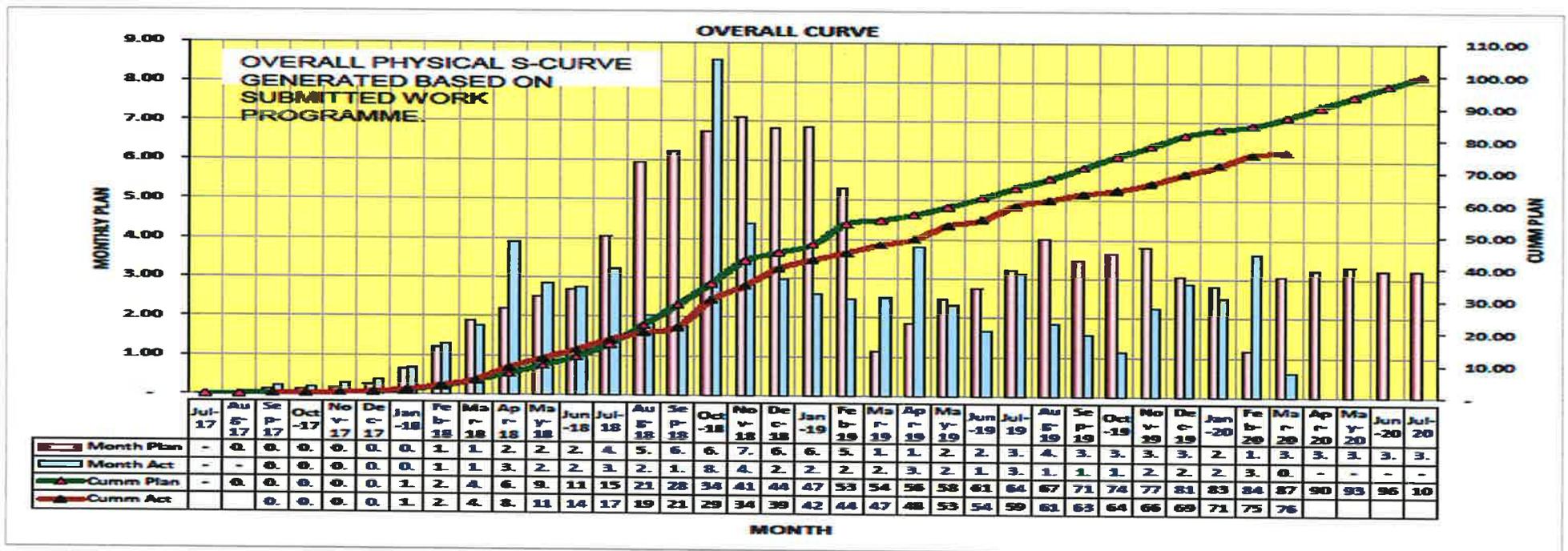
Overall Progress as per Construction Programme

Sl. No.	Description of works	Weightage	Progress upto 15-03-2020			
			Target upto 15-03-20		Achieved upto 15-03-20	
			Plan against 100%	Plan % w.r.t. weightage	Actual against 100%	Actual % w.r.t. weightage
1	Engineering (Design, Drawings & Documentation)	5%	100	5	99.73	4.98
2	Place orders for plant and equipment	5%	100	5	100	5
3	Construction of Civil Structures	40%	94.22	37.68	71.95	28.78
4	Manufacturing & Delivery	35%	100	35	96.34	33.71
5	Installation of Plant & Machineries	10%	43.85	4.38	35.66	3.56
6	Testing & Commissioning	5%	-	-	-	-
	Overall weightage Progress	100%	87.07		76.04	

Design and Construction of 150 MLD Sewage Treatment Plant at K&C Valley, Bengaluru including Operation & Maintenance of Constructed Facilities for Ten (10) Years

Overall Progress Curve as on 15.11.2019.

Overall Progress Curve



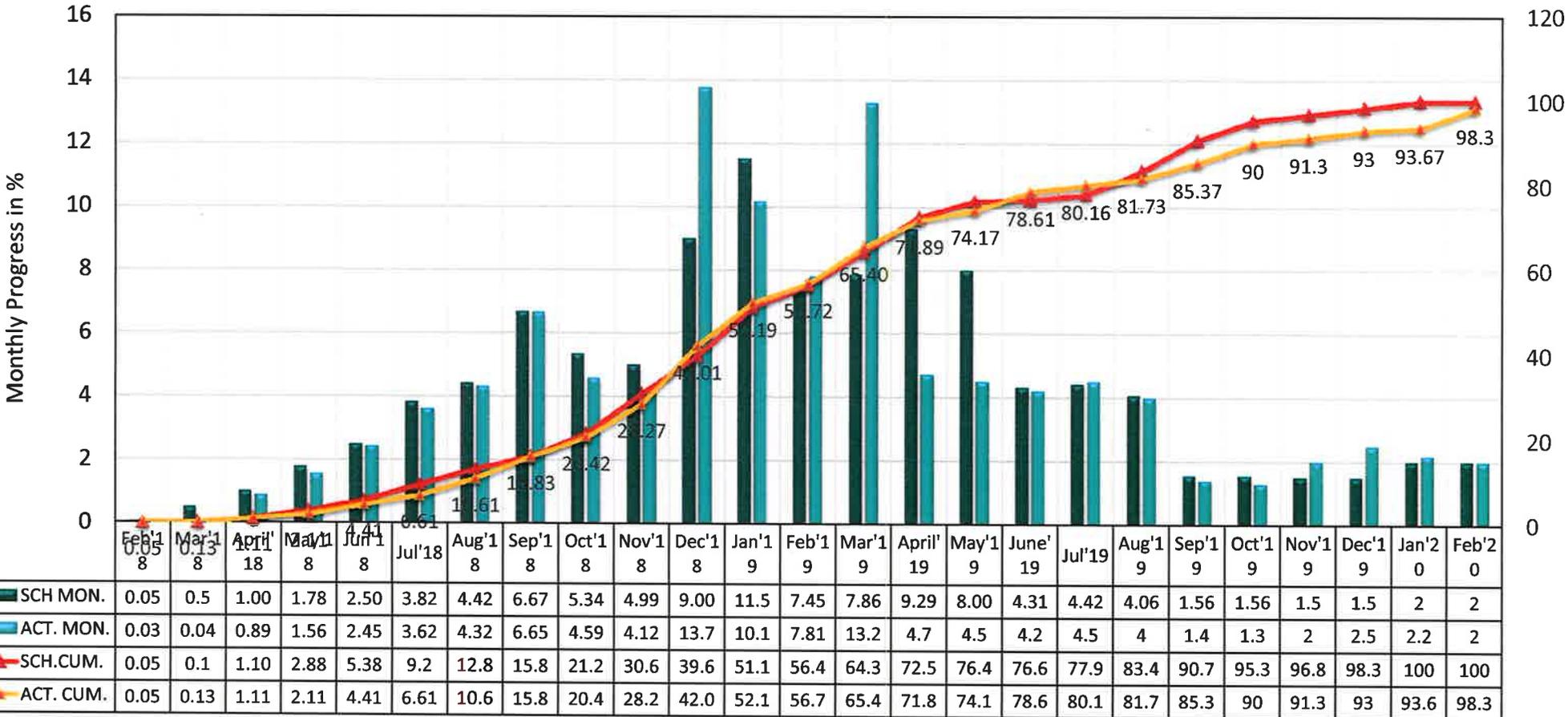
**210 MLD ISPS at
NGV**

210 MLD ISPS at NGV

Name of Project	: DESIGN AND CONSTRUCTION OF 210 MLD INTERMEDIATE SEWAGE PUMPING STATION (ISPS) AT KORAMANGALA SPORTS COMPLEX, BANGALORE INCLUDING OPERATION AND MAINTENANCE OF CONSTRUCTED FACILITIES FOR SEVEN (7) YEARS (TURNKEY CONTRACT).
Cost of Project	: 38.61 Crore
Date of Commencement	: 30th January , 2018 Date of Completion :29th January 2020
The ISPS is ready for operation. But the sewage will be pumped after completion of the 150 MLD STP i.e.,31-07-2020.	

Package S2D(b)

S2D(b) 210 MLD Pump house Physical Progress Curve



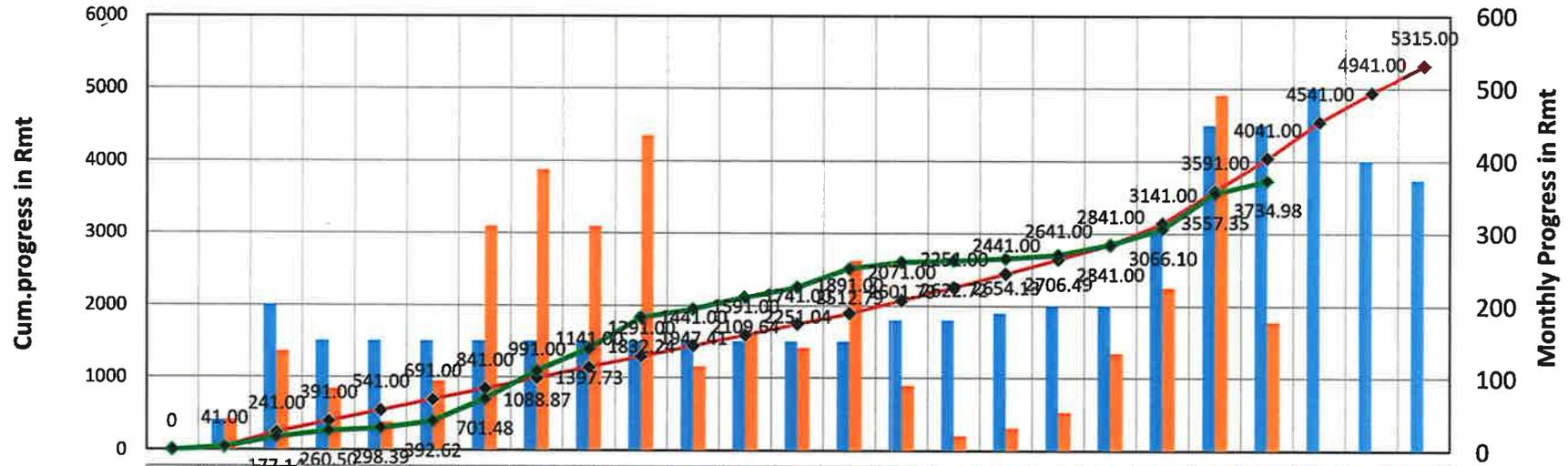
Pumping Main

Pumping Main

Name of Work : Work of pumping main from Koramangala sports complex ISPS to K&C valley – S2D (a)							
Cost of Project : 65.64 Crore							
Date of Commencement : 08.01.2018				Date of completion : 31.03.2020			
Physical Progress							
Sl.No	Description of works	Unit	Total Quantity to be executed (Tentative)	Progress as on 14.03.2020			
				Target		Achieved	
				Quantity	% W.r.t total Qty	Quantity	% W.r.t total Qty
1	Laying of Pipe line	Rmt	5315	4041.00	76.03	3730.10	70.18

Pumping Main

Physical Progress Curve



	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
Monthly Plan	0	41.0	200.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	180.0	180.0	190.0	200.0	200.0	300.0	450.0	450.0	500.0	400.0	374.0
Monthly Actual	0	41.6	135.0	83.3	37.8	94.2	308.0	387.0	308.0	434.0	115.0	162.0	141.0	262.0	89.0	20.9	31.4	52.4	135.0	225.0	491.0	178.0			
Cum. Plan	0	41.0	241.0	391.0	541.0	691.0	841.0	991.0	1141.0	1291.0	1441.0	1591.0	1741.0	1891.0	2071.0	2251.0	2441.0	2641.0	2841.0	3141.0	3591.0	4041.0	4541.0	4941.0	5315.0
Cum. Actual	0	41.6	177.1	260.5	298.3	392.6	701.4	1088.8	1397.7	1832.2	1947.1	2109.5	2251.0	2512.0	2601.9	2622.8	2654.2	2706.4	2841.0	3066.1	3557.3	3734.9			

■ Monthly Plan
 ■ Monthly Actual
 ◆ Cum. Plan
 ◆ Cum. Actual

5 MLD STP AT SARAKKI

5 MLD STP AT SARAKKI

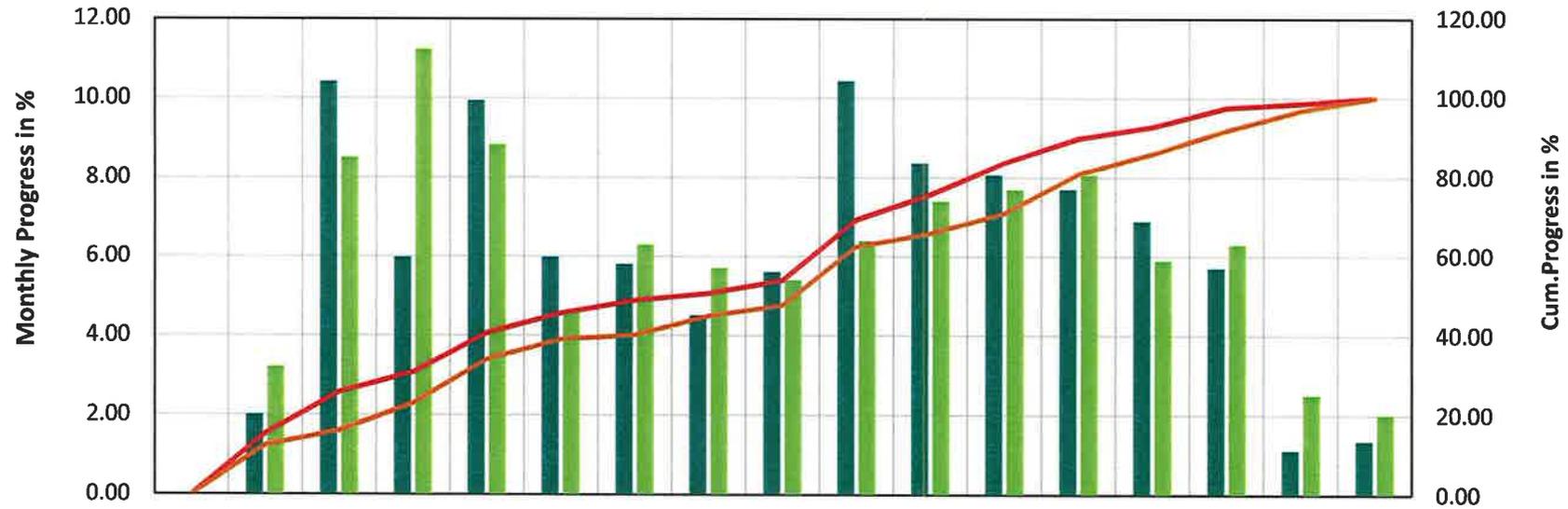
Name of the Project : Design and construction of 5 MLD Sewage Treatment Plant at Sarakki, Bengaluru including O&M of constructed facilities for 10 years.

Cost of Project : 14.49 Crores

Project Status : Plant is Commissioned

5 MLD STP AT SARAKKI

Sarakki 5 MLD STP Physical Progress Curve



	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19
Monthly Plan	0.00	2.00	10.42	5.97	9.93	5.98	5.80	4.50	5.60	10.43	8.36	8.06	7.69	6.89	5.70	1.11	1.35
Monthly Actual	0.00	3.20	8.50	11.23	8.83	4.60	6.30	5.70	5.40	6.40	7.40	7.69	8.06	5.89	6.30	2.50	2.00
Cum. Plan	0.00	15.26	25.68	30.65	40.58	45.56	48.79	50.62	53.89	69.32	75.68	83.74	89.85	92.84	97.54	98.65	100.00
Cum. Actual	0.00	12.36	15.96	22.85	33.97	38.98	40.03	44.89	47.58	62.56	65.89	70.90	80.89	85.96	91.89	96.89	100.00

■ Monthly Plan
 ■ Monthly Actual
 — Cum. Plan
 — Cum. Actual

**5 MLD STP AT
CHIKKA BEGUR**

5MLD STP AT CHIKKABEGUR

Name of the Project : Design and construction of 5 MLD Sewage Treatment Plant at Chikka begur, Bengaluru including O&M of constructed facilities for 10 years.

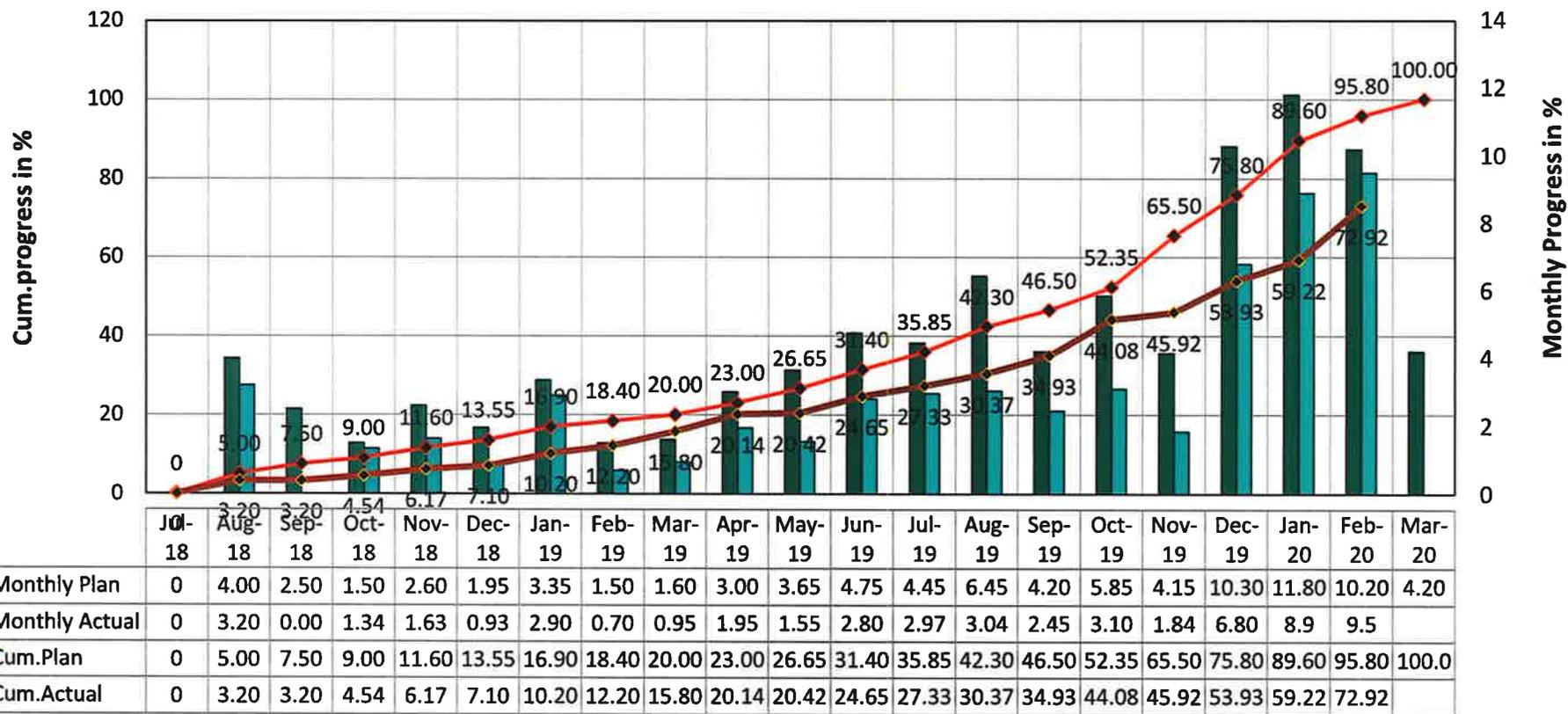
Cost of Project : 13.89 Crores

Date of Commencement : 17.10.2018 **Date of Completion :** 31.03.2020

Sl.No	Description of works 4 th Mile stone (17.07.2019 - 30.11.2019) (4 Months) EOT-31.03.2020	Weightage	Target		Achieved		
			Programme %	% W.r.t weightage	Progress %	% W.r.t weightage	Backlog % W.r.t weightage
			1	Engineering (Design, Drawings & Documentation)	5%	100%	5.00%
2	Place orders for plant and equipments	5%	100%	5.00%	100%	5.00%	0.00%
3	Construction of Civil Structures	40%	100%	40.00%	87%	34.86%	5.14%
4	Supply & Delivery to site plant & Machinerics	35%	100%	35.00%	80%	32.34%	2.66%
5	Installation of Plant & Machinerics	10%	100%	10.00%	28%	2.80%	7.20%
6	Testing & Commissioning	5%	100%	5.00%	0%	0.00%	5.00%
	Overall Weightage Progress	100%		100.00%		80.00%	20.00%

5MLD STP CHIKKABEGUR

Chikka begur 5 MLD STP Physical Progress Curve



■ Monthly Plan
 ■ Monthly Actual
 ◆ Cum.Plan
 ◆ Cum.Actual

10 MLD STP AT HULIMAVU

10MLD STP HULIMAVU

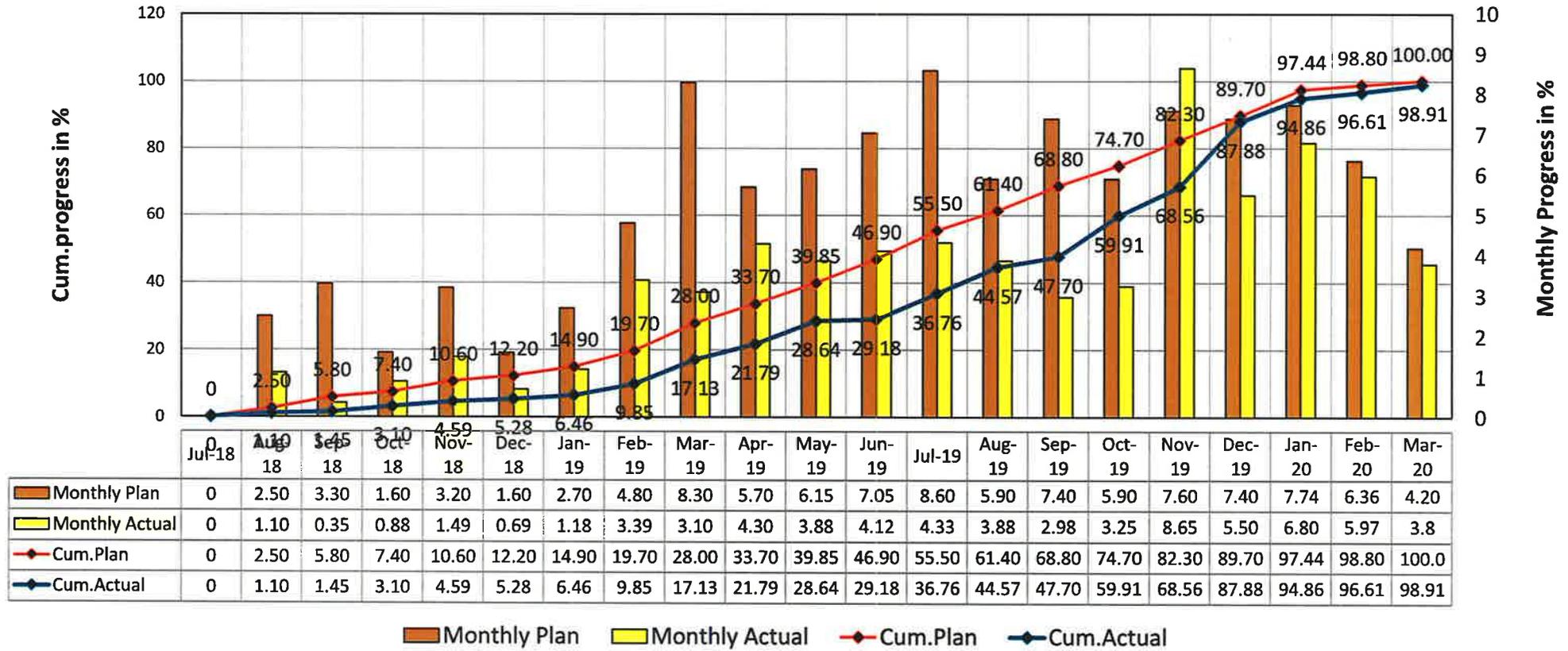
Name of the Project : Design and construction of 10 MLD Sewage Treatment Plant at Hulimavu, Bengaluru including O&M of constructed facilities for 10 years.

Cost of Project : 20.23 Crores

Project Status : Plant is Commissioned

HULIMAVU 10MLD

Hulimavu 10 MLD STP Physical Progress Curve



35 MLD STP AT AGARA

35 MLD STP AT AGARA

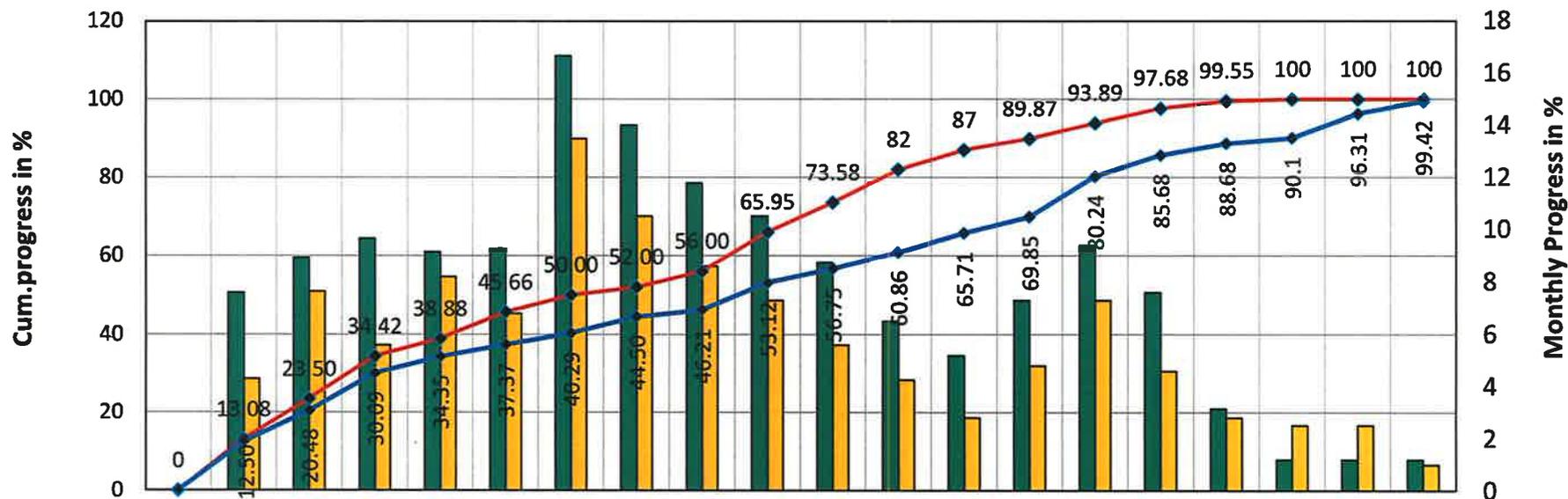
Name of the Project : Design and construction of 35 MLD Sewage Treatment Plant at Agara, Bengaluru including O&M of constructed facilities for 10 years.

Cost of Project : 53.63 Crores

Project Status : Plant is Commissioned

35 MLD STP AGARA

Physical Progress Curve



	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
Monthly Plan	0	7.60	8.92	9.66	9.14	9.26	16.68	14.02	11.79	10.50	8.74	6.5	5.2	7.3	9.4	7.6	3.15	1.2	1.2	1.2
Monthly Actual	0	4.30	7.65	5.60	8.20	6.80	13.50	10.50	8.60	7.30	5.60	4.25	2.8	4.8	7.3	4.6	2.8	2.5	2.5	1
Cum. Plan	0	13.08	23.50	34.42	38.88	45.66	50.00	52.00	56.00	65.95	73.58	82	87	89.87	93.89	97.68	99.55	100	100	100
Cum. Actual	0	12.50	20.48	30.09	34.35	37.37	40.29	44.50	46.21	53.12	56.75	60.86	65.71	69.85	80.24	85.68	88.68	90.1	96.31	99.42

■ Monthly Plan
 ■ Monthly Actual
 ◆ Cum. Plan
 ◆ Cum. Actual



ANNEXURE – III PHOTOS

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d	5 MLD STP AT SARAKKI	19-21
e	5 MLS STP AT CHIKKA BEGUR	22-25
f	10 MLD STP AT HULIMAVU	26-30
g	35 MLD STP AT AGARA	31-34
i	WORK OF REMIDATION TO DRAIN WATER	35-38
j	WORK OF INSTALLATION OF FLOW METER IN VALLEY	39-40
k	Providing Aeration System in Nala's	41-52

**150 MLD STP at
K&C Valley**

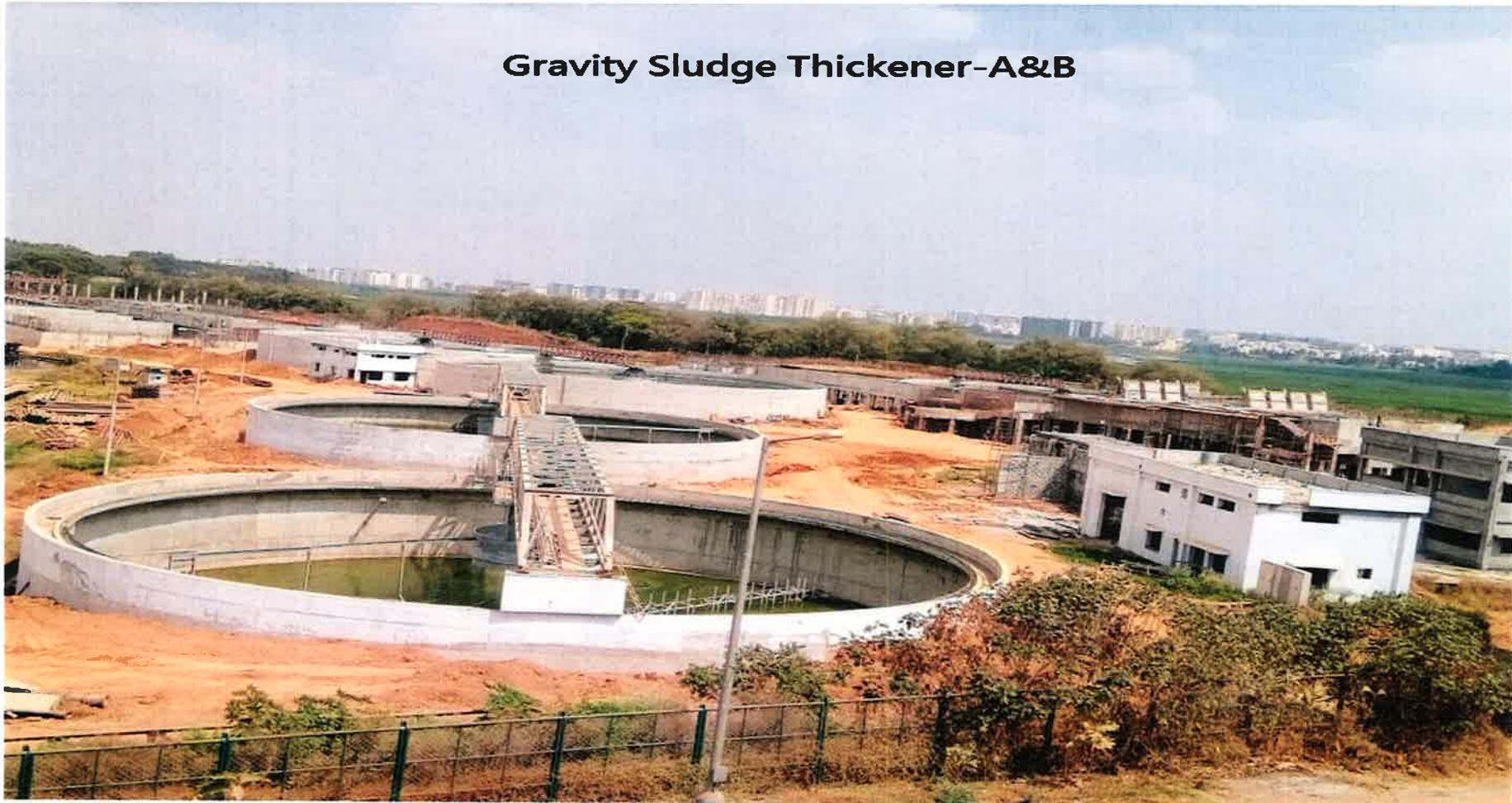
150 MLD Sewage Treatment Plant At K&C Valley



PLANT LAYOUT

150 MLD STP at K&C Valley

Gravity Sludge Thickener-A&B



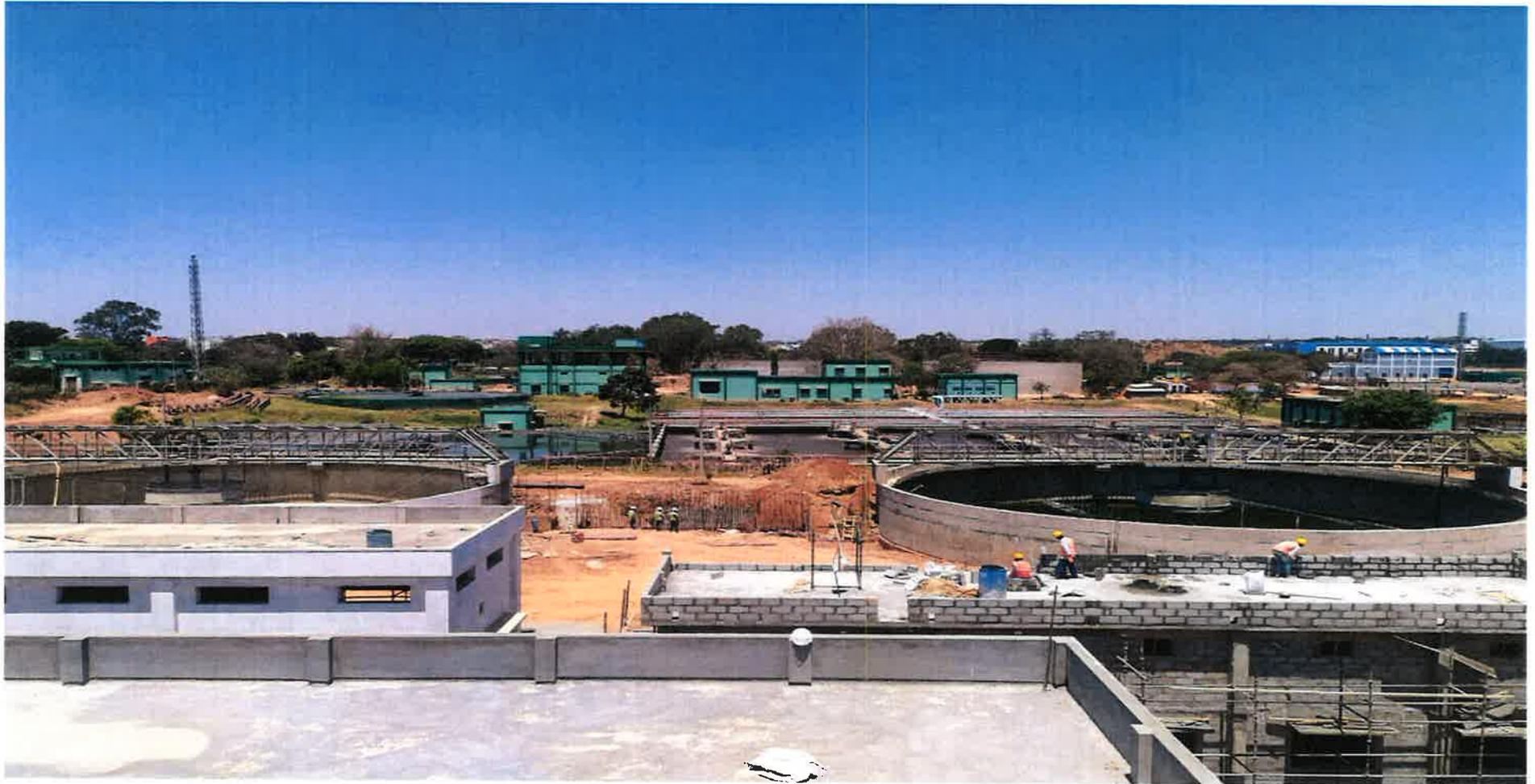
150 MLD STP at K&C Valley



150 MLD STP at K&C Valley



150 MLD STP at K&C Valley



150 MLD STP at K&C Valley



**210 MLD ISPS at
NGV**

Package S2D(b)



Sub Station

Package S2D(b)



HT Panel room & DG Room

Package S2D(b)



Aerial View of Pumping station

Package S2D(b)



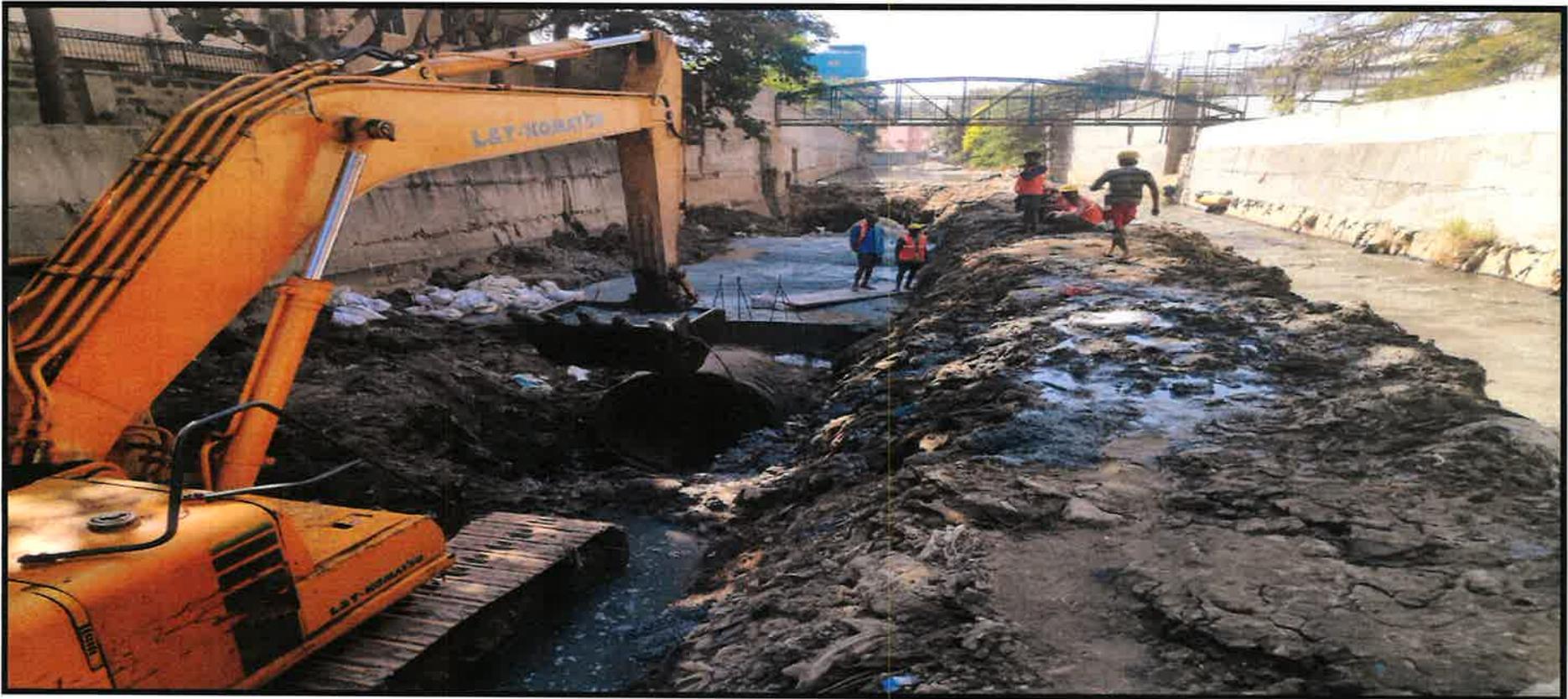
HT Panel Erection Completed.

Pumping Main

Package S2D (a)

Work of Pumping main from Koramangala sports complex ISPS to K&C valley

STP.



Laying of PCCP pipeline near NGV Kormangala Front 2.

Package S2D (a)

Work of Pumping main from Koramangala sports complex ISPS to K&C valley

STP.



Laying of PCCP pipeline near NGV Kormangala Front 3.

Package S2D (a)

Work of Pumping main from Koramangala sports complex ISPS to K&C valley

STP.



Laying of PCCP pipeline near Maharaja signal Front-1 in progress.

Package S2D (a)

Work of Pumping main from Koramangala sports complex ISPS to K&C valley

STP.



Bund formation near Kappur bridge in progress.

5 MLD STP AT SARAKKI

5 MLD STP SARAKKI



INAUGURATION FUNCTION

5 MLD STP SARAKKI



ARIAL VIEW

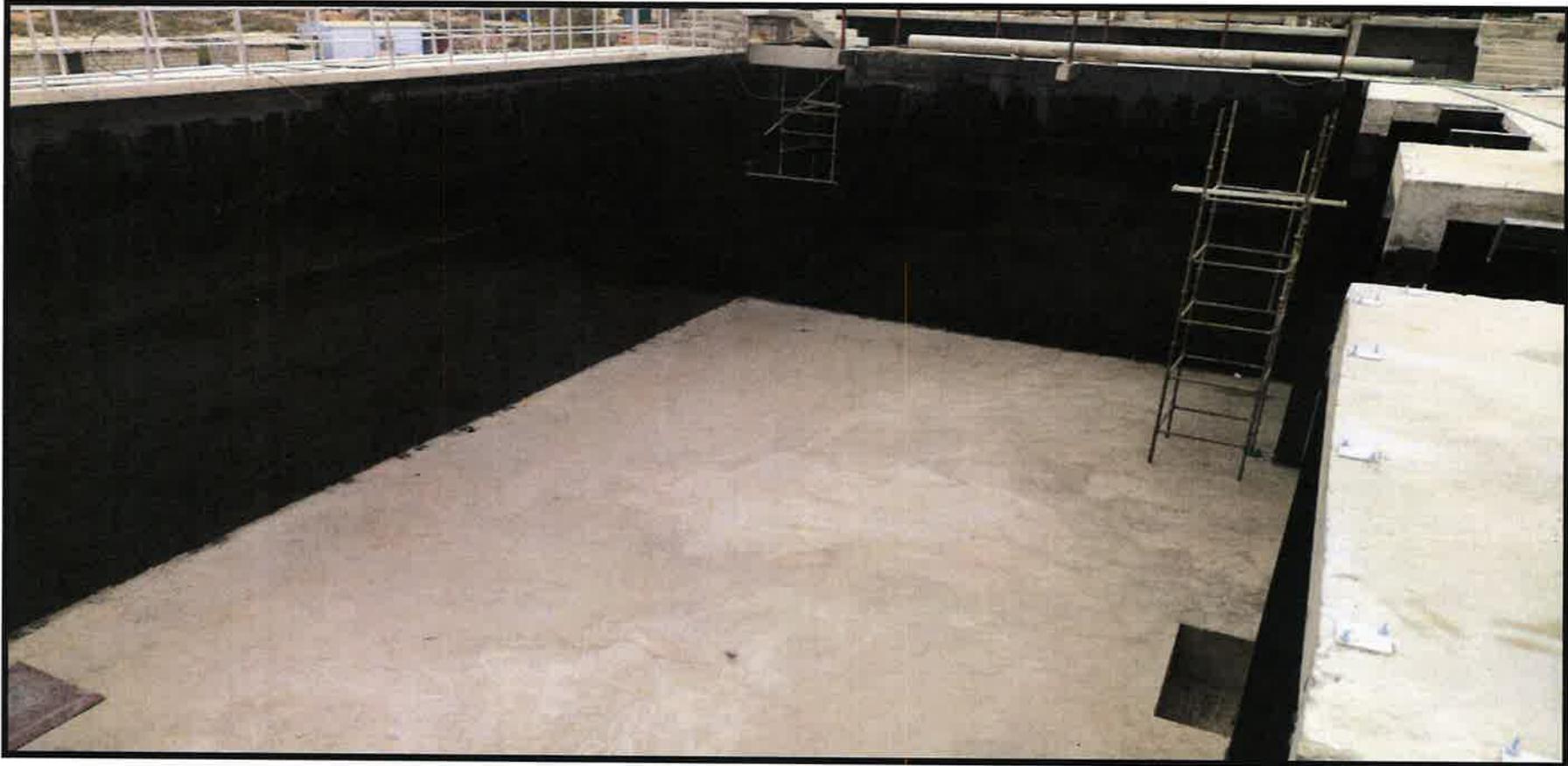
**5 MLD STP AT
CHIKKA BEGUR**

5MLD STP CHIKKABEGUR



SBR BASIN –

5MLD STP CHIKKABEGUR



SBR BASIN-1

5MLD STP CHIKKABEGUR



SBR BASIN –

10 MLD STP AT HULIMAVU

HULIMAVU 10MLD



SBR BASIN

HULIMAVU 10MLD



Admin. building

HULIMAVU 10MLD



Security guard/Workshop Building

HULIMAVU 10MLD



Admin. building

35 MLD STP AT AGARA

35 MLD STP AGARA



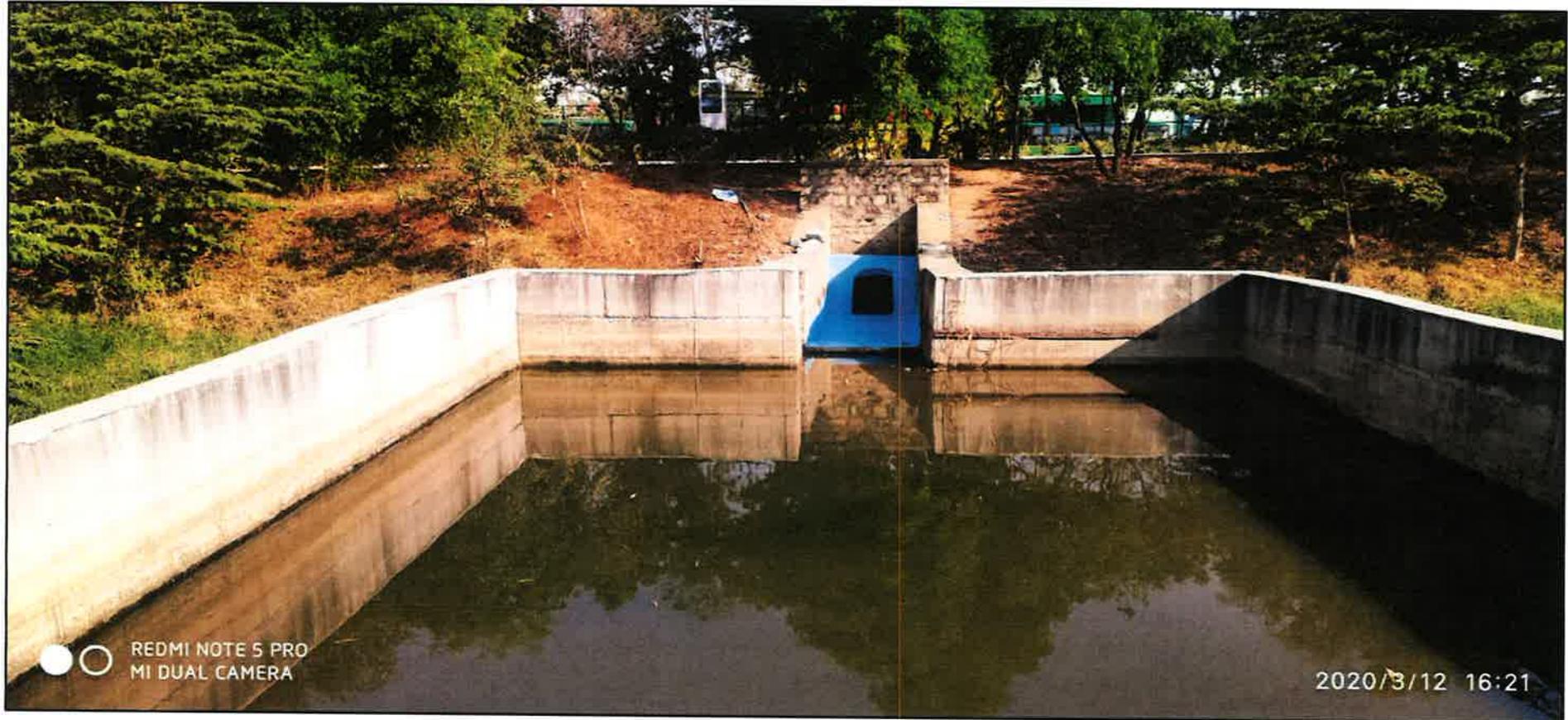
Blower building

35 MLD STP AGARA



SBR BASIN-2

35 MLD STP AGARA



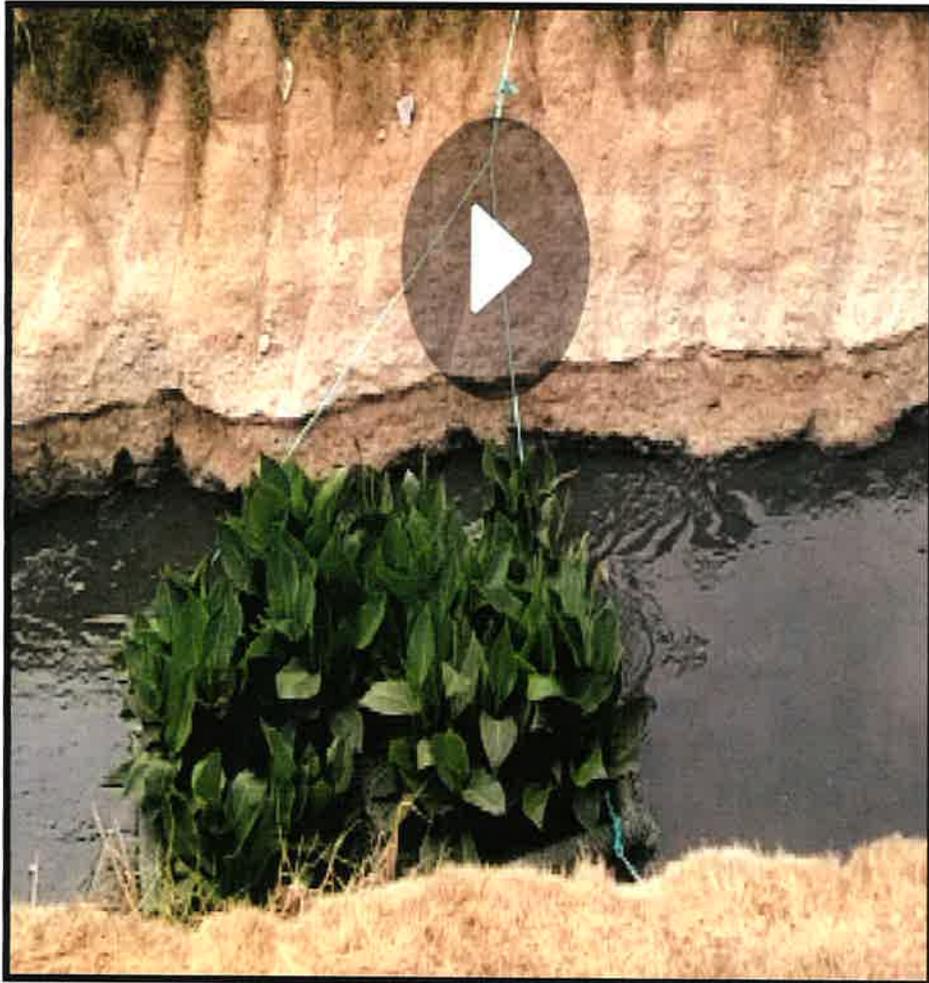
Treated Sewage water disposal to Agara lake

**WORK OF REMIDATION TO DRAIN WATER FLOWING
IN NALA WITH ARTIFICIAL FLOATING ISLAND
PLANTED WITH CANNAN INDICA PLANT.**

1) AT HAL NALA , NEAR AMBEDKAR SLUM .

2) AT IBBULURU SOUTHERN SIDE OF BELLANDURU .

INSTALLING OF REMIDATION TO DRAIN WATER FLOWING IN HAL NALA WITH ARTIFICIAL FLOATING ISLAND PLANTED WITH CANNAN INDICA PLANT.

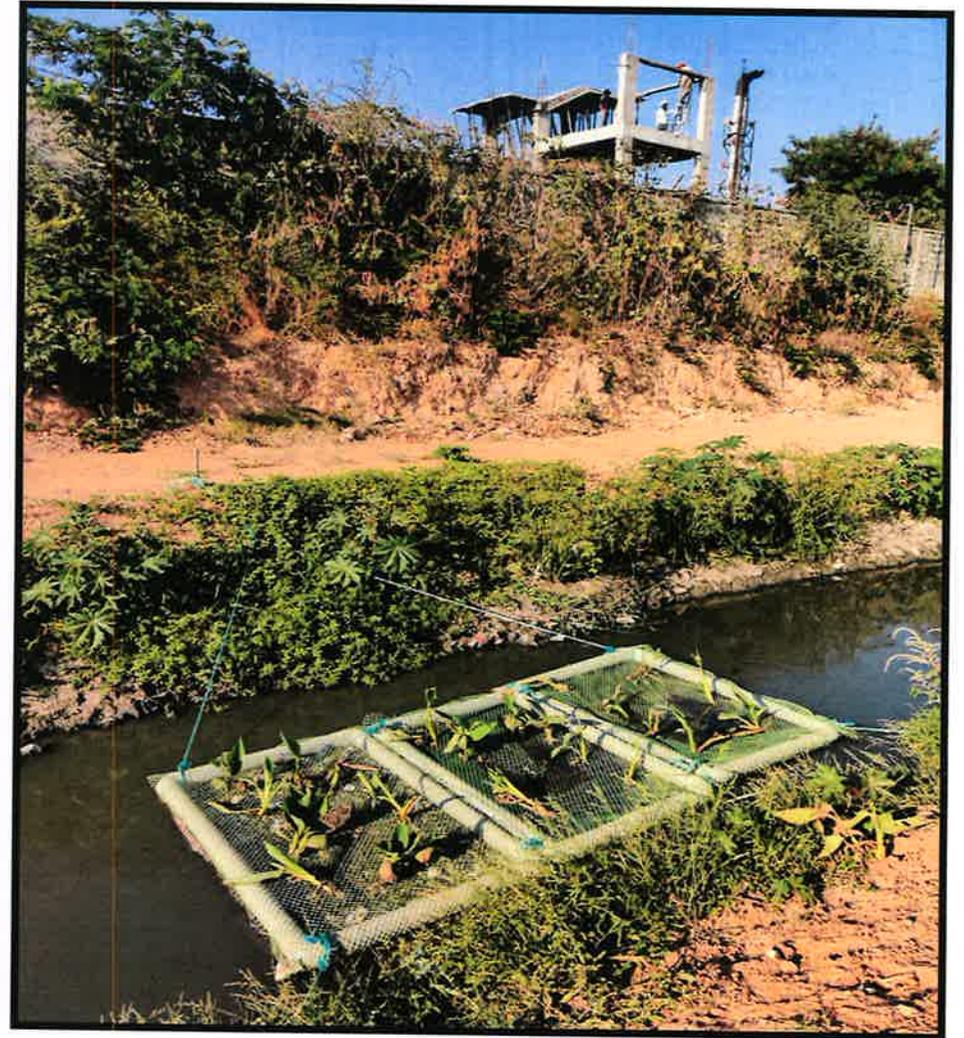


06.03.2020

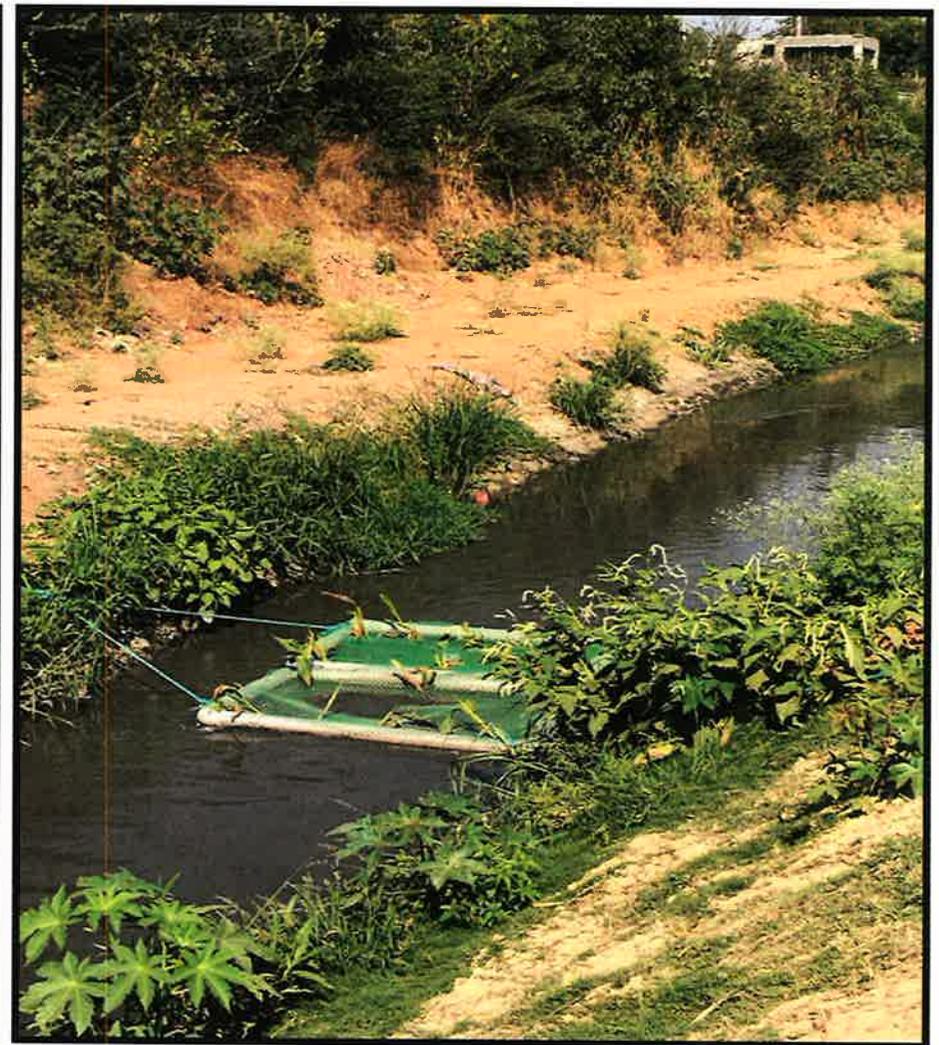


18.03.2020

INSTALLING OF REMIDATION WITH FLOATING ELEMENTS WITH CANNAN INDICA PLANT TO DRAIN WATER FLOW AT IBBULURU SOUTHERN SIDE OF BELLANDURU LAKE.



INSTALLING OF REMIDATION TO DRAIN WATER FLOWING IN HAL NALA WITH ARTIFICIAL FLOATING ISLAND PLANTED WITH CANNAN INDICA PLANT.



WORK OF INSTALLATION OF FLOW METER IN VALLEY

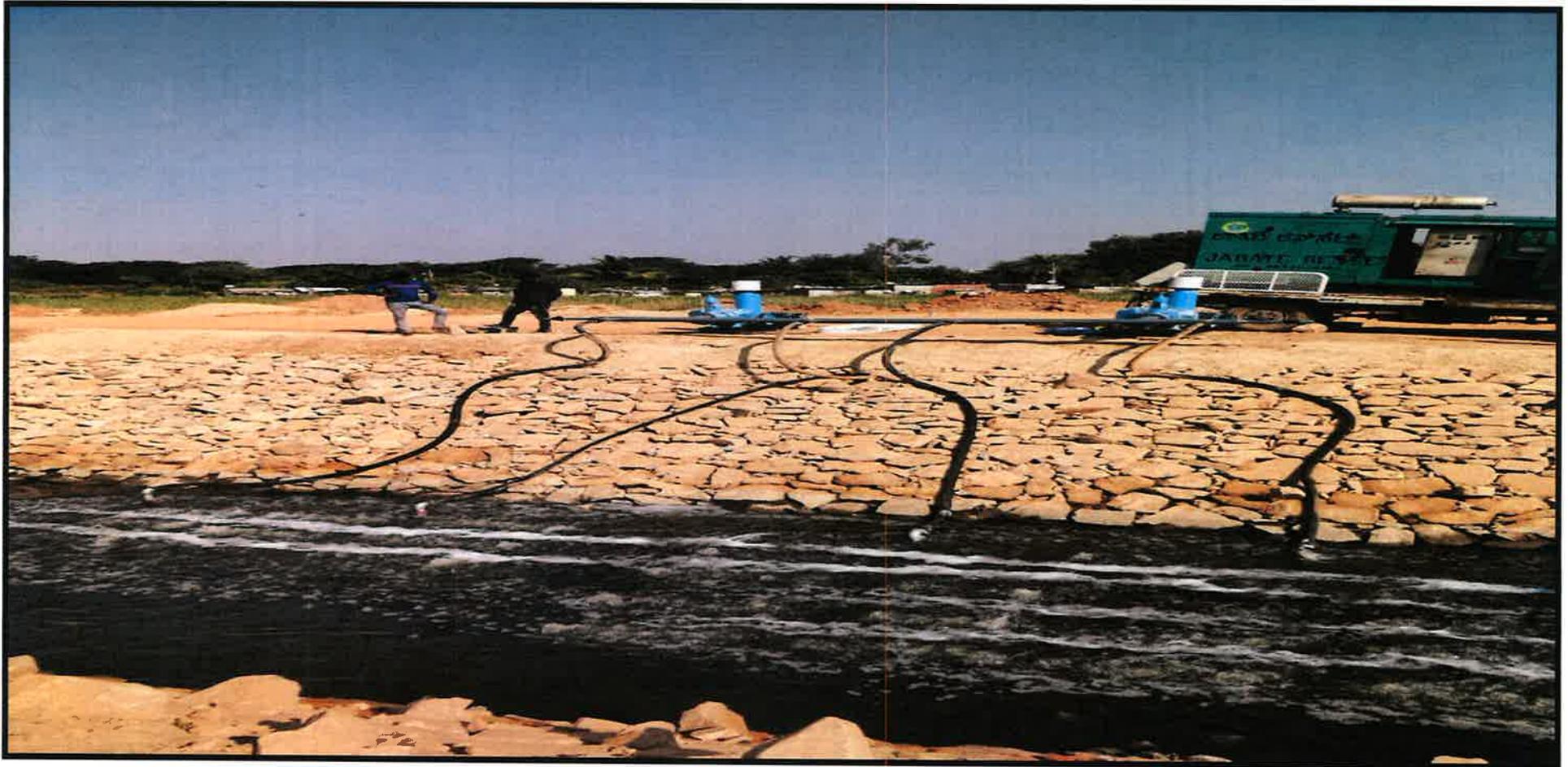
- 1) HAL NALA NEAR AMBEDKAR SLUM .**
- 2) Y JUNCTION, KORMANGALA AND AGARA VALLEY .**
- 3) VARTHURU NALA NEAR BELLANDURU STP.**

INSTALLING OF FLOW METER AT HAL NALA, NEAR AMBEDKAR SLUM

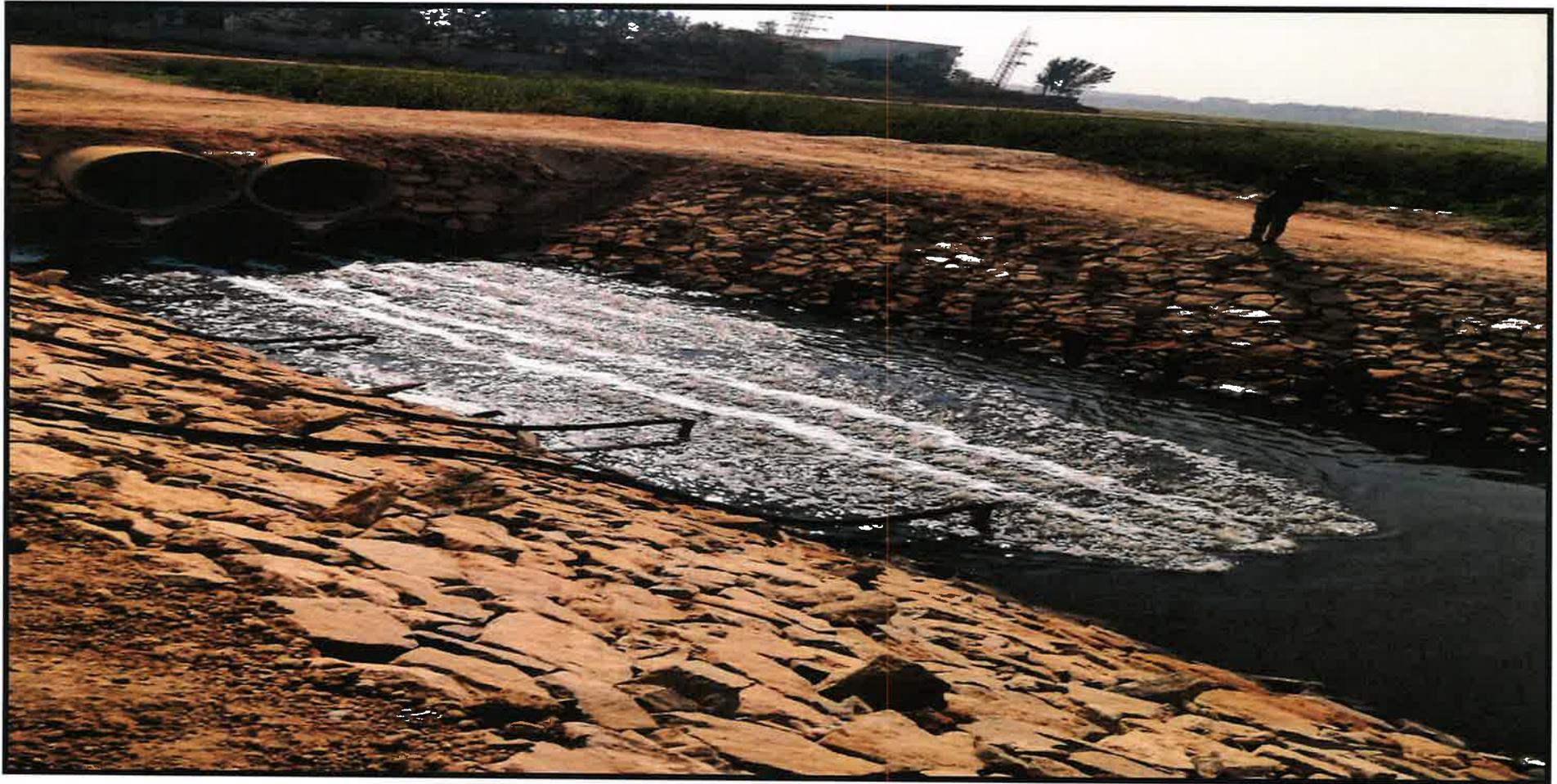


WORK OF SUPPLY, ERECTION AND COMMISSIONING OF FINE/COARSE AIR BUBBLE DIFFUSER SYSTEM FOR AERATION OF SEWAGE FLOWING IN VALLEY FROM HAL NEAR AMBEDKAR SLUM , KORMANGALA AND AGARA VALLEY INCLUDING OPERATION AND MAINTENANCE FOR SIX MONTHS.

Working of Aeration System at HAL SIDE NALA.



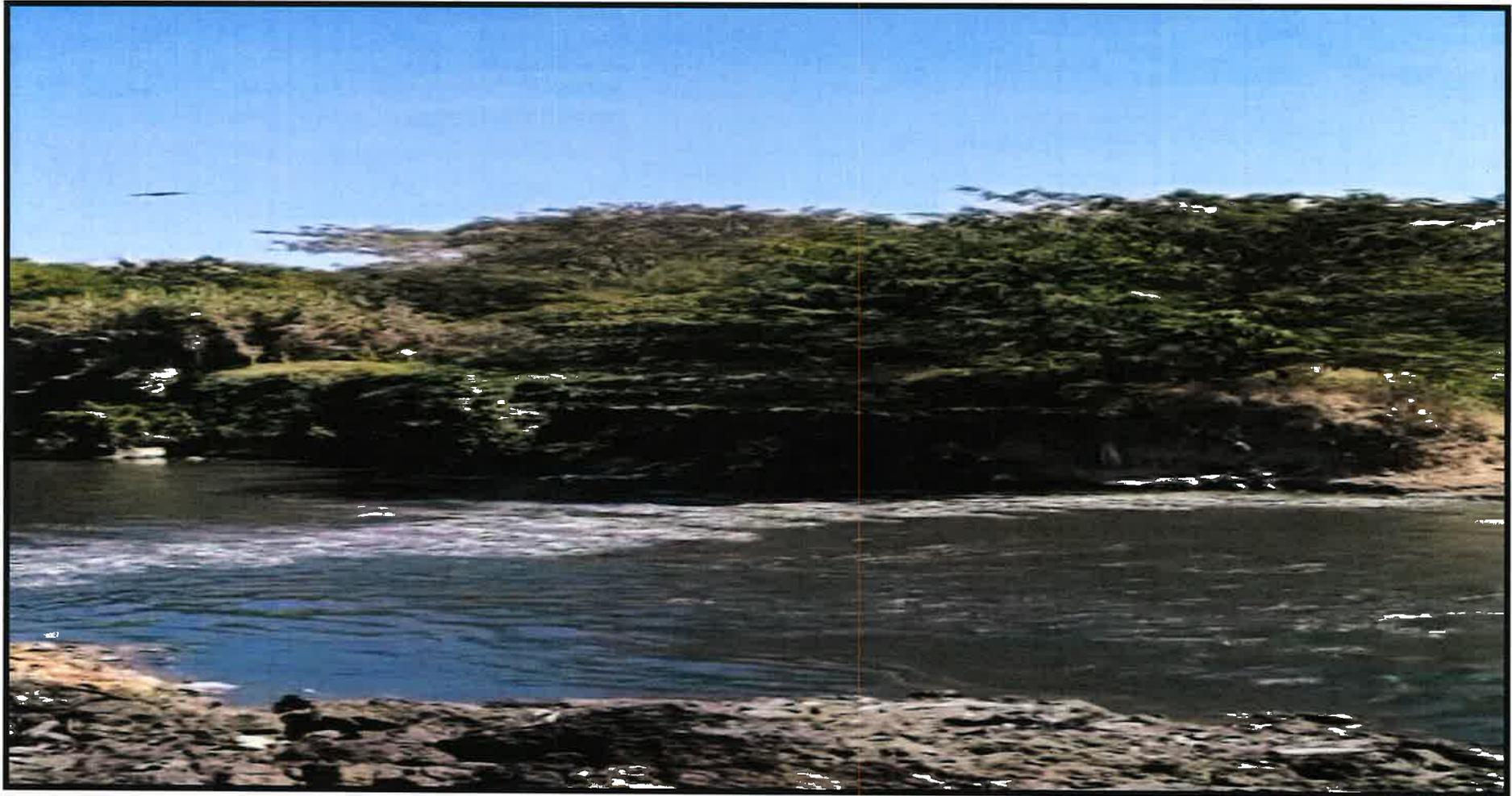
Working of Aeration System at HAL SIDE NALA.



INSTALLING AERATION SYSTEM AT Y JUNCTION, AGARA IN TWO LOCATIONS.



Working of Aeration System at Y Junction Kormangala Nala.



Working of Aeration System at Y Junction Agara Nala.



WORK OF SUPPLY, ERECTION AND COMMISSIONING OF FINE/COARSE AIR BUBBLE DIFFUSER SYSTEM FOR AERATION OF SEWAGE FLOWING IN VALLEY 1) NEAR IBBULURU 2)NEAR NORTH SIDE OF VARTHURU LAKE 3)NEAR SOUTH SIDE OF VARTHURU LAKE INCLUDING OPERATION AND MAINTENANCE FOR SIX MONTHS.

WORKING OF AERATION SYSTEM AT NEAR IBBLURU NALA.



WORKING OF AERATION SYSTEM AT NEAR IBBLURU NALA.



**INSTALLING AERATION SYSTEM AT SOUTH SIDE OF VARTHURU LAKE NALA NEAR
BELLANDURU STP.**



WORKING OF AERATION SYSTEM AT SOUTH SIDE OF VARTHURU LAKE NALA NEAR BELLANDURU STP.



WORKING OF AERATION SYSTEM AT SOUTH SIDE OF VARTHURU LAKE NALA NEAR BELLANDURU STP.

