

**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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FILED ON: - 31.07.2020

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 SIBellandur, Varthur and Agara Lake in respect of BWSSB

In view of the COVID-19, the Hon'ble Government of India has declared Nationwide Lock Down since 23.03.2020 onwards. Hence, there had been no progress of work from 24.03.2020 upto 14.04.2020. Further, vide order No. 15.04.2020 Department of Health and Family welfare, Government of India has classified Bengaluru urban under Red hot zone. Under the circumstances, the restrictions were continued till 03.05.2020 and as such though movement of non essential goods vehicles were permitted still mainly the necessary cement and steel for the constructional activities could not be arranged because of shut down of the manufacturing units.

The type of constructional activities for STP requires skilled labours for centering, shuttering, installation of electromechanical equipments etc. Almost all the skilled labours were engaged by the contractor from the states of Jharkhand, Chhattisgarh, Bihar, West Bengal and Odisha. The Government of India in its directions on 29.04.2020 has allowed in situ activity for constructional purposes with guidelines to maintain social distance and other precautionary measures as per stipulations. Due to this, the contractor has actually started mobilizing the work force to the site and had also placed orders for constructional materials. However, physical activities in the site had been started on 02.05.2020, as the steel and cement reached the site on those days.

In the meanwhile Government of India in its order dated 02.05.2020 permitted the movement of migrant workers who want to go to their residences. Due to which most of the migrant workers from other states have moved out of the site and have gone to their native places. On the other hand Bangalore being in the Red zone no labourers from any other districts is allowed to enter Bangalore.

Even though unlock was announced by the Government from Jun 8th onwards, due to raise in the number of COVID cases in Bangalore, it has become very difficult to strengthen the existing labour force required for carrying out works. Also, as the type of works which are being carried out are mostly associated with sewage, the labours required for such type of works are also not ready to work in these pandemic conditions. This has resulted in acute shortage of labour force. Hence, the timelines fixed for the identified works for Bellandur and Varthur lakes may not be achievable and also uncontrolled of COVID-19, the Hon'ble State Government of Karnataka has declared Lock Down since 14.07.2020 at 8 P.M to 22.07.2020 at 5 A.M. Due to this at present the probable date of completion of all the works cannot be proposed till situation with respect to labourers and materials becomes clear.

Under the circumstances, the exact timeline required for completion of the work can only be estimated after substantial easing out of the situation and also after sufficient labour force movement is allowed. Thus it is humbly requested that the Hon'ble NGT may kindly consider all the above facts in assessing the situation and allow more time for completion of the works.

The detailed work wise progress achieved as on 15.07.2020 comparing the same with the NGT committee report is herewith submitted for kind perusal.

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I	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 be recovered from the erring officers, apart from adverse entries in their service records and	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 15.07.2020 is 79.00 % against the Planned target of 99.00%.	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	The detailed overall progress report and Photos is enclosed in Annexure-II. vide page No. 2 to 10, 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 30.10.2020. However,

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	other adverse action".					the STP in full inclusive of water line and sludge line will be completed by 31.03.2021
			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 sewage will be pumped after completion of the 150 MLD STP.	The ISPS is ready for operation. But the sewage will be pumped after completion of the 150 MLD STP.	The detailed overall progress report and Photos is enclosed in Annexure-II. vide page No. 11 to 16,.
			c. Laying of 1800 mm dia raising main from 210 MLD ISPS	Laying of pipelines in the storm water drains (SWD) is very difficult as the location	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	This work will be completed before

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			to 150 MLD STP – S2D(a) of length 5.315 Km Date of completion 07.01.2020	of the work in this drain is at the end of the valley carrying huge quantity of storm water. At present 3972 RMT of pipeline work is completed as against 5315 RMT.	present 3500 RMT of pipeline work is completed as against 5315 RMT.	31.03.2021 when the STP is commissioned. Due to loss of time during the summer in view of the Covid-19 situation the work has not progressed much. As the work is to be taken up in the storm water drain and due to monsoons this work can be started only after October 2020. Under the circumstances the timeline for completion of the work will go beyond. The detailed overall progress report and Photos is enclosed in Annexure-II. vide page No.17 to 24,.
			d. Sarakki – 5.0 MLD STP at Sarakki lake	Completed and Commissioned	Completed and commissioned on 08.11.2019.	Presently the treated water is let into Sarakki Lake. Photos is enclosed in Annexure-II. vide page No. 25 to 28,

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			e. Chikkabeguru – 5.0 MLD STP Date of completion March-2020	The overall progress as on 15.07.2020 is 90.91% against the Planned target of 100.00%. However, as all the infrastructures for treating the sewage is ready the sewage has been augmented to STP from 23.06.2020 and development of MLSS is in progress.	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 September-2020 Inview of the Covid-19 situation the timeline for completion of the work will go beyond. The detailed overall progress report and Photos is enclosed in Annexure-II. vide page No. 29 to 35,
			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. Photos is enclosed in Annexure-II. vide page No. 36to 39,
			g. Augmenting sewage from Iblur side and conveying to Bellandur Amanikane STP (Laying of sewer sub main)	As on 15.07.2020 laying of 1437RMT of pipeline is completed as against 2425 RMT.	About 950 mtrs out of 2425 mtrs of 900/600/450 mm diaRCC 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 988mtrs of pipeline will be completed after ease out of Covid 19 situation. Inview of the Covid-19

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			Date of completion 30.12.2020			situation the timeline for completion of the work will be completed by December 2020. Work Plan is enclosed in Annexure-II. vide page No. 41 to 42,
			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. Photos is enclosed in Annexure-II. vide page No. 43to 48,
			i. Waste water wet well - 32.5 MLD Capacity near the premises of 90MLD BellandurAmanikhan e STP to augment sewage from the adjoining areas of BellandurAmanikhan e STP Date of completion 19.02.2021.	Earth work excavation for wet well portion is in progress.	Work order is issued. It is planned to complete by 19.02.2021.	Inview of the Covid-19 situation the timeline for completion of the work will be 31.03.2021. Photos is enclosed in Annexure-II. vide page No. 49to 50.

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			j. A proper mechanism should be developed/placed to identify the blockages in the existing UGDs and to attend them mechanically.	BWSSB has 175 Jetting cum suction machines and 40 de-silting machines to clean the UGD Lateral network.	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.	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. Photos is enclosed in Annexure-II. vide page No. 51 to 54
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 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	30.09.2020	Proposal for upgradation of all existing STPs with facilities to removal of Biological Nutrient Removal at 248 MLD STP at K&C Valley.	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 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	The operating STPs of 90 MLD STP at BellandurAmanikere, 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 CH2M Hill (India) Pvt. Ltd., on 02.03.2020 for project management consultant services for the work of	In order to comply for the NGT orders BWSSB is immediately taking up necessary works for achieving BNR by 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

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	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.			<p>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.</p> <p>The work orders for consultancy for upgradation of the 248 MLD STP is issued to the consultants M/s CH2M Hill (India) Pvt. Ltd.</p> <p>Also a letter to proceed with the work has been issued to M/s KRIDL for taking up the works.</p> <p>In this regard</p>	upgradation/rehabilitation of existing STPs at KC Valley. The works are expected to be completed by 30.09.2020 as reported by Chairman, BWSSB.	<p>handling will be taken up simultaneously by floating tenders.</p> <p>In view of the covid-19 lockdown almost all the industries manufacturing specialized equipments like blowers, diffusers, screens, DO meters etc are not working. Under the circumstances the tenderers will not be in a position to ascertain the rates of the materials. The tenderers will not be in a position to quote the tenders. However the 2nd call of the tender has been uploaded with 20-05-2020 as the last date for bidding. Under the circumstances the timeline for completion</p>

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				<p>M/s.KRIDL had called tenders for procurement of equipments and instruments on 20-04-2020 with 29-04-2020 as the last date for submission of tenders, the bids were opened on 02-05-2020 and no tenderers have participated in the tender. 2nd call of the tender is uploaded on 11-05-2020.</p> <p>Even for the second extended call, there were no proper responses from the tenderers. Under the circumstances, M/s KRIDL have written a letter to BWSSB to take up the said works from BWSSB side only.</p> <p>This situation is mainly due to prevailing pandemic due to which the</p>		of the work will go beyond.

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				suppliers are asking for a lead time for supply of around 6 months. As such in order to attain the target of time line fixed by NGT as 30.09.2020 for removal of BNR, BWSSB in consultation with the consultants M/s CH2M Hill India Pvt. Ltd. and the team of Professors from Indian Institute of Science has evaluated a concept to achieve removal of Nitrates before 30.09.2020 by making changes in the existing process of treatment and BWSSB has taken action to call tender.		
3	In para No.28 (ii) Dated 18.12.2019 of the NGT order, it is stated that Bangaluru Water Supply and Sewerage Board	01.02.2020	Interim remediation.	Further to the discussions in the Monitoring committee meetings, site visits on 04.01.2020 and	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	In order to comply with the time line of 01.02.2020 fixed in the orders of the NGT,

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	(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.			<p>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.</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> <p>1) HAL side & Kempapura inlet,</p>	<p>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.</p> <p>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.</p>	<p>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.</p> <p>Subsequently, in order to enhance the interim remediation artificial floating islands have also been installed.</p> <p>Same have been observed by the NGT Committee during their inspection on 25.02.2020. NGT committee while reporting by mistake have reported the date of completion as 28-02-2020. Same has been brought to the</p>

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				<p>2) Agaram, 3) Koramangala inlet, 4) Iblur inlet coming under Bellandur lake and 5) Northern & 6) Southern side of Varthur lake.</p> <p>Same have been inspected by the NGT Monitoring Committee during their inspections on 21.01.2020.</p> <p>Also, bio-remedial installations of artificial floating islands have been installed for the inline treatment.</p>			<p>knowledge of the NGT monitoring committee and they have also accepted to correct the mistake.vide their letter dated:13.05.2020.</p> <p>Photos is enclosed in Annexure-II. vide page No. 55 to 66</p>
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		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	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	BWSSB has disconnected the UGD connections of buildings having STPs who are letting excess treated water into UGD network. Further, BWSSB has	

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	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.			<p>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.</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</p>	<p>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.</p> <p>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, 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</p>	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>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 the circumstances, BWSSB request not to take any action against its officials.</p>	<p>pollution. He has requested that 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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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 14 works completed and 10 MLD flow is increased. After completing balance 9 works by December-2020.</p> <p>2. Koramangala and Agaram Valley Totally 48 works are to be taken up for augmenting this flow – Out of which 36 works and the other linking at Mahindra Showroom is</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 Ammani khane</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> <p>Details of flow after completion of total of 39 works out of</p>	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 Ammani khane	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 Agaram&Koramangala (Y-Junction)-179.50 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-26 MLD 90 MLD-30 MLD Total-248 MLD</p> <p>After carrying out major interlinking/new pipeline works on the upstream side, the flow was measured in the 1st week of March-2020, the details are as follows:</p>
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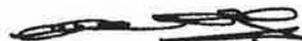
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			Name of the work/activity/others	Status as on 15.07.2020																																		
				<p>completed and 72.44 MLD flow has increased. After completing balance 12 works by December-2020, balance sewage can be augmented.</p> <p>3. Iblur Catchment area As on 15.07.2020 out of 2425 mtrs of pipeline, laying of 1437 RMT of pipeline 900/600/450 mm dia RCC NP3 pipeline along the alignment is laid, work is in progress</p>	<p>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> <p>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.</p>	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>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 60 MLD-51 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. Work Plan is enclosed in Annexure-II. vide page No. 67 to 74</p> <p>Laying of balance 988mtrs of pipeline will</p>
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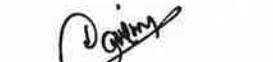
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			Name of the work/activity/others	Status as on 15.07.2020		
				and will be completed by December 2020. 4. Kempapura Catchment area BWSSB has taken up work of laying 300 mm dia RCC NP3 sewer line for a length of 1000 RMT to convey the sewage generated in this area Bellanduru Amanekhane STP. The work is completed and commissioned in the month of May 2020		be completed after ease out of Covid 19 situation. The work is Completed and Commissioned on May 2020.
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 should be duly reflected in their ACRs.		Action against erring officers	Officers who have worked in the specified period have been identified and show cause notices have been issued to them. The replies obtained from these officers have been reviewed and found to be not acceptable. Hence the formal approval	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: 2) BWSSB	The replies from the erring Officers/Officials have been received. The explanation furnished by them were found to be unsatisfactory. A letter has been sent to the Government seeking approval for initiating disciplinary action. The above said proposal of the BWSSB is under examination.

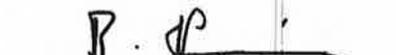
Sl. No.	Name	Designation
1	S.M. Basavaraju	Chief Engineer (14.11.2006 to 08.04.2013) & 10.05.2013 to 29.03.2014)

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				of the Government is sought vide letter dated 26.05.2020 for initiating disciplinary proceedings on all the concerned retired officers of BWSSB (copy of the letter enclosed)	<table border="1"> <tr> <td></td> <td></td> <td>& 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 (31.01.2007 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. SiddaGangaiah</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. PuttaMallappa</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> </table>			& 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 (31.01.2007 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. SiddaGangaiah	Executive Engineer (04.01.2012 to 31.08.2012) & from 31.08.2012 to 15.11.2012	10	C.C. PuttaMallappa	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 (WWM-TTOV)
 BWSSB


 EIC
 BWSSB

ANNEXURE – II Progress Report

INDEX

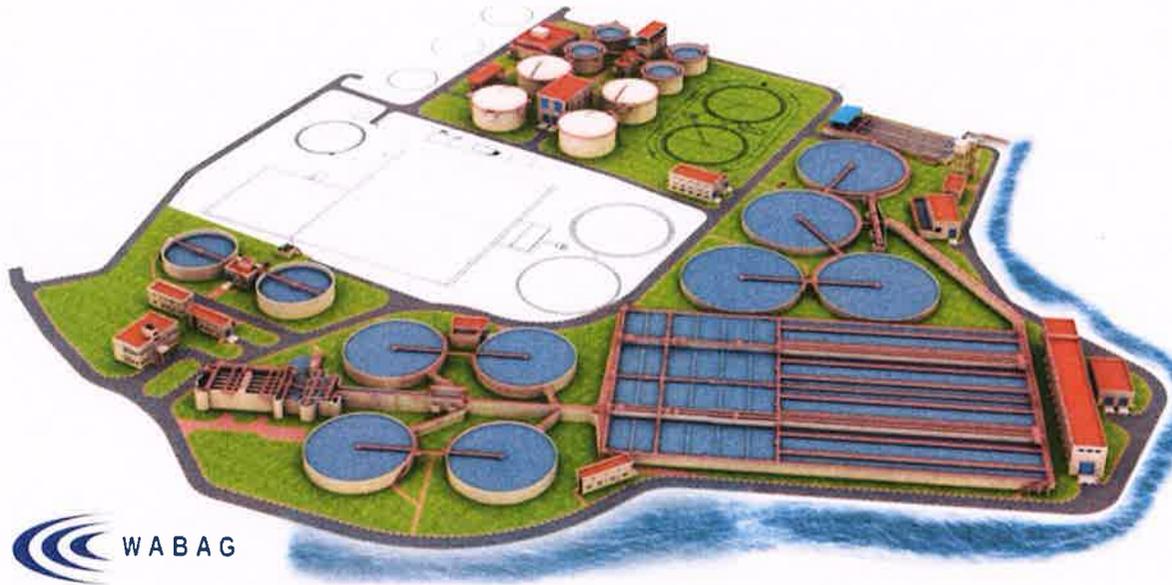
SL NO.	PARTICULARS	Page No.
1. a	150 MLD STP AT K&C VALLEY	2-11
b	210 MLD ISPS AT NGV	12-17
c	1800MM DIA PUMPING MAIN	18-25
d	5 MLD STP AT SARAKKI	26-29
e	5 MLS STP AT CHIKKA BEGUR	30-35
f	10 MLD STP AT HULIMAVU	36-39
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h	35 MLD STP AT AGARA	42-47
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5.	HAL/ Kormanagala SWD Challaghatta	66-73
6.	Flow Reports Water Quality Test Reports Covid-19 Orders	Enclosed

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

Overall Progress as per Construction Programme

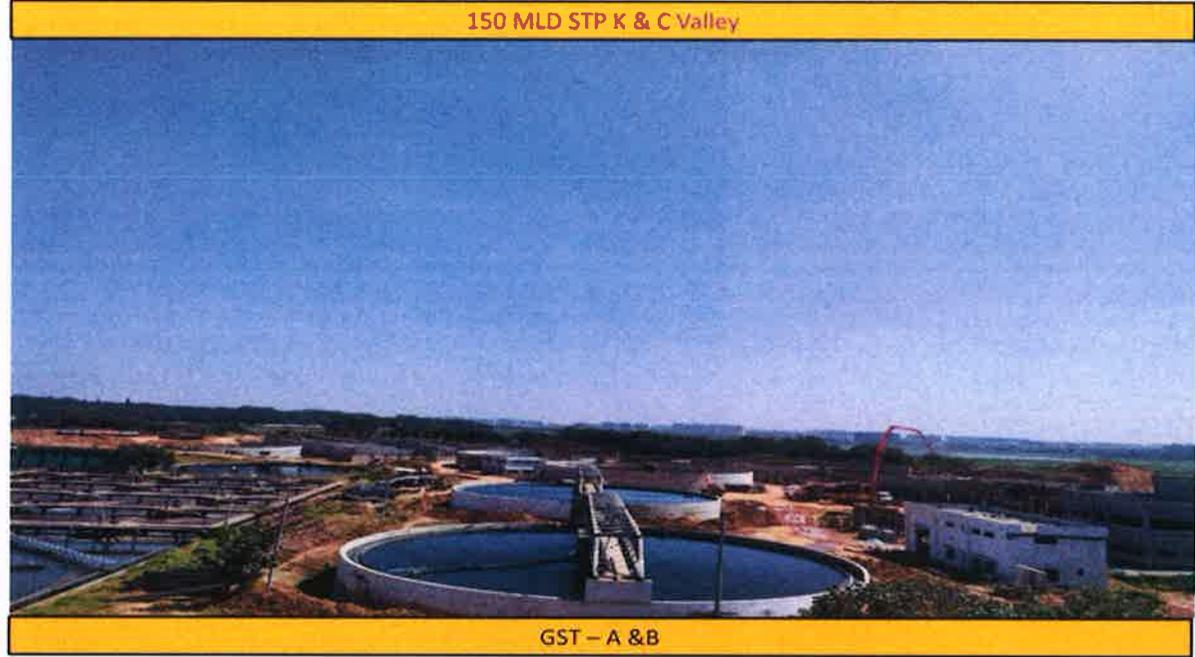
Sl. No.	Description of works	Weightage	Progress upto 15-07-2020			
			Target upto 15-07-20		Achieved upto 15-07-20	
			Plan against 100%	Plan % w.r.t. weightage	Actual against 100%	Actual % w.r.t. weightage
1	Engineering (Design, Drawings & Documentation)	5%	100	5	99.78	4.98
2	Place orders for plant and equipment	5%	100	5	100	5
3	Construction of Civil Structures	40%	100	40	77.02	30.80
4	Manufacturing & Delivery	35%	100	35	97.70	34.19
5	Installation of Plant & Machineries	10%	100	10	42.09	3.92
6	Testing & Commissioning	5%	80.33	4.01	-	-
	Overall weightage Progress	100%	99.02		82.00	

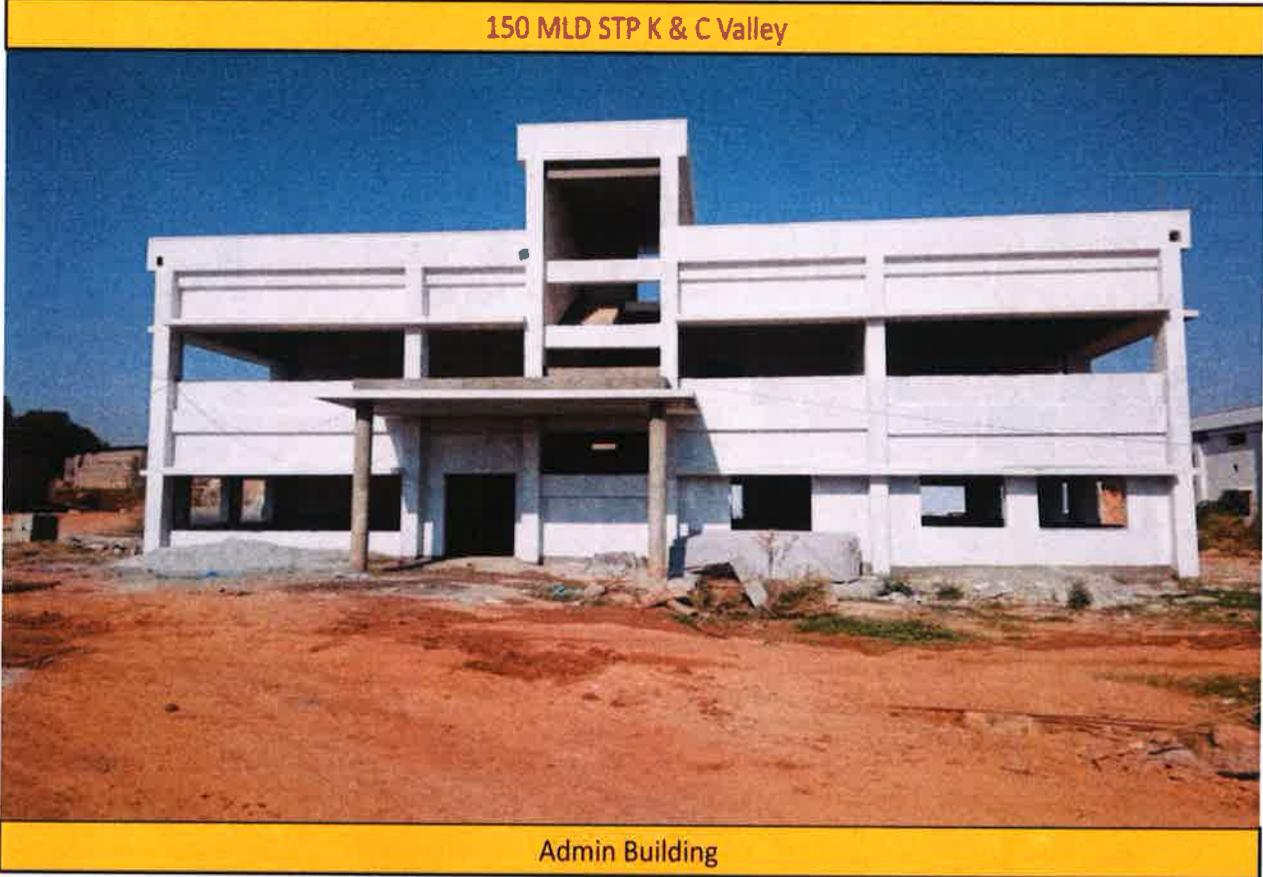
150 MLD STP K & C Valley



WABAG

PLANT LAYOUT





150 MLD STP K & C Valley

Admin Building

150 MLD STP K & C Valley



Primary Sludge Pump house

150 MLD STP K & C Valley

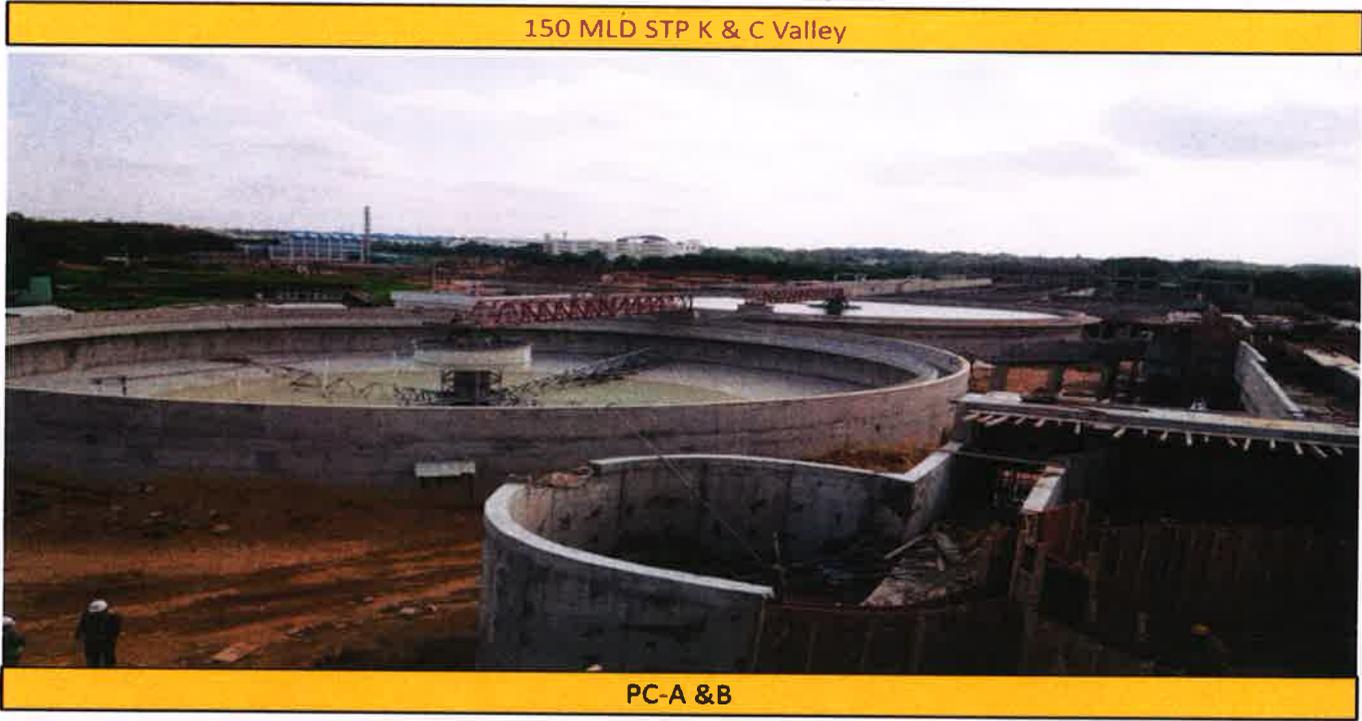


Primary Sludge Pump house

150 MLD STP K & C Valley



Workshop Building



**210 MLD ISPS at
NGV**

Package S2D(b)



Administrative Building

Package S2D(b)



Sub Station

Package S2D(b)



Transformer Yard

Package S2D(b)



HT Panel room & DG Room

Package S2D(b)



1600mm Dia Rising main at Pumping station

Package S2D(a)

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 15.07.2020			
				Target		Achieved	
				Quantity	% W.r.t total Qty	Quantity	% W.r.t total Qty
1	Laying of Pipe line	Rmt	5315	4911.00	92.40	3972.27	74.74

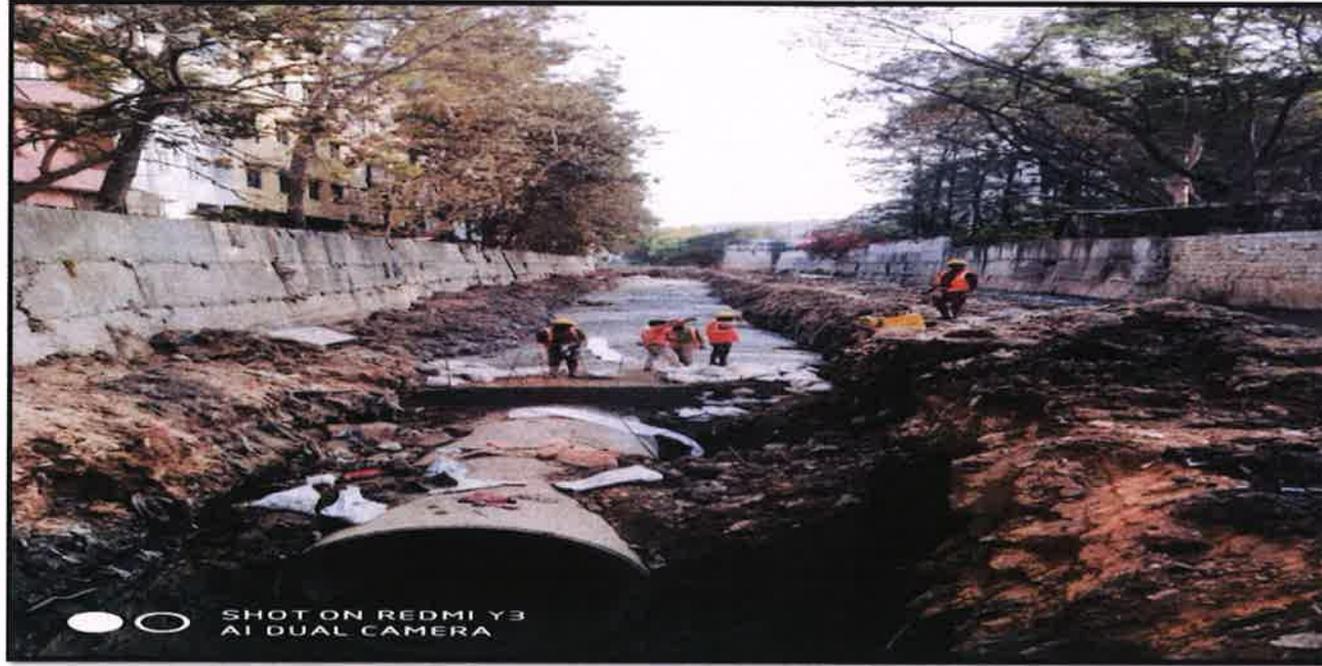
Pumping Main

Work of pumping main from Koramangala sports complex ISPS to K & C Valley STP under AMRUT- Package S2D(a)													
Programme for Completion of Balance works													
SNo	Descriptor	Unit	Scope	Status as on 18th July 2020	Balance p/works	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
1	Laying of 1800mm dia PLD pipe	Rmt	5319.00	7973.00	1347.00	4% CD	5% CD	12% CD	20% CD	17% CD	22% CD	27% CD	29% CD


 Executive Engineer
 (WWM) K&T Division, BWSSB
 2nd Floor, Kapila Bhavan
 4th 'T' Block, Jayanagar,
 Bangalore - 560041

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 Shanthi Nagar Housing colony .

Package S2D (a)

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



Laying of PCCP pipeline near Shanthi Nagar Housing colony .

Package S2D (a)

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



Laying of PCCP pipeline near Shanthi Nagar Housing colony .

**5 MLD STP AT
SARAKKI**

5 MLD STP SARAKKI



INAUGURATION FUNCTION

5 MLD STP SARAKKI



5 MLD STP SARAKKI

Treated sewage water discharging to Sarakki lake

**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)						
SI.No	Description of works 4 th Mile stone (17.07.2019 - 30.11.2019) (4 Months) EOT-31.03.2020	Weightage	Progress as on 15.07.2020			
			Target		Achieved	
			Programme %	% W.r.t weightage	Progress %	% W.r.t weightage
1	Engineering (Design, Drawings & Documentation)	5%	100%	5.00%	100%	5.00%
2	Place orders for plant and equipments	5%	100%	5.00%	100%	5.00%
3	Construction of Civil Structures	40%	100%	40.00%	95%	37.91%
4	Supply & Delivery to site plant & Machineries	35%	100%	35.00%	100%	35.00%
5	Installation of Plant & Machineries	10%	100%	10.00%	70%	7.00%
6	Testing & Commissioning	5%	100%	5.00%	20%	1.00%
	Overall Weightage Progress	100%		100.00%		90.91%

5MLD STP CHIKKABEGUR



SBR BASINS

5MLD STP CHIKKABEGUR



Blower Building

5MLD STP CHIKKABEGUR



Admin. Building

5MLD STP CHIKKABEGUR



Overall view of STP site

**10 MLD STP AT
HULIMAVU**

HULIMAVU 10MLD



SBR BASIN-1

HULIMAVU 10MLD



Admin. building

HULIMAVU 10MLD



Compound wall & gate

**Laying of Sewer Line
From Iblur to Trunk
Main at Bellanduru**

Progress report of the tender work pertaining to EEWWM(CV) Division.

Name of Work:		Work of Providing and Laying 450:600/900mm dia RCC NP-3 sewer line from: Sun city apartment to lake View Apartment along Bellanduru Tank Bund, Ibbal.								
Work Period:		From 24-04-2020 to 23-06-2020 (06 Months)								
Sl No	Work Details	Total length of Pipeline	Progress up to 15.07.2020	plan upto 31.07.2020	plan upto 31.08.2020	Plan upto 30.09.2020	Plan upto 31.10.2020	Plan upto 30.11.2020	Plan upto 31.12.2020	Remarks
1	450:600:800:900mm dia RCC NP-3 class pipeline	2425Rmt	1437	50	128	200	250	200	200	The work will be completed by the end of December -2020.

[Signature]
EEWWM(CV)

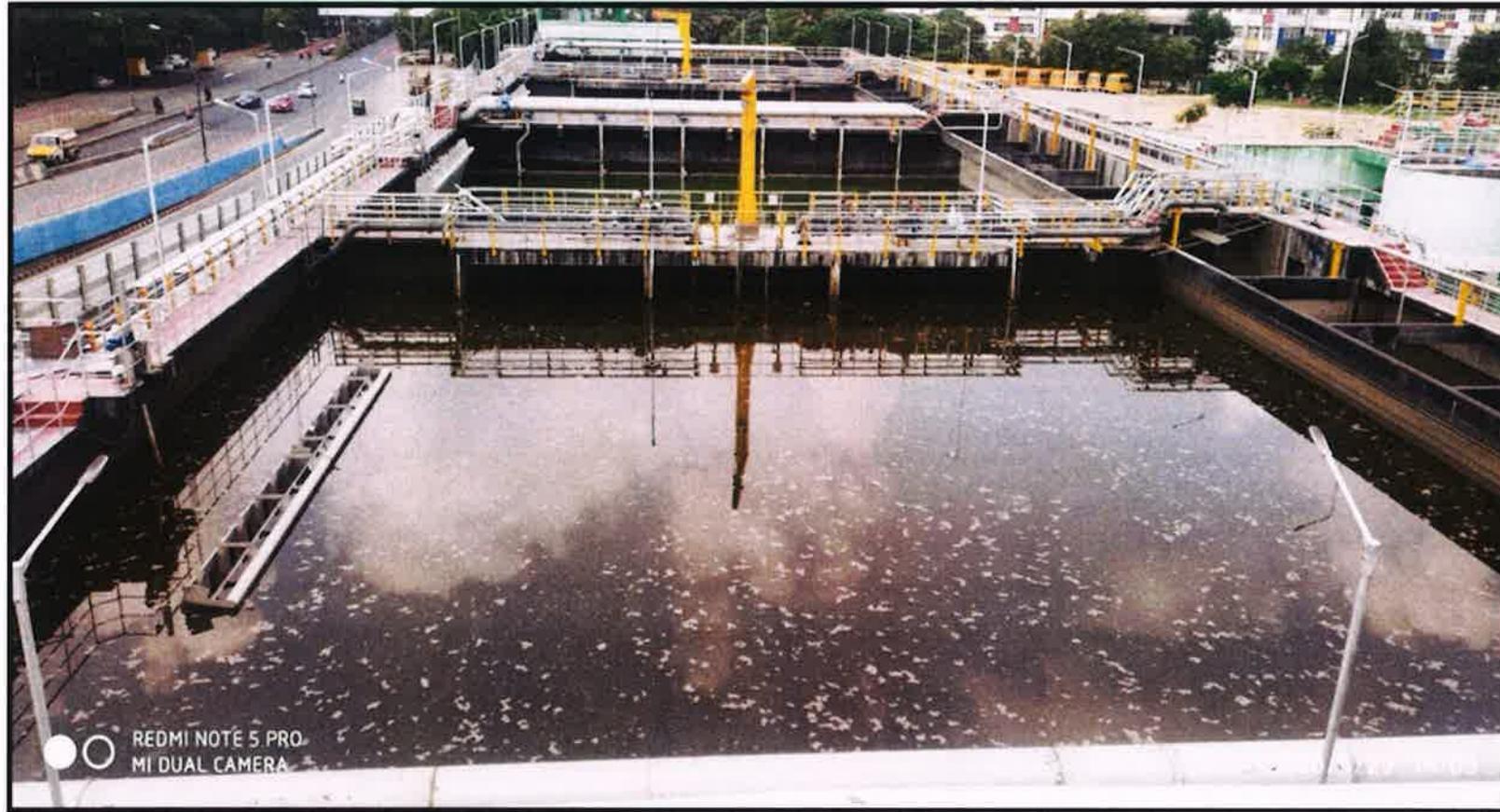
**35 MLD STP AT
AGARA**

35 MLD STP AGARA



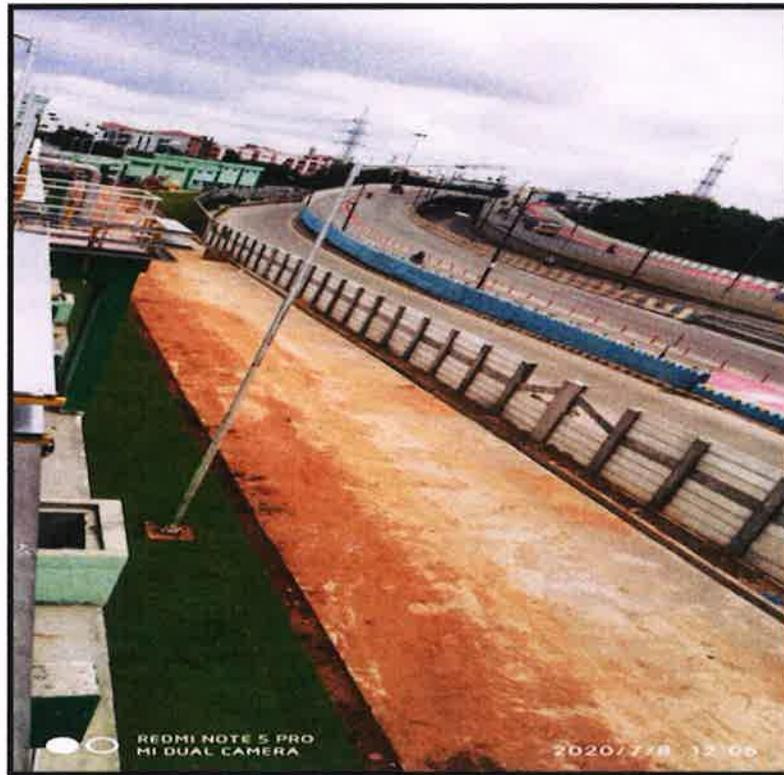
BLOWER BUILDING, MCC, SCADA & LAB

35 MLD STP AGARA



SBR BASINS-1-4

35 MLD STP AGARA



Compound wall & Concrete Road



Landscaping

35 MLD STP AGARA



Laboratory Room

35 MLD STP AGARA



Treated sewage water disposal to Agara lake

32.5 MLD ISPS at
Munekolalu

32.5 MLD ISPS at Munekolalu



Earth Work Excavation is under progress

Jetting Machines

Desilting of Sewer line



Deployed Recycler Machine for Desilting

Desilting of Sewer line



Deployed Recycler Machine for Desilting

Desilting of Sewer line



Desilting of Pipeline using Recycler Machine

Interim remediation

74

Monitoring Committee

Date: 13.05.2020

(Appointed by NGT vide order dated 06.12.2018 and 18.12.2019 in
O.A.No.125/2017)

Karnataka State Pollution Control Board,
"Parisaralbhavan", 2nd Floor,
#49, Church Street, Bengaluru-560 001.

To,
The Registrar,
National Green Tribunal,
Faridkot House, Copernicus Marg,
Near India Gate, New Delhi,
Delhi -110 001.

Sir,

Sub: Synopsis of the Report of the Committee to the National
Green Tribunal in compliance of its orders dated 18.12.19 and
06.12.2018 issued in regard to the Bellandur, Varthur and Agaram
Lakes.

Ref: The report submitted by the Committee dated 06.03.2020.

Kindly refer to the above said subject and reference therein. In the report
dated 06.03.2020 in OA No.125/2017 submitted by me; at para 2 in column 4, the
date may please be read as 31.01.2020 just after "completed by" in place of
28.02.2020. This mistake inadvertently has happened and the same is regretted.

Place: Bengaluru
Date: 13-05-2020


(N. Santhosh Hegde)
Hon'ble Judge of Supreme Court of India (Retd)
& Chairman, Monitoring Committee constituted by the
National Green Tribunal.

1. Working of Aeration System at HAL SIDE NALA.



2. Working of Aeration System at Y Junction Agara IN two Locations.



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



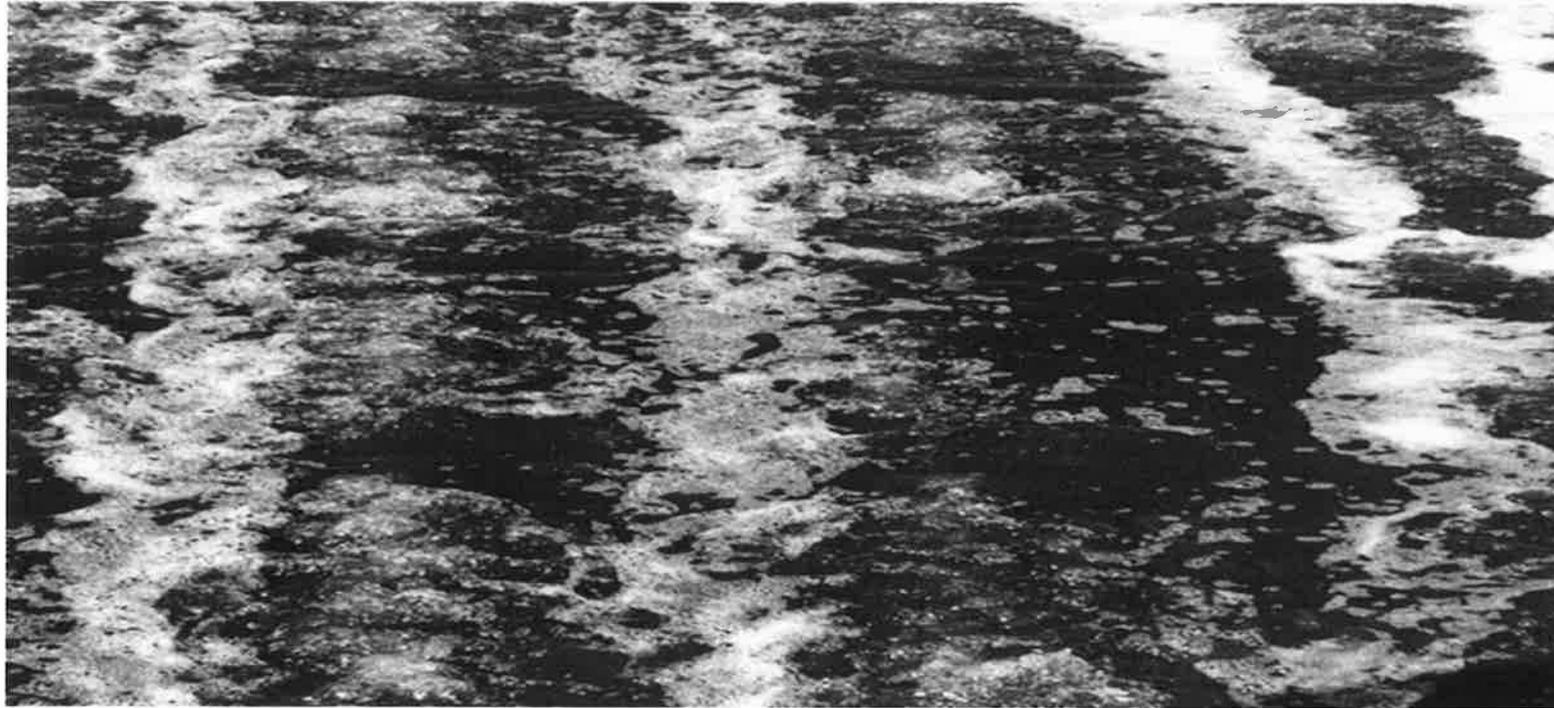
3. Aeration system at Y junction of Kormanagala



4. WORKING OF AERATION SYSTEM AT NEAR IBBLURU NALA.



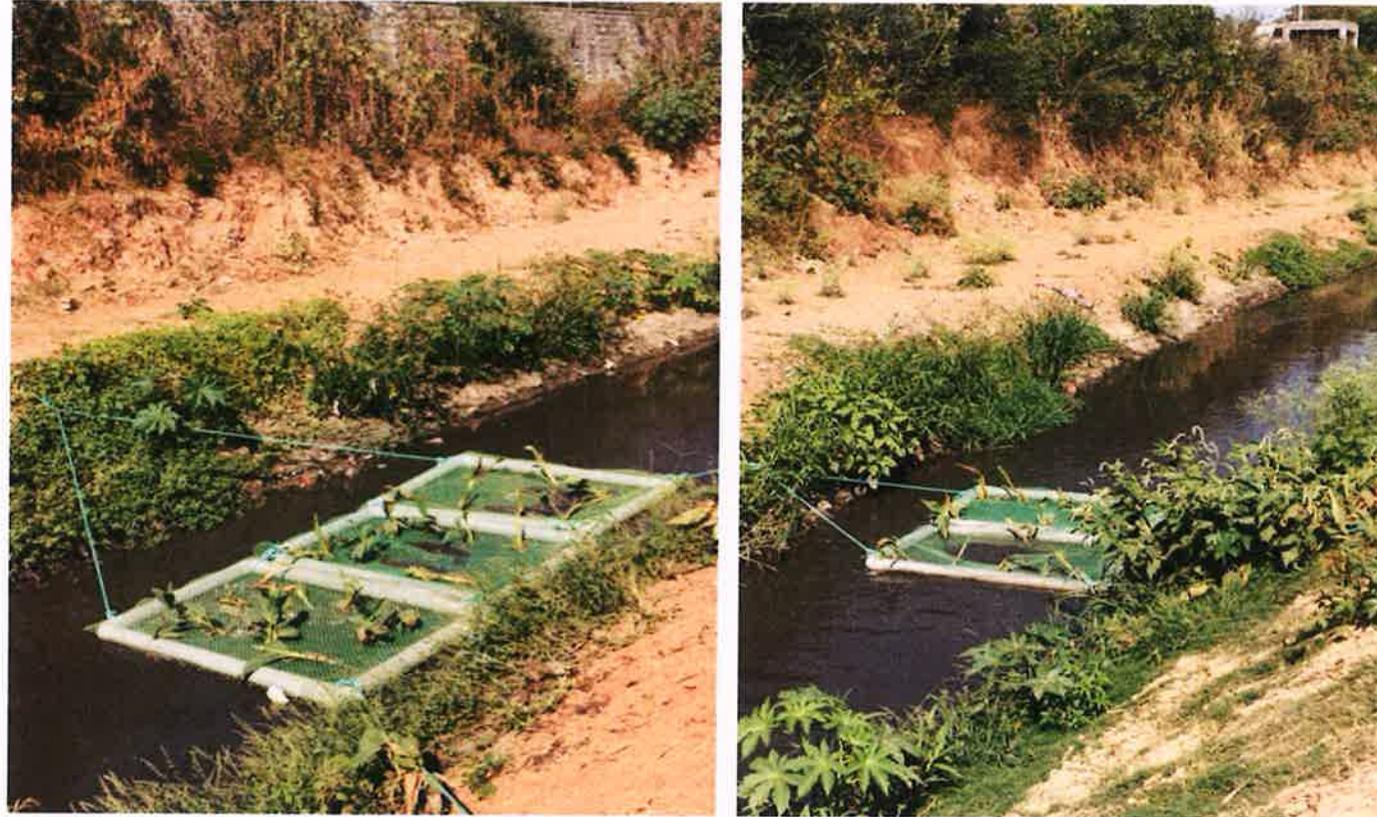
5.WORKING OF AERATION SYSTEM AT NORTHREN SIDE OF VARTHURU LAKE NALA



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



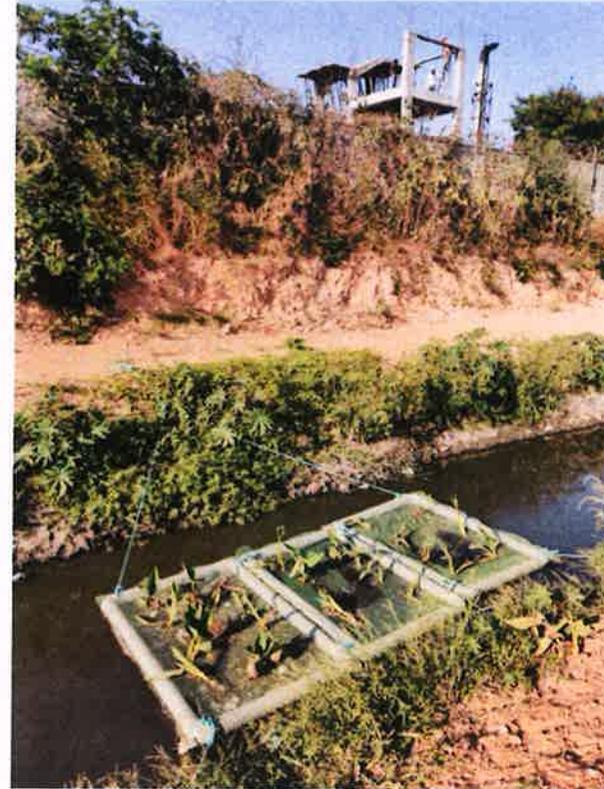
INSTALLING OF REMIDATION TO DRAIN WATER FLOWING IN HAL NALA WITH ARTIFICIAL FLOATING ISLAND PLANTED WITH CANNAN INDICA PLANT.



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



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



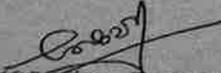
HAL SWD Challaghatta
Valley, Kormanagala and
Agaram Valley

Challaghatta Valley SWD Points works Completion Plan

Sl No	Work ID	Name of the Work	Completion Date	Remarks
1	2	3	4	5
1	05-19-16-04-03-026-0009	Work of P/L 450/600mm dia from Ankappa block to ITI Layout, M.R.Palya.	Work has been Completed	
2	05-19-17-04-03-026-0006	Work Of P/L 450mm dia RCC NP3 Sewer line from Tannery circle to Pottery road, Tannery road, Frazer town.	Work has been Completed	
3	502-18-4020500700-0001	Work of Providing and Laying 450/600mm dia RCC NP3 sewer line along SWD inside Vishveshwaraya collage Ward no 113	Work has been Completed	
4	502-18-4020500700-0016	Work of Providing and Laying 600/700mm dia RCC NP3 Sewer line inside SWD from Bindmiton association to Rajeev gandhi colony Vasanthangar	Work has been Completed	
5	502-18-4020500700-0024	Work of providing and laying 450mm dia RCC sewer line from Viveni road junction to Ambedkar Circle, Tannary road.	Work has been Completed	
6	502-18-4020500700-0084	Work of Providing and Laying 900mm dia RCC NP 3 Class sewer line to link 1600mm dia Trunk sewer in Sadaashiva mudalier road, Halasuru.	Work has been Completed	
7	502-18-4020500700-0034	Work of Providing and Laying 450/600mm dia RCC NP 3 Class sewer line from 100N road to 3rd cross, Double road, Domluru	Work has been Completed	
8	502-18-4020500700-0079	Work of providing and laying 600/900mm dia sewer from Vinayaka Nagar to KGA ISPS, Murugeshpalya	Work has been Completed	
9	502-18-4020500700-0089	Work of Providing and Laying 900mm dia RCC sewer line from Stephan Road to Asseya Road	Work has been Completed	
10	502-18-4020500700-0082	Work of Providing and Laying 450/600mm dia RCC sewer line inside MEG premises near Old madras road, Dyappanahalli	Work has been Completed	
11	502-18-4020500700-0088	Work of Providing and laying 600/900mm dia RCC NP3 sewer line including Trenchless technology from Bore bank road to Robertson road, Frazer town	Work has been Completed	
12	05-19-17-04-03-026-0005	Work of P/L 450mm dia RCC NP3 line from TAJ hotel to link at 1600mm dia Opposite gurudwara Halasuru	Work has been Completed	
13	502-18-4020500700-0086	Work Of P/L 450mm dia sewer line from MG road towards Halasuru road Junction, Halasuru.	Work has been Completed	
14	502-18-4020500700-0085	Work of Providing Laying 450/600mm dia RCC NP-3 sewer line from Budda vihar road to Wheelers road, Cox town	Work has been Completed	
15	502-18-4020500700-0029	Work of Providing and Laying 900mm dia RCC NP -3 class sewer line from SK garden main road to Bore Bank road ,Pulkeshinagar.	31-Jul-20	Work under progress
16	502-18-4020500700-0067	Work of Providing and Laying 450mm dia RCC sewer line from Jaavanbheema nagar towards BSNL office Thippasandra	31-Jul-20	Work under progress
17	502-18-4020500700-0035	Work of Providing and Laying 900mm dia RCC sewer from Halsur Road Junction to Wheelers Road	31-Jul-20	Work under progress
18	502-18-4020500700-0028	Work of Providing and Laying 900mm dia RCC NP -3 class sewer line from SK garden main road to ITI Layout ,SK Garden	31-Aug-20	Work under progress
19	502-18-4020500700-0068	Work of Providing and Laying 900/1200mm di RCC sewer line from Baba Sahab Colony to Domluru Fly over	30-Sep-20	

Sr No	Work ID	Name of the Work	Completion Date	Remarks
20	502-18-4020500700-0080	Work of providing and laying 600/900mm dia cover from 17th F cross to Laxmipura Road, Halasuru layout	30-Sep-20	
21	502-18-4020500700-0081	Work of Providing and Laying 450/600/900mm dia RCC sewer line from MEG premises to Indharanagar BDA Complex, Indharanagar	30-Dec-20	Work will be started after obtaining permission from MEG
22	502-18-4020500700-0082	Work of Providing and Laying 450/600mm dia RCC sewer line from Gajendranagar to MEG premises near kalpalli road, Byappanahalli	30-Dec-20	Work under progress 95% work is completed and has to be linked to the MEG works
23	502-18-4020500700-0083	Work of providing and laying 600/900mm dia RCC sewer line from inside MEG premises to Halasuru STP, Halasuru	30-Dec-20	Work will be started after obtaining permission from MEG

ABSTRACT	
Total No of Works Completed upto end of June-2020	14
Upto end of July-2020	3
Upto end of August -2020	1
Upto end of September -2020	2
Upto end of December -2020	3
Total No of Works	23
Work Under Progress	4


 Executive Engineer
 (WWM) CV Division, BWSSB
 OMBR GLR, OMBR Layout,
 3rd Main Road, Laxmamma layout,
 Banasawadi, Bengaluru - 560 043

NAME OF THE DIVISION : EEWWM(Kormangala & Tavarekere Valley SWD points works completion plan)

Sl No	Work ID	Name of the work	Completion Date	Remarks
1	502-18-4020500700-0030	Work of P/L 900 mm dia RCC sewer line near Dollars colony JP nagar	Work Completed	
2	502-18-4020500700-0031	Work of P/L 900 mm dia RCC sewer line near vaishnavi Apartments JP nagar	Work Completed	
3	502-18-4020500700-0032	Work of P/L 900 mm dia RCC sewer line from HDFC Bank to 35 MLD STP, Agara.	Work Completed	
4	502-18-4020500700-0033	Work of P/L 900 mm dia RCC sewer line from 9TH main, 5th main and BDA Complex to 35 MLD STP, Agara.	Work Completed	
5	502-18-4020500700-0038	Work of P/L 600 mm dia RCC sewer line from wilson garden BIBMP School to Potalappa garden	Work Completed	
6	502-18-4020500700-0039	Work of P/L 600 mm dia RCC sewer line near sarakki market to sindoor kalyana mantapa	Work Completed	
7	502-18-4020500700-0040	Work of P/L 1000 mm dia RCC sewer line near Narayanapura slum	Work Completed	
8	502-18-4020500700-0041	Work of providing and laying to 700mm dia RCC NP3 sewer line from revoli hotel to Opp to KSRTC central office	Work Completed	
9	502-18-4020500700-0043	Work of P/L 1000 mm dia RCC sewer line near PWD Quarters Wilson garden	Work Completed	
10	502-18-4020500700-0044	Work of P/L 600 mm dia RCC sewer line from Garuda mall to Hosami Hospital	Work Completed	
11	502-18-4020500700-0047	Work of Providing and Laying 600/900 mm dia RCC NP3 sewer line near HSR Layout club road	Work Completed	
12	502-18-4020500700-0048	Work of Providing and Laying 450 mm dia RCC NP-3 from sbi bank tavarekere main road to Lakshmi theatre to link 450 mm dia	Work Completed	

Sl No	Work ID	Name of the work	Completion Date	Remarks
13	502-18-4020500700-0049	Work of Providing and Laying 450 mm dia RCC NP-3 from Kanakapura main road to 11th main sarakki market	Work Completed	
14	502-18-4020500700-0050	Work of Providing and Laying 450mm dia to link 1200mm dia across SWD near Maruthinagar	Work Completed	
15	502-18-4020500700-0051	Work of Providing and Laying 900mm dia RCC sewer line near Lotus hospital HSR Layout	Work Completed	
16	502-18-4020500700-0052	Work of Providing and Laying 900mm dia 7th cross 27th main HSR Layout	Work Completed	
17	502-18-4020500700-0053	Work of providing and laying 600mm dia RCC NP-3 from Jayanagar 1st Block to LIC Colony	Work Completed	
18	502-18-4020500700-0056	Work of providing and laying 600mm dia RCC NP-3 near Maduramma Colony, Tavarekere.	Work Completed	
19	502-18-4020500700-0076	Work of rehabilitation and rectification of 600 mm dia sewer line from jyothi nivas college to 17 c main road	Work Completed	
20	502-18-4020500700-0077	Work of rehabilitation and rectification of 600 mm dia sewer line from 17 c main road to 5th cross, kormangala	Work Completed	
21	502-18-4020500700-0078	Work of rehabilitation and rectification of 600 mm dia sewer line from 5th cross to 80 feet main road, kormangala	Work Completed	
22	502-18-4020500700-0091	Work of P/L 600mm dia RCC sewer line from Pattenahalli SWD to Inchara Hotel	Work Completed	
23	502-18-4020500700-0094	Work of Providing and Laying 600 mm dia RCC NP3 sewer line from Lalbagh west gate to Teachers college junction	Work Completed	
24	502-18-4020500700-0096	Work of providing and laying 600 mm dia RCC NP-3 from Pattenahalli SWD to Ashwath katte, Sarakki	Work Completed	
25	502-18-4020500700-0097	Work of P/L 600mm dia RCC sewer line from ashwath katte to Newly constructed SMLD Sarakki STP	Work Completed	

Sl No	Work ID	Name of the work	Completion Date	Remarks
26	502-18-4020500700-0098	Work of providing and laying 600 mm dia RCC NP-3 from Agram Village to HDFC Bank, HSR Layout	Work Completed	
27	502-18-4020500700-0037	Work Of P/L 450mm dia RCC NP3 sewer line from near okkaligara sanga School, JP Nagar	Work Completed	
28	502-18-4020500700-0061	Work of providing and laying 600mm dia RCC NP-3 from Neelasandra Market Jesus Bridge	Work Completed	
29	502-18-4020500700-0042	Work of providing and laying to 450/600mm dia RCC NP3 sewer line near kumbigal police station K R Market	Work Completed	
30	502-18-4020500700-0045	Work of P/L 600 mm dia RCC sewer line from Central library to Cubbon park STP	Work Completed	
31	502-18-4020500700-0060	Work of Providing and Laying 900 mm dia RCC sewer line from Avenue road to KR Market Masjid(grain bazaar)	Work completed	
32	502-18-4020500700-0075	Work of Providing and Laying 450mm dia RCC NP 3 sewer line from Public toilet to Bambu hazar , K R Market	Work Completed	
33	502-18-4020500700-0062	Work of providing and laying 900mm dia RCC NP-3 Bamboo Bazar	Work Completed	
34	502-18-4020500700-0073	Work of Providing and Laying 900mm dia RCC sewer line from GP Street to Avnue road	Work Completed	
35	502-18-4020500700-0074	Work of Providing and Laying 900 mm dia RCC sewer line from Avenue road to KR Market Masjid	Work Completed	

Sl No	Work ID	Name of the work	Completion Date	Remarks
36	502-18-4020500700-0090	Work of P/L 450mm dia RCC sewer line near Puttenahalli lake	Work Completed	
37	502-18-4020500700-0095	Work of Providing and Laying 450mm dia RCC NP3 sewer line from AM road to Tamato market	31.07.2020	Work under progress
38	502-18-4020500700-0072	Work of Providing and Laying 900mm dia RCC sewer line from BVK Iyengar road to GP Street	20.08.2020	
39	502-18-4020500700-0036	Work of P/L 450mm dia sewer line from Inside SJP Park, City Market	23.08.2020	work under progress
40	502-18-4020500700-0058	Work of providing and laying 900mm dia RCC NP-3 from Chikapete Metro Station to Onion Mandi	19.09.2020	
41	502-18-4020500700-0057	Work of providing and laying 900mm dia RCC NP-3 from PVR Road to Chikapete Metro Station	20.09.2020	
42	502-18-4020500700-0059	Work of Providing and Laying 900 mm dia RCC sewer line from onion mand to Avenue road junction	20.10.2020	
43	502-18-4020500700-0069	Work of Providing and Laying 900/450 mm dia RCC sewer line from Cottonpete main road to Kashivishwanatha temple	30.10.2020	
44	502-18-4020500700-0070	Work of Providing and Laying 900/450mm dia RCC sewer line from Kashivishwanatha temple to Sulthanpete main road	15.11.2020	
45	502-18-4020500700-0071	Work of Providing and Laying 900/450 mm dia RCC sewer line from Sulthanpete to BVK Iyengar Road	30.11.2020	
46	502-18-4020500700-0045	Work of P/L 600 mm dia RCC sewer line from PWD office to Central library cubbon Park	31.12.2020	
47	502-18-4020500700-0054	Work of providing and laying 600mm dia RCC NP-3 from Puttenahalli lake to Royal Orchid school	31.12.2020	
48	502-18-4020500700-0055	Work of providing and laying 900mm dia RCC NP-3 from LR nagar Bridge to Neelasandra	31.12.2020	

Abstract	
Total No of works Completed upto end of June -2020	36
Upto end of July-2020	1
Upto end of August-2020	2
Upto end of September-2020	2
Upto end of October-2020	2
Upto end of November 2020	2
Upto end of December 2020	3
Total Number of works	48
Under Progress	1


Executive Engineer
(WWM) K&T Division, BWSSB
2nd Floor, Kapila Bhavan
4th 'T' Block, Jayanagar,
Bangalore - 560041



aaxis nano technologies pvt. ltd.

Plot No. B-46, Sector-59,
Industrial Area, Noida, U.P. - 201301
Ph.: +91-120-4253060, +91-98218-90332
E-mail: info@aaxisnano.com
Website: www.aaxisnano.com

AGRA

Date Time	Flow_MLD	Level
03-07-2020 16:32	168.75	0.90
03-07-2020 16:34	161.25	0.87
03-07-2020 16:40	165.00	0.87
03-07-2020 16:45	166.25	0.87
03-07-2020 16:50	166.25	0.87
03-07-2020 16:55	161.25	0.87
03-07-2020 17:00	160.00	0.86
03-07-2020 17:05	165.00	0.86
03-07-2020 17:10	156.25	0.86
03-07-2020 17:15	166.25	0.85
03-07-2020 17:20	151.25	0.85
03-07-2020 17:25	152.50	0.84
03-07-2020 17:30	151.25	0.84

03-07-2020 17:35	151.25	0.84
03-07-2020 17:40	163.75	0.83
03-07-2020 17:45	155.00	0.83
03-07-2020 17:50	157.50	0.83
03-07-2020 17:55	162.50	0.83
03-07-2020 18:00	151.25	0.82
03-07-2020 18:05	151.25	0.83
03-07-2020 18:10	147.50	0.83
03-07-2020 18:15	152.50	0.84
03-07-2020 18:20	158.75	0.84
03-07-2020 18:25	160.00	0.84
03-07-2020 18:30	153.75	0.84
03-07-2020 18:35	156.25	0.84
03-07-2020 18:40	143.75	0.84
03-07-2020 18:45	152.50	0.84
03-07-2020 18:50	155.00	0.84
03-07-2020 18:55	150.00	0.83
03-07-2020 19:00	145.00	0.83
03-07-2020 19:05	145.00	0.83
03-07-2020 19:10	142.50	0.83
03-07-2020 19:15	137.50	0.82

03-07-2020 19:20	140.00	0.82
03-07-2020 19:25	137.50	0.81
03-07-2020 19:30	137.50	0.80
03-07-2020 19:35	136.25	0.80
03-07-2020 19:40	133.75	0.80
03-07-2020 19:45	133.75	0.79
03-07-2020 19:50	123.75	0.79
03-07-2020 19:55	128.75	0.79
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03-07-2020 20:05	130.00	0.78
03-07-2020 20:10	125.00	0.78
03-07-2020 20:15	126.25	0.78
03-07-2020 20:20	125.00	0.78
03-07-2020 20:25	123.75	0.77
03-07-2020 20:30	123.75	0.77
03-07-2020 20:35	127.50	0.77
03-07-2020 20:40	120.00	0.77
03-07-2020 20:45	121.25	0.77
03-07-2020 20:50	123.75	0.76
03-07-2020 20:55	120.00	0.76
03-07-2020 21:00	118.75	0.76

03-07-2020 21:05	121.25	0.76
03-07-2020 21:10	120.00	0.76
03-07-2020 21:15	118.75	0.76
03-07-2020 21:20	118.75	0.76
03-07-2020 21:25	123.75	0.77
03-07-2020 21:30	122.50	0.77
03-07-2020 21:35	122.50	0.76
03-07-2020 21:40	121.25	0.76
03-07-2020 21:45	123.75	0.76
03-07-2020 21:50	117.50	0.76
03-07-2020 21:55	116.25	0.76
03-07-2020 22:00	120.00	0.76
03-07-2020 22:05	116.25	0.75
03-07-2020 22:10	116.25	0.75
03-07-2020 22:15	117.50	0.75
03-07-2020 22:20	113.75	0.75
03-07-2020 22:25	112.50	0.75
03-07-2020 22:30	116.25	0.75
03-07-2020 22:35	115.00	0.75
03-07-2020 22:40	115.00	0.75
03-07-2020 22:45	112.50	0.75

03-07-2020 22:50	112.50	0.75
03-07-2020 22:55	113.75	0.74
03-07-2020 23:00	118.75	0.75
03-07-2020 23:05	116.25	0.75
03-07-2020 23:10	116.25	0.75
03-07-2020 23:15	115.00	0.75
03-07-2020 23:20	115.00	0.74
03-07-2020 23:25	112.50	0.74
03-07-2020 23:30	112.50	0.74
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03-07-2020 23:40	108.75	0.73
03-07-2020 23:45	108.75	0.73
03-07-2020 23:50	107.50	0.73
03-07-2020 23:55	108.75	0.73
03-08-2020 00:00	110.00	0.73
03-08-2020 00:05	113.75	0.74
03-08-2020 00:10	117.50	0.75
03-08-2020 00:15	116.25	0.75
03-08-2020 00:20	116.25	0.75
03-08-2020 00:25	115.00	0.75
03-08-2020 00:30	117.50	0.75

03-08-2020 00:35	113.75	0.74
03-08-2020 00:40	111.25	0.74
03-08-2020 00:45	113.75	0.74
03-08-2020 00:50	110.00	0.74
03-08-2020 00:55	113.75	0.74
03-08-2020 01:00	110.00	0.73
03-08-2020 01:05	107.50	0.73
03-08-2020 01:10	110.00	0.73
03-08-2020 01:15	108.75	0.73
03-08-2020 01:20	111.25	0.72
03-08-2020 01:25	111.25	0.72
03-08-2020 01:30	110.00	0.72
03-08-2020 01:35	110.00	0.72
03-08-2020 01:40	107.50	0.71
03-08-2020 01:45	107.50	0.71
03-08-2020 01:50	107.50	0.71
03-08-2020 01:55	108.75	0.70
03-08-2020 02:10	105.00	0.70
03-08-2020 02:05	107.50	0.70
03-08-2020 02:10	107.50	0.70
03-08-2020 02:15	105.00	0.70

03-08-2020 02:20	103.75	0.70
03-08-2020 02:25	106.25	0.69
03-08-2020 02:30	101.25	0.69
03-08-2020 02:35	103.75	0.69
03-08-2020 02:40	102.50	0.68
03-08-2020 02:45	102.50	0.68
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03-08-2020 03:10	100.00	0.67
03-08-2020 03:15	100.00	0.66
03-08-2020 03:20	98.75	0.66
03-08-2020 03:25	98.75	0.66
03-08-2020 03:30	97.50	0.66
03-08-2020 03:35	96.25	0.66
03-08-2020 03:40	98.75	0.65
03-08-2020 03:45	97.50	0.65
03-08-2020 03:50	95.00	0.65
03-08-2020 03:55	97.50	0.65
03-08-2020 04:00	93.75	0.65

03-08-2020 04:05	93.75	0.65
03-08-2020 04:10	95.00	0.64
03-08-2020 04:15	93.75	0.64
03-08-2020 04:20	92.50	0.64
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03-08-2020 05:05	86.25	0.62
03-08-2020 05:10	83.75	0.62
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03-08-2020 05:25	85.00	0.61
03-08-2020 05:30	81.25	0.61
03-08-2020 05:35	81.25	0.61
03-08-2020 05:40	81.25	0.60
03-08-2020 05:45	80.00	0.60

03-08-2020 05:50	80.00	0.60
03-08-2020 05:55	81.25	0.60
03-08-2020 06:00	81.25	0.60
03-08-2020 06:05	80.00	0.60
03-08-2020 06:10	81.25	0.60
03-08-2020 06:15	78.75	0.60
03-08-2020 06:20	77.50	0.60
03-08-2020 06:25	80.00	0.60
03-08-2020 06:30	76.25	0.60
03-08-2020 06:35	76.25	0.60
03-08-2020 06:40	77.50	0.60
03-08-2020 06:45	76.25	0.60
03-08-2020 06:50	77.50	0.60
03-08-2020 06:55	77.50	0.59
03-08-2020 07:00	77.50	0.59
03-08-2020 07:05	75.00	0.59
03-08-2020 07:10	77.50	0.59
03-08-2020 07:15	75.00	0.59
03-08-2020 07:20	76.25	0.59
03-08-2020 07:25	73.75	0.59
03-08-2020 07:30	90.00	0.58

03-08-2020 07:35	86.25	0.58
03-08-2020 07:40	87.50	0.58
03-08-2020 07:45	86.25	0.58
03-08-2020 07:50	87.50	0.57
03-08-2020 07:55	83.75	0.57
03-08-2020 08:00	86.25	0.57
03-08-2020 08:05	83.75	0.57
03-08-2020 08:10	83.75	0.57
03-08-2020 08:15	82.50	0.57
03-08-2020 08:20	83.75	0.57
03-08-2020 08:25	81.25	0.57
03-08-2020 08:30	81.25	0.57
03-08-2020 08:35	82.50	0.57
03-08-2020 08:40	85.00	0.57
03-08-2020 08:45	81.25	0.57
03-08-2020 08:50	82.50	0.57
03-08-2020 08:55	83.75	0.58
03-08-2020 09:00	82.50	0.58
03-08-2020 09:05	83.75	0.58
03-08-2020 09:10	82.50	0.58
03-08-2020 09:15	85.00	0.58

03-08-2020 09:20	86.25	0.58
03-08-2020 09:25	86.25	0.58
03-08-2020 09:30	85.00	0.59
03-08-2020 09:35	86.25	0.59
03-08-2020 09:40	85.00	0.59
03-08-2020 09:45	86.25	0.59
03-08-2020 09:50	86.25	0.59
03-08-2020 09:55	85.00	0.59
03-08-2020 10:00	88.75	0.59
03-08-2020 10:05	88.75	0.60
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03-08-2020 10:15	90.00	0.60
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03-08-2020 10:30	92.50	0.61
03-08-2020 10:35	92.50	0.61
03-08-2020 10:40	95.00	0.61
03-08-2020 10:45	95.00	0.62
03-08-2020 10:50	93.75	0.62
03-08-2020 10:55	95.00	0.63
03-08-2020 11:00	98.75	0.63

03-08-2020 11:05	97.50	0.63
03-08-2020 11:10	98.75	0.64
03-08-2020 11:15	102.50	0.64
03-08-2020 11:20	103.75	0.65
03-08-2020 11:25	105.00	0.65
03-08-2020 11:30	105.00	0.65
03-08-2020 11:35	107.00	0.66
03-08-2020 11:40	108.00	0.67
03-08-2020 11:45	108.50	0.67
03-08-2020 11:50	108.25	0.67
03-08-2020 11:55	108.50	0.68
03-08-2020 12:00	109.00	0.67
03-08-2020 12:05	109.25	0.67
03-08-2020 12:10	109.25	0.68
03-08-2020 12:15	109.50	0.68
03-08-2020 12:20	109.00	0.68
03-08-2020 12:25	110.00	0.68
03-08-2020 12:30	113.00	0.69
03-08-2020 12:35	115.50	0.69
03-08-2020 12:40	115.50	0.69
03-08-2020 12:45	118.00	0.69

03-08-2020 12:50	118.50	0.70
03-08-2020 12:55	118.75	0.70
03-08-2020 13:00	122.00	0.70
03-08-2020 13:05	127.00	0.71
03-08-2020 13:10	127.50	0.71
03-08-2020 13:15	127.50	0.72
03-08-2020 13:20	127.75	0.72
03-08-2020 13:25	131.00	0.72
03-08-2020 13:30	130.50	0.73
03-08-2020 13:35	131.00	0.73
03-08-2020 13:40	131.50	0.73
03-08-2020 13:45	134.00	0.74
03-08-2020 13:50	134.75	0.73
03-08-2020 13:55	135.50	0.74
03-08-2020 14:00	137.50	0.74
03-08-2020 14:05	137.75	0.75
03-08-2020 14:10	137.75	0.75
03-08-2020 14:15	138.00	0.76
03-08-2020 14:20	138.25	0.76
03-08-2020 14:25	138.25	0.77
03-08-2020 14:30	138.50	0.77

03-08-2020 14:35	138.50	0.77
03-08-2020 14:40	139.75	0.78
03-08-2020 14:45	140.00	0.78
03-08-2020 14:50	141.50	0.79
03-08-2020 14:55	141.50	0.78
03-08-2020 15:00	141.50	0.79
03-08-2020 15:05	141.75	0.79
03-08-2020 15:10	141.75	0.80
03-08-2020 15:15	141.75	0.82
03-08-2020 15:20	141.50	0.81
03-08-2020 15:25	141.50	0.81
03-08-2020 15:30	143.00	0.80
03-08-2020 15:35	143.50	0.80
03-08-2020 15:40	143.50	0.79
03-08-2020 15:45	144.00	0.80
03-08-2020 15:50	144.25	0.79
03-08-2020 15:55	144.25	0.80
03-08-2020 16:00	144.50	0.81
03-08-2020 16:05	144.75	0.80
03-08-2020 16:10	144.75	0.80
03-08-2020 16:15	145.00	0.80

03-08-2020 16:20	145.25	0.81
03-08-2020 16:25	145.75	0.81
03-08-2020 16:30	146.75	0.83
03-08-2020 16:35	148.25	0.83
03-08-2020 16:40	148.75	0.82
03-08-2020 16:45	149.25	0.82
03-08-2020 16:50	151.25	0.83
03-08-2020 16:55	151.75	0.83
03-08-2020 17:00	152.50	0.83





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BWSSB_90MLD STP

Date Time	Flow_MLD	Level
3/3/2020 12:02:39 PM	273.75	1.24
3/3/2020 12:12:06 PM	273.75	1.23
3/3/2020 12:15:00 PM	273.75	1.22
3/3/2020 12:20:00 PM	271.25	1.21
3/3/2020 12:35:00 PM	277.50	1.18
3/3/2020 12:40:00 PM	275.00	1.18
3/3/2020 12:45:00 PM	282.50	1.18
3/3/2020 12:50:00 PM	284.00	1.19
3/3/2020 12:55:00 PM	282.50	1.19
3/3/2020 1:00:01 PM	280.00	1.19
3/3/2020 1:05:00 PM	287.50	1.20

3/3/2020 1:10:00 PM	281.25	1.20
3/3/2020 1:15:00 PM	288.75	1.20
3/3/2020 1:20:00 PM	281.25	1.20
3/3/2020 1:25:00 PM	275.00	1.20
3/3/2020 1:30:00 PM	285.00	1.20
3/3/2020 1:35:00 PM	281.00	1.21
3/3/2020 1:40:00 PM	273.75	1.23
3/3/2020 1:45:00 PM	282.50	1.23
3/3/2020 1:50:00 PM	278.75	1.23
3/3/2020 1:55:00 PM	275.00	1.23
3/3/2020 2:00:00 PM	272.50	1.23
3/3/2020 2:05:00 PM	278.75	1.22
3/3/2020 2:10:00 PM	276.25	1.21
3/3/2020 2:15:00 PM	272.50	1.19
3/3/2020 2:20:00 PM	273.75	1.18
3/3/2020 2:25:00 PM	278.75	1.17
3/3/2020 2:30:00 PM	287.50	1.17
3/3/2020 2:35:00 PM	270.00	1.20
3/3/2020 2:40:00 PM	281.25	1.20
3/3/2020 2:45:00 PM	280.00	1.18
3/3/2020 2:50:00 PM	281.25	1.17

3/3/2020 2:55:00 PM	287.50	1.16
3/3/2020 3:00:00 PM	295.00	1.15
3/3/2020 3:05:00 PM	290.00	1.15
3/3/2020 3:10:00 PM	292.50	1.14
3/3/2020 3:15:00 PM	290.00	1.14
3/3/2020 3:20:00 PM	295.00	1.14
3/3/2020 3:25:00 PM	282.50	1.13
3/3/2020 3:30:00 PM	292.50	1.13
3/3/2020 3:35:00 PM	293.75	1.13
3/3/2020 3:40:00 PM	288.75	1.13
3/3/2020 3:45:00 PM	293.75	1.13
3/3/2020 3:50:00 PM	301.25	1.14
3/3/2020 3:55:01 PM	280.00	1.14
3/3/2020 4:00:00 PM	295.00	1.14
3/3/2020 4:05:00 PM	293.75	1.15
3/3/2020 4:10:00 PM	291.00	1.15
3/3/2020 4:15:00 PM	289.00	1.15
3/3/2020 4:20:00 PM	293.75	1.16
3/3/2020 4:25:00 PM	292.50	1.16
3/3/2020 4:30:00 PM	290.00	1.16
3/3/2020 4:35:00 PM	290.00	1.17

3/3/2020 4:40:00 PM	286.25	1.17
3/3/2020 4:45:00 PM	290.00	1.17
3/3/2020 4:50:00 PM	277.50	1.17
3/3/2020 4:55:00 PM	297.50	1.17
3/3/2020 5:00:00 PM	278.75	1.17
3/3/2020 5:05:00 PM	280.00	1.17
3/3/2020 5:10:00 PM	286.25	1.17
3/3/2020 5:15:00 PM	292.50	1.17
3/3/2020 5:20:00 PM	276.25	1.17
3/3/2020 5:25:00 PM	280.00	1.16
3/3/2020 5:30:00 PM	291.25	1.16
3/3/2020 5:35:00 PM	287.50	1.16
3/3/2020 5:40:00 PM	287.50	1.15
3/3/2020 5:45:00 PM	282.50	1.15
3/3/2020 5:50:00 PM	283.75	1.14
3/3/2020 5:55:00 PM	286.25	1.14
3/3/2020 6:00:00 PM	293.75	1.14
3/3/2020 6:05:00 PM	287.50	1.13
3/3/2020 6:10:00 PM	283.75	1.13
3/3/2020 6:15:00 PM	293.75	1.13
3/3/2020 6:20:00 PM	293.75	1.13

3/3/2020 6:25:00 PM	290.00	1.13
3/3/2020 6:30:00 PM	283.75	1.13
3/3/2020 6:35:00 PM	290.00	1.13
3/3/2020 6:40:00 PM	278.75	1.13
3/3/2020 6:50:00 PM	268.00	1.13
3/3/2020 6:55:00 PM	261.00	1.13
3/3/2020 7:00:00 PM	262.00	1.12
3/3/2020 7:05:00 PM	257.00	1.12
3/3/2020 7:10:00 PM	262.00	1.12
3/3/2020 7:15:00 PM	261.50	1.12
3/3/2020 7:20:00 PM	262.00	1.12
3/3/2020 7:25:00 PM	257.50	1.12
3/3/2020 7:30:46 PM	261.75	1.13
3/3/2020 7:35:00 PM	257.00	1.14
3/3/2020 7:40:00 PM	256.25	1.14
3/3/2020 7:45:00 PM	255.00	1.15
3/3/2020 7:50:00 PM	268.00	1.15
3/3/2020 7:55:00 PM	262.00	1.15
3/3/2020 8:00:00 PM	267.50	1.15
3/3/2020 8:05:00 PM	263.75	1.15
3/3/2020 8:10:00 PM	267.50	1.15

3/3/2020 8:15:00 PM	277.50	1.15
3/3/2020 8:20:00 PM	285.00	1.15
3/3/2020 8:25:00 PM	267.50	1.15
3/3/2020 8:30:00 PM	271.25	1.16
3/3/2020 8:35:00 PM	256.25	1.16
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3/3/2020 8:45:00 PM	282.50	1.16
3/3/2020 8:50:00 PM	263.75	1.17
3/3/2020 8:55:00 PM	298.75	1.17
3/3/2020 9:00:00 PM	281.25	1.17
3/3/2020 9:05:00 PM	281.25	1.18
3/3/2020 9:10:00 PM	280.00	1.18
3/3/2020 9:15:00 PM	279.00	1.18
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3/3/2020 9:30:00 PM	265.00	1.19
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3/3/2020 9:40:00 PM	272.50	1.19
3/3/2020 9:45:00 PM	268.75	1.19
3/3/2020 9:50:00 PM	273.75	1.19
3/3/2020 9:55:00 PM	268.75	1.19

3/3/2020 10:00:00 PM	270.00	1.19
3/3/2020 10:05:00 PM	280.00	1.19
3/3/2020 10:10:00 PM	270.00	1.19
3/3/2020 10:15:00 PM	277.50	1.19
3/3/2020 10:20:00 PM	273.75	1.19
3/3/2020 10:25:00 PM	275.00	1.19
3/3/2020 10:30:00 PM	288.75	1.19
3/3/2020 10:35:00 PM	276.25	1.19
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3/3/2020 11:05:00 PM	275.00	1.20
3/3/2020 11:10:00 PM	278.75	1.20
3/3/2020 11:15:00 PM	283.75	1.20
3/3/2020 11:20:00 PM	266.25	1.20
3/3/2020 11:25:00 PM	268.75	1.20
3/3/2020 11:30:00 PM	265.00	1.20
3/3/2020 11:35:00 PM	264.00	1.20
3/3/2020 11:40:00 PM	259.00	1.20

3/3/2020 11:45:00 PM	253.75	1.21
3/3/2020 11:50:00 PM	253.75	1.20
3/3/2020 11:55:00 PM	280.00	1.21
3/4/2020 12:00:00 AM	273.75	1.21
3/4/2020 12:05:00 AM	273.75	1.21
3/4/2020 12:10:00 AM	275.00	1.21
3/4/2020 12:15:00 AM	278.75	1.21
3/4/2020 12:20:00 AM	263.75	1.21
3/4/2020 12:30:00 AM	277.50	1.21
3/4/2020 12:35:00 AM	272.50	1.21
3/4/2020 12:40:00 AM	267.50	1.21
3/4/2020 12:45:00 AM	272.50	1.21
3/4/2020 12:50:00 AM	282.50	1.21
3/4/2020 12:55:00 AM	276.25	1.21
3/4/2020 1:00:00 AM	268.75	1.21
3/4/2020 1:05:00 AM	271.25	1.21
3/4/2020 1:10:00 AM	268.00	1.21
3/4/2020 1:15:00 AM	277.50	1.21
3/4/2020 1:20:00 AM	266.25	1.21
3/4/2020 1:25:00 AM	272.50	1.21
3/4/2020 1:30:00 AM	277.50	1.21

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3/4/2020 2:15:00 AM	271.00	1.21
3/4/2020 2:20:00 AM	270.00	1.22
3/4/2020 2:25:00 AM	266.25	1.21
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3/4/2020 2:45:00 AM	265.00	1.21
3/4/2020 2:50:00 AM	275.00	1.21
3/4/2020 2:55:00 AM	281.25	1.21
3/4/2020 3:00:00 AM	272.50	1.21
3/4/2020 3:05:00 AM	271.25	1.21
3/4/2020 3:10:00 AM	266.25	1.21
3/4/2020 3:15:00 AM	267.50	1.20

3/4/2020 3:20:00 AM	261.25	1.20
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3/4/2020 3:30:00 AM	277.50	1.19
3/4/2020 3:35:00 AM	274.00	1.19
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3/4/2020 3:50:00 AM	276.25	1.18
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3/4/2020 4:00:00 AM	282.50	1.18
3/4/2020 4:05:00 AM	278.75	1.17
3/4/2020 4:10:00 AM	280.00	1.17
3/4/2020 4:15:00 AM	273.75	1.17
3/4/2020 4:20:00 AM	268.75	1.17
3/4/2020 4:25:00 AM	268.75	1.17
3/4/2020 4:30:00 AM	270.00	1.17
3/4/2020 4:35:00 AM	291.25	1.16
3/4/2020 4:40:00 AM	280.00	1.16
3/4/2020 4:45:35 AM	285.00	1.16
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3/4/2020 4:55:00 AM	291.25	1.16
3/4/2020 5:00:00 AM	291.25	1.16

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3/4/2020 5:10:00 AM	280.00	1.15
3/4/2020 5:15:00 AM	288.75	1.16
3/4/2020 5:20:00 AM	291.25	1.15
3/4/2020 5:25:00 AM	282.50	1.15
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3/4/2020 5:35:00 AM	293.75	1.15
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3/4/2020 6:20:00 AM	281.25	1.14
3/4/2020 6:25:00 AM	266.25	1.14
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3/4/2020 6:55:00 AM	272.00	1.14
3/4/2020 7:00:00 AM	277.00	1.14
3/4/2020 7:05:00 AM	278.00	1.14
3/4/2020 7:10:00 AM	281.00	1.14
3/4/2020 7:15:00 AM	285.00	1.14
3/4/2020 7:20:00 AM	287.50	1.14
3/4/2020 7:25:00 AM	287.50	1.14
3/4/2020 7:30:00 AM	280.00	1.14
3/4/2020 7:35:00 AM	282.50	1.14
3/4/2020 7:40:00 AM	287.50	1.15
3/4/2020 7:45:00 AM	284.00	1.15
3/4/2020 7:50:00 AM	278.75	1.15
3/4/2020 7:55:00 AM	285.00	1.16
3/4/2020 8:00:00 AM	280.00	1.16
3/4/2020 8:05:00 AM	281.25	1.16
3/4/2020 8:10:00 AM	292.50	1.16
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3/4/2020 8:25:00 AM	282.50	1.17
3/4/2020 8:30:00 AM	282.50	1.17

3/4/2020 8:35:00 AM	285.00	1.17
3/4/2020 8:40:00 AM	282.50	1.17
3/4/2020 8:45:00 AM	280.00	1.17
3/4/2020 8:50:00 AM	290.00	1.17
3/4/2020 8:55:00 AM	286.25	1.17
3/4/2020 9:00:00 AM	296.25	1.17
3/4/2020 9:05:00 AM	277.50	1.17
3/4/2020 9:10:00 AM	288.75	1.17
3/4/2020 9:15:00 AM	287.50	1.16
3/4/2020 9:20:00 AM	302.50	1.16
3/4/2020 9:25:00 AM	283.75	1.16
3/4/2020 9:30:00 AM	285.00	1.16
3/4/2020 9:35:00 AM	270.00	1.16
3/4/2020 9:40:00 AM	286.25	1.16
3/4/2020 9:45:00 AM	286.25	1.17
3/4/2020 9:50:00 AM	277.50	1.17
3/4/2020 9:55:00 AM	281.00	1.17
3/4/2020 10:00:00 AM	279.00	1.17
3/4/2020 10:05:00 AM	278.75	1.18
3/4/2020 10:10:00 AM	265.00	1.19
3/4/2020 10:15:00 AM	261.25	1.20

3/4/2020 10:20:00 AM	280.00	1.21
3/4/2020 10:25:00 AM	278.75	1.21
3/4/2020 10:30:00 AM	268.75	1.22
3/4/2020 10:35:00 AM	266.25	1.22
3/4/2020 10:40:00 AM	275.00	1.23
3/4/2020 10:45:00 AM	267.50	1.23
3/4/2020 10:50:00 AM	272.50	1.24
3/4/2020 11:00:00 AM	263.75	1.24
3/4/2020 11:05:00 AM	268.75	1.24
3/4/2020 11:15:00 AM	256.25	1.24
3/4/2020 11:20:00 AM	257.00	1.24
3/4/2020 11:25:00 AM	272.50	1.24
3/4/2020 11:30:00 AM	266.25	1.24
3/4/2020 11:35:00 AM	267.50	1.24
3/4/2020 11:40:00 AM	268.00	1.24
3/4/2020 11:45:00 AM	272.50	1.24
3/4/2020 11:50:00 AM	271.25	1.24
3/4/2020 11:55:00 AM	278.75	1.24
3/4/2020 12:00:00 PM	271.25	1.24
3/4/2020 12:05:00 PM	266.25	1.23
3/4/2020 12:10:00 PM	265.00	1.23

3/4/2020 12:15:00 PM	265.00	1.23
3/4/2020 12:20:00 PM	280.00	1.23
3/4/2020 12:25:00 PM	276.25	1.23





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Plot No. B-46, Sector-59,
Industrial Area, Noida, U.P. - 201301
Ph.: +91-120-4253060, +91-98218-90332
E-mail: info@aaxisnano.com
Website: www.aaxisnano.com

BWSSB_HAL NALLHA

Date Time	Flow_MLD	Level
03-04-2020 14:10	33.00	0.59
03-04-2020 14:15	33.50	0.59
03-04-2020 14:20	33.25	0.59
03-04-2020 14:25	33.75	0.59
03-04-2020 14:30	34.50	0.59
03-04-2020 14:35	35.00	0.59
03-04-2020 14:40	35.50	0.59
03-04-2020 14:45	34.50	0.60
03-04-2020 14:50	34.50	0.60
03-04-2020 14:55	35.00	0.59
03-04-2020 15:00	36.00	0.60

03-04-2020 15:05	36.50	0.60
03-04-2020 15:10	37.00	0.61
03-04-2020 15:15	36.50	0.61
03-04-2020 15:20	36.50	0.61
03-04-2020 15:25	36.50	0.59
03-04-2020 15:30	37.00	0.61
03-04-2020 15:35	36.75	0.60
03-04-2020 15:40	36.75	0.60
03-04-2020 15:45	37.00	0.60
03-04-2020 15:50	36.50	0.60
03-04-2020 15:55	35.00	0.60
03-04-2020 16:00	34.50	0.59
03-04-2020 16:05	34.50	0.59
03-04-2020 16:10	34.00	0.59
03-04-2020 16:15	33.75	0.58
03-04-2020 16:20	33.75	0.58
03-04-2020 16:25	33.00	0.58
03-04-2020 16:30	33.00	0.58
03-04-2020 16:35	34.50	0.59
03-04-2020 16:40	34.00	0.59
03-04-2020 16:45	35.00	0.59

03-04-2020 16:50	35.50	0.59
03-04-2020 16:55	35.45	0.60
03-04-2020 17:00	35.25	0.60
03-04-2020 17:05	36.00	0.60
03-04-2020 17:10	36.50	0.61
03-04-2020 17:15	36.00	0.61
03-04-2020 17:20	35.00	0.61
03-04-2020 17:25	35.50	0.61
03-04-2020 17:30	36.70	0.61
03-04-2020 17:35	35.75	0.61
03-04-2020 17:40	36.75	0.61
03-04-2020 17:45	37.00	0.61
03-04-2020 17:50	35.50	0.60
03-04-2020 17:55	35.50	0.59
03-04-2020 18:00	35.25	0.59
03-04-2020 18:05	36.50	0.59
03-04-2020 18:10	36.50	0.59
03-04-2020 18:15	37.75	0.59
03-04-2020 18:20	36.50	0.59
03-04-2020 18:25	37.75	0.59
03-04-2020 18:30	37.75	0.59

03-04-2020 18:35	37.75	0.60
03-04-2020 18:40	36.50	0.60
03-04-2020 18:45	37.75	0.59
03-04-2020 18:50	37.75	0.58
03-04-2020 18:55	37.75	0.60
03-04-2020 19:00	37.75	0.60
03-04-2020 19:05	36.50	0.59
03-04-2020 19:10	39.00	0.61
03-04-2020 19:15	39.00	0.61
03-04-2020 19:20	39.00	0.61
03-04-2020 19:25	39.00	0.60
03-04-2020 19:30	39.00	0.60
03-04-2020 19:35	39.00	0.60
03-04-2020 19:40	39.00	0.60
03-04-2020 19:45	37.75	0.60
03-04-2020 19:50	39.00	0.60
03-04-2020 19:55	39.00	0.61
03-04-2020 20:00	39.00	0.61
03-04-2020 20:05	39.00	0.60
03-04-2020 20:10	39.00	0.61
03-04-2020 20:15	41.50	0.61

03-04-2020 20:20	41.50	0.62
03-04-2020 20:25	42.75	0.62
03-04-2020 20:30	44.00	0.63
03-04-2020 20:35	42.75	0.63
03-04-2020 20:40	41.50	0.65
03-04-2020 20:45	45.25	0.65
03-04-2020 20:50	45.25	0.64
03-04-2020 20:55	41.50	0.64
03-04-2020 21:00	42.75	0.63
03-04-2020 21:05	45.25	0.63
03-04-2020 21:10	45.25	0.65
03-04-2020 21:15	45.25	0.62
03-04-2020 21:20	45.25	0.63
03-04-2020 21:25	44.00	0.63
03-04-2020 21:30	45.25	0.65
03-04-2020 21:35	44.00	0.66
03-04-2020 21:40	45.25	0.65
03-04-2020 21:45	44.00	0.65
03-04-2020 21:50	44.00	0.63
03-04-2020 21:55	45.25	0.64
03-04-2020 22:00	45.25	0.65

03-04-2020 22:05	44.25	0.63
03-04-2020 22:10	43.25	0.65
03-04-2020 22:15	42.00	0.63
03-04-2020 22:20	42.50	0.65
03-04-2020 22:25	42.25	0.63
03-04-2020 22:30	39.75	0.63
03-04-2020 22:35	38.50	0.64
03-04-2020 22:40	37.00	0.65
03-04-2020 22:45	38.50	0.65
03-04-2020 22:50	37.25	0.66
03-04-2020 22:55	37.25	0.65
03-04-2020 23:00	36.50	0.66
03-04-2020 23:05	36.25	0.66
03-04-2020 23:10	35.25	0.66
03-04-2020 23:15	33.50	0.66
03-04-2020 23:20	33.75	0.66
03-04-2020 23:25	32.75	0.67
03-04-2020 23:30	31.50	0.67
03-04-2020 23:35	30.00	0.66
03-04-2020 23:40	31.50	0.67
03-04-2020 23:45	30.00	0.66

03-04-2020 23:50	28.75	0.66
03-04-2020 23:55	27.50	0.66
03-05-2020 00:00	26.00	0.66
03-05-2020 00:05	25.25	0.65
03-05-2020 00:10	26.50	0.66
03-05-2020 00:15	26.50	0.65
03-05-2020 00:20	25.00	0.66
03-05-2020 00:25	25.00	0.65
03-05-2020 00:30	26.25	0.65
03-05-2020 00:35	22.50	0.64
03-05-2020 00:40	23.75	0.65
03-05-2020 00:45	22.50	0.65
03-05-2020 00:50	23.75	0.64
03-05-2020 00:55	25.00	0.65
03-05-2020 01:00	24.25	0.64
03-05-2020 01:05	24.75	0.64
03-05-2020 01:10	22.25	0.64
03-05-2020 01:15	23.50	0.64
03-05-2020 01:20	18.50	0.64
03-05-2020 01:25	21.00	0.64
03-05-2020 01:30	19.75	0.64

03-05-2020 01:35	22.25	0.64
03-05-2020 01:40	19.75	0.64
03-05-2020 01:45	19.00	0.64
03-05-2020 01:50	20.25	0.64
03-05-2020 01:55	17.75	0.63
03-05-2020 02:00	20.25	0.63
03-05-2020 02:05	19.00	0.64
03-05-2020 02:10	17.75	0.63
03-05-2020 02:15	17.75	0.65
03-05-2020 02:20	17.75	0.63
03-05-2020 02:25	20.25	0.63
03-05-2020 02:30	18.00	0.64
03-05-2020 02:35	20.50	0.64
03-05-2020 02:40	21.75	0.63
03-05-2020 02:45	21.75	0.64
03-05-2020 02:50	20.50	0.64
03-05-2020 02:55	20.50	0.64
03-05-2020 03:00	20.25	0.64
03-05-2020 03:05	20.25	0.65
03-05-2020 03:10	19.00	0.64
03-05-2020 03:15	19.50	0.64

03-05-2020 03:20	18.75	0.64
03-05-2020 03:25	21.00	0.64
03-05-2020 03:30	22.00	0.64
03-05-2020 03:35	23.00	0.65
03-05-2020 03:40	23.00	0.64
03-05-2020 03:45	21.75	0.64
03-05-2020 03:50	21.75	0.64
03-05-2020 03:55	23.00	0.64
03-05-2020 04:00	21.75	0.64
03-05-2020 04:05	20.50	0.64
03-05-2020 04:10	21.75	0.64
03-05-2020 04:15	20.50	0.64
03-05-2020 04:20	21.50	0.64
03-05-2020 04:25	19.75	0.64
03-05-2020 04:30	21.00	0.64
03-05-2020 04:35	23.50	0.63
03-05-2020 04:40	21.00	0.64
03-05-2020 04:45	21.00	0.64
03-05-2020 04:50	21.00	0.64
03-05-2020 04:55	18.50	0.64
03-05-2020 05:00	21.00	0.63

03-05-2020 05:05	19.75	0.63
03-05-2020 05:10	19.75	0.63
03-05-2020 05:15	20.25	0.64
03-05-2020 05:20	19.00	0.64
03-05-2020 05:25	18.50	0.63
03-05-2020 05:30	18.50	0.63
03-05-2020 05:35	17.25	0.63
03-05-2020 05:40	18.50	0.63
03-05-2020 05:45	18.50	0.62
03-05-2020 05:50	21.75	0.63
03-05-2020 05:55	22.25	0.63
03-05-2020 06:00	24.25	0.63
03-05-2020 06:05	26.50	0.62
03-05-2020 06:10	27.50	0.63
03-05-2020 06:15	27.00	0.63
03-05-2020 06:20	28.75	0.62
03-05-2020 06:25	27.00	0.63
03-05-2020 06:30	28.75	0.64
03-05-2020 06:35	28.25	0.62
03-05-2020 06:40	29.75	0.67
03-05-2020 06:45	29.00	0.66

03-05-2020 06:50	31.50	0.66
03-05-2020 06:55	32.75	0.64
03-05-2020 07:00	34.00	0.64
03-05-2020 07:05	35.00	0.65
03-05-2020 07:10	35.50	0.65
03-05-2020 07:15	36.50	0.63
03-05-2020 07:20	37.50	0.66
03-05-2020 07:25	38.75	0.64
03-05-2020 07:30	38.00	0.66
03-05-2020 07:35	38.75	0.65
03-05-2020 07:40	38.25	0.63
03-05-2020 07:45	39.00	0.62
03-05-2020 07:50	37.75	0.60
03-05-2020 07:55	37.75	0.60
03-05-2020 08:00	36.50	0.59
03-05-2020 08:05	35.25	0.58
03-05-2020 08:10	36.50	0.58
03-05-2020 08:15	35.25	0.57
03-05-2020 08:20	34.00	0.57
03-05-2020 08:25	34.00	0.57
03-05-2020 08:30	34.00	0.57

03-05-2020 08:35	34.00	0.57
03-05-2020 08:40	37.75	0.58
03-05-2020 08:45	35.25	0.58
03-05-2020 08:50	34.00	0.57
03-05-2020 08:55	34.00	0.57
03-05-2020 09:00	34.00	0.57
03-05-2020 09:05	34.00	0.57
03-05-2020 09:10	36.50	0.57
03-05-2020 09:15	34.00	0.57
03-05-2020 09:20	35.25	0.58
03-05-2020 09:25	32.75	0.57
03-05-2020 09:30	35.25	0.58
03-05-2020 09:35	37.75	0.58
03-05-2020 09:40	37.75	0.58
03-05-2020 09:45	36.50	0.57
03-05-2020 09:50	35.25	0.59
03-05-2020 09:55	35.25	0.58
03-05-2020 10:00	35.25	0.57
03-05-2020 10:05	34.00	0.57
03-05-2020 10:10	35.25	0.57
03-05-2020 10:15	34.00	0.57

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03-05-2020 10:20	34.00	0.57
03-05-2020 10:25	35.25	0.57
03-05-2020 10:30	32.75	0.57
03-05-2020 10:35	32.75	0.56
03-05-2020 10:40	31.50	0.55
03-05-2020 10:45	31.50	0.55
03-05-2020 10:50	30.25	0.55
03-05-2020 10:55	30.25	0.56
03-05-2020 11:00	30.25	0.55
03-05-2020 11:05	31.50	0.55
03-05-2020 11:10	30.25	0.55
03-05-2020 11:15	30.25	0.55
03-05-2020 11:20	29.00	0.54
03-05-2020 11:25	29.00	0.54
03-05-2020 11:30	29.00	0.54
03-05-2020 11:35	29.00	0.53
03-05-2020 11:40	29.00	0.54
03-05-2020 11:45	29.00	0.54
03-05-2020 11:50	29.00	0.53
03-05-2020 11:55	27.75	0.54
03-05-2020 12:00	26.50	0.53

03-05-2020 12:10	26.50	0.53
03-05-2020 12:15	27.75	0.53
03-05-2020 12:20	26.50	0.54
03-05-2020 12:25	26.50	0.53
03-05-2020 12:30	26.50	0.53
03-05-2020 12:35	26.50	0.53
03-05-2020 12:40	26.50	0.53
03-05-2020 12:45	27.75	0.54
03-05-2020 12:50	27.75	0.53
03-05-2020 12:55	26.50	0.53
03-05-2020 13:00	26.50	0.53
03-05-2020 13:05	26.50	0.53
03-05-2020 13:10	26.50	0.53
03-05-2020 13:15	26.50	0.53
03-05-2020 13:20	26.50	0.53
03-05-2020 13:25	26.50	0.52
03-05-2020 13:30	26.50	0.53
03-05-2020 13:35	27.75	0.53
03-05-2020 13:40	26.50	0.54
03-05-2020 13:45	27.75	0.53
03-05-2020 13:50	27.75	0.53

03-05-2020 13:55	27.75	0.53
03-05-2020 14:00	27.75	0.53
03-05-2020 14:05	27.75	0.54
03-05-2020 14:10	27.75	0.54

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BWSSB_90MLD STP

Date Time	Flow_MLD	Level
3/3/2020 12:02:39 PM	273.75	1.24
3/3/2020 12:12:06 PM	273.75	1.23
3/3/2020 12:15:00 PM	273.75	1.22
3/3/2020 12:20:00 PM	271.25	1.21
3/3/2020 12:35:00 PM	277.50	1.18
3/3/2020 12:40:00 PM	275.00	1.18
3/3/2020 12:45:00 PM	282.50	1.18
3/3/2020 12:50:00 PM	284.00	1.19
3/3/2020 12:55:00 PM	282.50	1.19
3/3/2020 1:00:01 PM	280.00	1.19
3/3/2020 1:05:00 PM	287.50	1.20
3/3/2020 1:10:00 PM	281.25	1.20
3/3/2020 1:15:00 PM	288.75	1.20
3/3/2020 1:20:00 PM	281.25	1.20

139

3/3/2020 1:25:00 PM	275.00	1.20
3/3/2020 1:30:00 PM	285.00	1.20
3/3/2020 1:35:00 PM	281.00	1.21
3/3/2020 1:40:00 PM	273.75	1.23
3/3/2020 1:45:00 PM	282.50	1.23
3/3/2020 1:50:00 PM	278.75	1.23
3/3/2020 1:55:00 PM	275.00	1.23
3/3/2020 2:00:00 PM	272.50	1.23
3/3/2020 2:05:00 PM	278.75	1.22
3/3/2020 2:10:00 PM	276.25	1.21
3/3/2020 2:15:00 PM	272.50	1.19
3/3/2020 2:20:00 PM	273.75	1.18
3/3/2020 2:25:00 PM	278.75	1.17
3/3/2020 2:30:00 PM	287.50	1.17
3/3/2020 2:35:00 PM	270.00	1.20
3/3/2020 2:40:00 PM	281.25	1.20
3/3/2020 2:45:00 PM	280.00	1.18
3/3/2020 2:50:00 PM	281.25	1.17
3/3/2020 2:55:00 PM	287.50	1.16
3/3/2020 3:00:00 PM	295.00	1.15
3/3/2020 3:05:00 PM	290.00	1.15

140

3/3/2020 3:10:00 PM	292.50	1.14
3/3/2020 3:15:00 PM	290.00	1.14
3/3/2020 3:20:00 PM	295.00	1.14
3/3/2020 3:25:00 PM	282.50	1.13
3/3/2020 3:30:00 PM	292.50	1.13
3/3/2020 3:35:00 PM	293.75	1.13
3/3/2020 3:40:00 PM	288.75	1.13
3/3/2020 3:45:00 PM	293.75	1.13
3/3/2020 3:50:00 PM	301.25	1.14
3/3/2020 3:55:01 PM	280.00	1.14
3/3/2020 4:00:00 PM	295.00	1.14
3/3/2020 4:05:00 PM	293.75	1.15
3/3/2020 4:10:00 PM	291.00	1.15
3/3/2020 4:15:00 PM	289.00	1.15
3/3/2020 4:20:00 PM	293.75	1.16
3/3/2020 4:25:00 PM	292.50	1.16
3/3/2020 4:30:00 PM	290.00	1.16
3/3/2020 4:35:00 PM	290.00	1.17
3/3/2020 4:40:00 PM	286.25	1.17
3/3/2020 4:45:00 PM	290.00	1.17
3/3/2020 4:50:00 PM	277.50	1.17

3/3/2020 4:55:00 PM	297.50	1.17
3/3/2020 5:00:00 PM	278.75	1.17
3/3/2020 5:05:00 PM	280.00	1.17
3/3/2020 5:10:00 PM	286.25	1.17
3/3/2020 5:15:00 PM	292.50	1.17
3/3/2020 5:20:00 PM	276.25	1.17
3/3/2020 5:25:00 PM	280.00	1.16
3/3/2020 5:30:00 PM	291.25	1.16
3/3/2020 5:35:00 PM	287.50	1.16
3/3/2020 5:40:00 PM	287.50	1.15
3/3/2020 5:45:00 PM	282.50	1.15
3/3/2020 5:50:00 PM	283.75	1.14
3/3/2020 5:55:00 PM	286.25	1.14
3/3/2020 6:00:00 PM	293.75	1.14
3/3/2020 6:05:00 PM	287.50	1.13
3/3/2020 6:10:00 PM	283.75	1.13
3/3/2020 6:15:00 PM	293.75	1.13
3/3/2020 6:20:00 PM	293.75	1.13
3/3/2020 6:25:00 PM	290.00	1.13
3/3/2020 6:30:00 PM	283.75	1.13
3/3/2020 6:35:00 PM	290.00	1.13

142

3/3/2020 6:40:00 PM	278.75	1.13
3/3/2020 6:50:00 PM	268.00	1.13
3/3/2020 6:55:00 PM	261.00	1.13
3/3/2020 7:00:00 PM	262.00	1.12
3/3/2020 7:05:00 PM	257.00	1.12
3/3/2020 7:10:00 PM	262.00	1.12
3/3/2020 7:15:00 PM	261.50	1.12
3/3/2020 7:20:00 PM	262.00	1.12
3/3/2020 7:25:00 PM	257.50	1.12
3/3/2020 7:30:46 PM	261.75	1.13
3/3/2020 7:35:00 PM	257.00	1.14
3/3/2020 7:40:00 PM	256.25	1.14
3/3/2020 7:45:00 PM	255.00	1.15
3/3/2020 7:50:00 PM	268.00	1.15
3/3/2020 7:55:00 PM	262.00	1.15
3/3/2020 8:00:00 PM	267.50	1.15
3/3/2020 8:05:00 PM	263.75	1.15
3/3/2020 8:10:00 PM	267.50	1.15
3/3/2020 8:15:00 PM	277.50	1.15
3/3/2020 8:20:00 PM	285.00	1.15
3/3/2020 8:25:00 PM	267.50	1.15

143

3/3/2020 8:30:00 PM	271.25	1.16
3/3/2020 8:35:00 PM	256.25	1.16
3/3/2020 8:40:00 PM	283.75	1.16
3/3/2020 8:45:00 PM	282.50	1.16
3/3/2020 8:50:00 PM	263.75	1.17
3/3/2020 8:55:00 PM	298.75	1.17
3/3/2020 9:00:00 PM	281.25	1.17
3/3/2020 9:05:00 PM	281.25	1.18
3/3/2020 9:10:00 PM	280.00	1.18
3/3/2020 9:15:00 PM	279.00	1.18
3/3/2020 9:20:00 PM	277.50	1.18
3/3/2020 9:25:00 PM	260.00	1.19
3/3/2020 9:30:00 PM	265.00	1.19
3/3/2020 9:35:00 PM	278.75	1.19
3/3/2020 9:40:00 PM	272.50	1.19
3/3/2020 9:45:00 PM	268.75	1.19
3/3/2020 9:50:00 PM	273.75	1.19
3/3/2020 9:55:00 PM	268.75	1.19
3/3/2020 10:00:00 PM	270.00	1.19
3/3/2020 10:05:00 PM	280.00	1.19
3/3/2020 10:10:00 PM	270.00	1.19

3/3/2020 10:15:00 PM	277.50	1.19
3/3/2020 10:20:00 PM	273.75	1.19
3/3/2020 10:25:00 PM	275.00	1.19
3/3/2020 10:30:00 PM	288.75	1.19
3/3/2020 10:35:00 PM	276.25	1.19
3/3/2020 10:40:00 PM	255.00	1.19
3/3/2020 10:45:00 PM	275.00	1.19
3/3/2020 10:50:00 PM	267.00	1.19
3/3/2020 10:55:00 PM	265.00	1.19
3/3/2020 11:00:00 PM	275.00	1.20
3/3/2020 11:05:00 PM	275.00	1.20
3/3/2020 11:10:00 PM	278.75	1.20
3/3/2020 11:15:00 PM	283.75	1.20
3/3/2020 11:20:00 PM	266.25	1.20
3/3/2020 11:25:00 PM	268.75	1.20
3/3/2020 11:30:00 PM	265.00	1.20
3/3/2020 11:35:00 PM	264.00	1.20
3/3/2020 11:40:00 PM	259.00	1.20
3/3/2020 11:45:00 PM	253.75	1.21
3/3/2020 11:50:00 PM	253.75	1.20
3/3/2020 11:55:00 PM	280.00	1.21

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3/4/2020 12:00:00 AM	273.75	1.21
3/4/2020 12:05:00 AM	273.75	1.21
3/4/2020 12:10:00 AM	275.00	1.21
3/4/2020 12:15:00 AM	278.75	1.21
3/4/2020 12:20:00 AM	263.75	1.21
3/4/2020 12:30:00 AM	277.50	1.21
3/4/2020 12:35:00 AM	272.50	1.21
3/4/2020 12:40:00 AM	267.50	1.21
3/4/2020 12:45:00 AM	272.50	1.21
3/4/2020 12:50:00 AM	282.50	1.21
3/4/2020 12:55:00 AM	276.25	1.21
3/4/2020 1:00:00 AM	268.75	1.21
3/4/2020 1:05:00 AM	271.25	1.21
3/4/2020 1:10:00 AM	268.00	1.21
3/4/2020 1:15:00 AM	277.50	1.21
3/4/2020 1:20:00 AM	266.25	1.21
3/4/2020 1:25:00 AM	272.50	1.21
3/4/2020 1:30:00 AM	277.50	1.21
3/4/2020 1:35:00 AM	251.25	1.21
3/4/2020 1:40:00 AM	273.75	1.21
3/4/2020 1:45:00 AM	265.00	1.21

3/4/2020 1:50:00 AM	258.75	1.21
3/4/2020 1:55:00 AM	262.50	1.21
3/4/2020 2:00:00 AM	273.75	1.21
3/4/2020 2:05:00 AM	263.75	1.21
3/4/2020 2:10:00 AM	276.25	1.21
3/4/2020 2:15:00 AM	271.00	1.21
3/4/2020 2:20:00 AM	270.00	1.22
3/4/2020 2:25:00 AM	266.25	1.21
3/4/2020 2:30:00 AM	271.25	1.21
3/4/2020 2:35:00 AM	277.50	1.21
3/4/2020 2:40:00 AM	270.00	1.21
3/4/2020 2:45:00 AM	265.00	1.21
3/4/2020 2:50:00 AM	275.00	1.21
3/4/2020 2:55:00 AM	281.25	1.21
3/4/2020 3:00:00 AM	272.50	1.21
3/4/2020 3:05:00 AM	271.25	1.21
3/4/2020 3:10:00 AM	266.25	1.21
3/4/2020 3:15:00 AM	267.50	1.20
3/4/2020 3:20:00 AM	261.25	1.20
3/4/2020 3:25:00 AM	273.75	1.20
3/4/2020 3:30:00 AM	277.50	1.19

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3/4/2020 3:35:00 AM	274.00	1.19
3/4/2020 3:40:00 AM	273.75	1.19
3/4/2020 3:45:00 AM	272.50	1.18
3/4/2020 3:50:00 AM	276.25	1.18
3/4/2020 3:55:00 AM	273.75	1.18
3/4/2020 4:00:00 AM	282.50	1.18
3/4/2020 4:05:00 AM	278.75	1.17
3/4/2020 4:10:00 AM	280.00	1.17
3/4/2020 4:15:00 AM	273.75	1.17
3/4/2020 4:20:00 AM	268.75	1.17
3/4/2020 4:25:00 AM	268.75	1.17
3/4/2020 4:30:00 AM	270.00	1.17
3/4/2020 4:35:00 AM	291.25	1.16
3/4/2020 4:40:00 AM	280.00	1.16
3/4/2020 4:45:35 AM	285.00	1.16
3/4/2020 4:50:00 AM	280.00	1.16
3/4/2020 4:55:00 AM	291.25	1.16
3/4/2020 5:00:00 AM	291.25	1.16
3/4/2020 5:05:00 AM	281.25	1.16
3/4/2020 5:10:00 AM	280.00	1.15
3/4/2020 5:15:00 AM	288.75	1.16

147

3/4/2020 5:20:00 AM	291.25	1.15
3/4/2020 5:25:00 AM	282.50	1.15
3/4/2020 5:30:00 AM	286.25	1.15
3/4/2020 5:35:00 AM	293.75	1.15
3/4/2020 5:40:00 AM	286.25	1.15
3/4/2020 5:45:00 AM	281.25	1.15
3/4/2020 5:50:00 AM	282.50	1.15
3/4/2020 5:55:00 AM	288.75	1.15
3/4/2020 6:00:00 AM	287.50	1.15
3/4/2020 6:05:00 AM	283.75	1.15
3/4/2020 6:10:00 AM	288.75	1.14
3/4/2020 6:15:00 AM	276.25	1.14
3/4/2020 6:20:00 AM	281.25	1.14
3/4/2020 6:25:00 AM	266.25	1.14
3/4/2020 6:30:00 AM	281.25	1.14
3/4/2020 6:35:00 AM	290.00	1.14
3/4/2020 6:40:00 AM	300.00	1.14
3/4/2020 6:45:00 AM	281.25	1.14
3/4/2020 6:50:00 AM	281.00	1.14
3/4/2020 6:55:00 AM	272.00	1.14
3/4/2020 7:00:00 AM	277.00	1.14

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3/4/2020 7:05:00 AM	278.00	1.14
3/4/2020 7:10:00 AM	281.00	1.14
3/4/2020 7:15:00 AM	285.00	1.14
3/4/2020 7:20:00 AM	287.50	1.14
3/4/2020 7:25:00 AM	287.50	1.14
3/4/2020 7:30:00 AM	280.00	1.14
3/4/2020 7:35:00 AM	282.50	1.14
3/4/2020 7:40:00 AM	287.50	1.15
3/4/2020 7:45:00 AM	284.00	1.15
3/4/2020 7:50:00 AM	278.75	1.15
3/4/2020 7:55:00 AM	285.00	1.16
3/4/2020 8:00:00 AM	280.00	1.16
3/4/2020 8:05:00 AM	281.25	1.16
3/4/2020 8:10:00 AM	292.50	1.16
3/4/2020 8:15:00 AM	277.50	1.16
3/4/2020 8:20:00 AM	285.00	1.17
3/4/2020 8:25:00 AM	282.50	1.17
3/4/2020 8:30:00 AM	282.50	1.17
3/4/2020 8:35:00 AM	285.00	1.17
3/4/2020 8:40:00 AM	282.50	1.17
3/4/2020 8:45:00 AM	280.00	1.17

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3/4/2020 8:50:00 AM	290.00	1.17
3/4/2020 8:55:00 AM	286.25	1.17
3/4/2020 9:00:00 AM	296.25	1.17
3/4/2020 9:05:00 AM	277.50	1.17
3/4/2020 9:10:00 AM	288.75	1.17
3/4/2020 9:15:00 AM	287.50	1.16
3/4/2020 9:20:00 AM	302.50	1.16
3/4/2020 9:25:00 AM	283.75	1.16
3/4/2020 9:30:00 AM	285.00	1.16
3/4/2020 9:35:00 AM	270.00	1.16
3/4/2020 9:40:00 AM	286.25	1.16
3/4/2020 9:45:00 AM	286.25	1.17
3/4/2020 9:50:00 AM	277.50	1.17
3/4/2020 9:55:00 AM	281.00	1.17
3/4/2020 10:00:00 AM	279.00	1.17
3/4/2020 10:05:00 AM	278.75	1.18
3/4/2020 10:10:00 AM	265.00	1.19
3/4/2020 10:15:00 AM	261.25	1.20
3/4/2020 10:20:00 AM	280.00	1.21
3/4/2020 10:25:00 AM	278.75	1.21
3/4/2020 10:30:00 AM	268.75	1.22

3/4/2020 10:35:00 AM	266.25	1.22
3/4/2020 10:40:00 AM	275.00	1.23
3/4/2020 10:45:00 AM	267.50	1.23
3/4/2020 10:50:00 AM	272.50	1.24
3/4/2020 11:00:00 AM	263.75	1.24
3/4/2020 11:05:00 AM	268.75	1.24
3/4/2020 11:15:00 AM	256.25	1.24
3/4/2020 11:20:00 AM	257.00	1.24
3/4/2020 11:25:00 AM	272.50	1.24
3/4/2020 11:30:00 AM	266.25	1.24
3/4/2020 11:35:00 AM	267.50	1.24
3/4/2020 11:40:00 AM	268.00	1.24
3/4/2020 11:45:00 AM	272.50	1.24
3/4/2020 11:50:00 AM	271.25	1.24
3/4/2020 11:55:00 AM	278.75	1.24
3/4/2020 12:00:00 PM	271.25	1.24
3/4/2020 12:05:00 PM	266.25	1.23
3/4/2020 12:10:00 PM	265.00	1.23
3/4/2020 12:15:00 PM	265.00	1.23
3/4/2020 12:20:00 PM	280.00	1.23
3/4/2020 12:25:00 PM	276.25	1.23

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ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 17 of the Environment Protection Act, 1986) New Delhi, Validity 09.02.2017 to 08.02.2022

ವಿರೋಧಾಚಾರ್ಯರ ಹೆಚ್ ಆರ್ ಅಂಡ್ ಸೆಕ್ಯೂರಿಟಿ ಅಂಡ್ ಡೆವಲಪ್‌ಮೆಂಟ್ ಸೆಂಟರ್
 (ಸಂಸ್ಥೆ) ಸಂಖ್ಯೆ 1386 ರೋಡ್ 11 ರೈವೆನ್‌ಡ್ರಾ ಮೆಟ್ರೋಪಾಲಿಟನ್ ಸಿಟಿ ಸಿಟಿ, ಮೈಸೂರು 560 010. ದೂರವಾರ್ತೆ: 09.02.2017 ರಿಂದ 08.02.2022

ಒನ್‌ವಾಟರ್‌ಹೆಲ್ತ್ ಅಂಡ್ ಸೆಕ್ಯೂರಿಟಿ ರಿಸರ್ಚ್ ಅಂಡ್ ಡೆವಲಪ್‌ಮೆಂಟ್ ಸೆಂಟರ್
 (ಸಂಸ್ಥೆ) ಅಧಿಕಾರ, 1386 ಸಂಖ್ಯೆ 12 ನೇ ಹದಿ ನಾಲ್ಕನೇ ಬ್ಲಾಕ್ ಇಂಡಸ್ಟ್ರಿಯಲ್ ಏರ್ಿಯಾ, ಮೈಸೂರು. 09.02.2017 - 08.02.2022

ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018

Test Report

ANALYSIS REPORT OF WATER QUALITY

- 1. Name of the Project : Bangalore Water Supply & Sewerage Board, Bangalore.
- 2. Sample Collected by : M/s. Environmental Health and Safety Research & Development Centre, Bangalore - 560 010.
- 3. Date of Collection : 12.02.2020
- 4. Particulars of Sample Collected : HAL Nals Inlet Water
- 5. Date of Sample Receipt : 13.02.2020
- 6. Sample Number : EHSRDC/BWSSB/WW/20/02/13125
- 7. Analysis started on : 13.02.2020
- 8. Analysis Completed on : 17.02.2020
- 9. Page No. : 1 of 2
- 10. Report to be Sent : 17.02.2020
- 11. Protocol : APHA, 23rd Edition/ IS: Standards.

Sl. No	Parameters	Unit	Results	Test Methods
1.	pH	-	7.10	APHA 4500H+ B
2.	Temperature	°C	26	APHA 2550B
3.	Colour	Hazen	<1	IS 3025(Part 4):1983
4.	Odour	-	Disagreeable	IS 3025(Part 5):1983
5.	Dissolved Oxygen	mg/L	Nil	APHA 4500-O C
6.	Electrical Conductivity	µs/cm	1218	APHA 2510 B
7.	Chloride as Cl	mg/L	118.26	APHA 4500Cl- B
8.	Total Dissolved Solids	mg/L	835	APHA 2540 C
9.	Sulphate as SO ₄	mg/L	54.10	APHA 4500 SO ₄ - E
10.	Total Suspended Solids	mg/L	140	APHA 2540 D
11.	Particulate size of suspended Solids	-	Passes	Sieve Method
12.	BOD (3 Days @ 27°C)	mg/L	140	APHA 5210 B
13.	Chemical Oxygen Demand	mg/L	448	APHA 5220 B
14.	Total Kjeldahl Nitrogen	mg/L	37.02	APHA 4500- Norg B
15.	Ammonical Nitrogen	mg/L	35.90	APHA 4500- NH ₃ B C
16.	Alpha Emitters	Bq/L	BDL	IS 14194 (Part -2): 1994
17.	Beta Emitters	Bq/L	BDL	IS 14194 (Part -1): 1994
18.	Total Residual Chlorine	mg/L	BDL	APHA4500-Cl B
19.	Hexavalent Chromium	mg/L	BDL	APHA3500 Cr B
20.	Cyanide	mg/L	BDL	APHA4500-CN D

(Signature)
Government Analyst

Concern towards protecting Environment

Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.
 ಕಛೇರಿ ವಿಳಾಸ : ಸಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಶಾಮಕ ಕೇಂದ್ರ ಹತ್ತಿರ, ಇಂಡಸ್ಟ್ರಿಯಲ್ ಟೌನ್, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010
 आफिस : स 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंदरवील टाउन, राजाजीनगर, बंगलौर - 560 010
 See NOTE overleaf



ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 12 of the Environment (Protection) Act, 1986) New Delhi, India by 09.02.2017 to 08.02.2022
 (ಪರಿಚಯಿಸಿದ ಅಡಿಯಲ್ಲಿ ಗುರುತಿಸಲಾಗಿದೆ) (Recognized under section 12 of the Environment (Protection) Act, 1986) New Delhi, India by 09.02.2017 to 08.02.2022
एनवायरमेंटल हेल्थ एण्ड सेफ्टी रिसर्च एण्ड डेवಲपमेंट सेंटर
 (परीचयित (संकेत) अधिनियम, 1986 अनुच्छेद 12 के अन्तर्गत प्राप्त प्रमाणपत्र) न्यू दिल्ली, भारत। 09.02.2017 - 08.02.2022
 ISO 9001:2015, ISO 14001:2015 & BS O-5AS 10011:2017

Test Report

Sample Number: EHSRDC/BWSSB/WW/20/02/13125
 Page No: 2 of 2

Sl. No	Parameters	Unit	Results	Test Methods
21.	Dissolved Phosphate	mg/L	0.68	APHA4500-P D
22.	Sulphide as S ₂	mg/L	3.2	APHA4500- S ₂ -E
23.	Free Ammonia	mg/L	13.23	APHA 4500-NH ₃ F
24.	Nitrate Nitrogen as NO ₃ - N	mg/L	5.38	APHA 4500-NO ₃ E
25.	Fluoride as F	mg/L	BDL	APHA 4500F D
26.	Iron as Fe	mg/L	0.36	APHA 3500-Fe B
27.	Nickel as Ni	mg/L	0.012	IS 3025(Part 2):2004 RA-2014
28.	Vanadium	mg/L	0.013	IS 3025(Part 2):2004 RA-2014
29.	Copper as Cu	mg/L	0.106	IS 3025 (Part 2): 2004 RA 2014
30.	Zinc as Zn	mg/L	0.220	IS 3025 (Part 2): 2004 RA 2014
31.	Arsenic as As	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
32.	Selenium as Se	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
33.	Mercury as Hg	mg/L	BDL	IS 3025 (Part 48): 1994 RA 2014
34.	Lead as Pb	mg/L	0.018	IS 3025 (Part 2): 2004 RA 2014
35.	Manganese as Mn	mg/L	0.237	IS 3025 (Part 2): 2004 RA 2014
36.	Total Chromium	mg/L	0.009	IS 3025 (Part 2): 2004 RA 2014
37.	Phenolic Compounds	mg/L	BDL	APHA 5530 C
38.	Cadmium as Cd	mg/L	0.003	IS 3025 (Part 2): 2004 RA 2014
39.	Oil & Grease	mg/L	BDL	APHA 5520 B
40.	Faecal coliform	MPN Index /100ml	240X10 ⁴	APHA 9221 A, B, C, D, E & F

BDL- Below Detectable Limit, BOD- Biochemical Oxygen Demand

End of Report

[Signature]
 Government Analyst

Concern towards protecting Environment

Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.
 ಕಛೇರಿ ವಿಳಾಸ : ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಶಾಮಕ ಕಛೇರಿ ಹತ್ತಿರ, ಇಂಡಿಯಾ ಟೌನ್ ಒಪಿಟಿ, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010
 आफिस : नं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रीयल टाउन, राजाजीनगर, बेंगलूर - 560 010
 Sap NOTE overleaf



ENVIRONMENTAL HEALTH AND SAFETY
RESEARCH & DEVELOPMENT CENTRE
P: 080 23012111/23012112/23012113
F: 080 23012111
E: ehsro@ehsro.com
W: www.ehsro.in

ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
(Recognized under section 12 of the Environment Protection Act, 1986) New Delhi, Validity till 31.03.2022

ವಿರೋಧಾತ್ಮಕವಾಗಿರುವ ಅಂತಹ ಸೇವೆ, ಉತ್ಪಾದನೆ ಅಥವಾ ವಿತರಣೆ ಮಾಡುವ ಸಂಸ್ಥೆ
(ಅಂತರಾಷ್ಟ್ರೀಯ) ಮಾನ್ಯತೆ ಪಡೆದ ಅಂತರಾಷ್ಟ್ರೀಯ ಮಾನಕಗಳನ್ನು ಅಳವಡಿಸಿ, ದಾಖಲೆ ಸಂಖ್ಯೆ: 01.02.2017 ರವರೆಗೆ 31.03.2022

एनवायरमेंटल हेल्थ एण्ड सेफ्टी रिसर्च एण्ड डेवलेपमेंट सेंटर
(परिचालन (संस्था) अधिनियम, 1986 अंतर्गत 12 की शर्त केअनुसार प्रमाणित) नू दिल्ली, मान्यता अवधि: 08.02.2017 - 08.02.2022

ISO 9001 : 2015, ISO 14001 : 2015 & BS OHSAS 18001 : 2007

Test Report

ANALYSIS REPORT OF WATER QUALITY

1. Name of the Project : Bangalore Water Supply & Sewerage Board, Bangalore.
2. Sample Collected by : M/s. Environmental Health and Safety Research & Development Centre, Bangalore - 560 010.
3. Date of Collection : 12.02.2020
4. Particulars of Sample Collected : HAL Nala After Aeration Water
5. Date of Sample Receipt : 13.02.2020
6. Sample Number : EHSRDC/BWSSB/WW/20/02/13126
7. Analysis started on : 13.02.2020
8. Analysis Completed on : 17.02.2020
9. Page No. : 1 of 2
10. Report to be Sent : 17.02.2020
11. Protocol : APHA, 23rd Edition/ IS: Standards

Sl. No	Parameters	Unit	Results	Test Methods
1.	pH	-	7.35	APHA 4500H* B
2.	Temperature	°C	26	APHA 2550B
3.	Colour	Hazen	<1	IS 3025(Part 4):1983
4.	Odeur	-	Disagreeable	IS 3025(Part 5):1983
5.	Dissolved Oxygen	mg/L	Nil	APHA 4500-O C
6.	Electrical Conductivity	µs/cm	1240	APHA 2510 B
7.	Chloride as Cl	mg/L	122.20	APHA 4500Cl- B
8.	Total Dissolved Solids	mg/L	844	APHA 2540 C
9.	Sulphate as SO ₄	mg/L	52.38	APHA 4500 SO ₄ -E
10.	Total Suspended Solids	mg/L	70	APHA 2540 D
11.	Particulate size of suspended Solids	-	Passes	Sieve Method
12.	BOD (3 Days @ 27°C)	mg/L	120	APHA 5210 B
13.	Chemical Oxygen Demand	mg/L	384	APHA 5220 B
14.	Total Kjeldahl Nitrogen	mg/L	37.77	APHA 4500- Norg B
15.	Ammonical Nitrogen	mg/L	36.65	APHA 4500- NH ₃ B C
16.	Alpha Emitters	Bq/L	BDL	IS 14194 (Part -2): 1994
17.	Beta Emitters	Bq/L	BDL	IS 14194 (Part -1): 1994
18.	Total Residual Chlorine	mg/L	BDL	APHA4500-Cl B
19.	Hexavalent Chromium	mg/L	BDL	APHA3500 Cr B
20.	Cyanide	mg/L	BDL	APHA4500-CN D

Government Analyst

Concern towards protecting Environment

Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.

ಓಫೀ ಠಾಡ್ರೆಸ್ : ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗಲುವಿಕೆ ಕಡತದ ಸಮೀಪ, ಇಂಡಸ್ಟ್ರಿಯಲ್ ಟೌನ್, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010

आधीस : नं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रीयल टाऊन, राजाजीनगर, बेंगलूर - 560 010

See NOTE overleaf



ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 12 of the Environment Protection Act, 1986) New Delhi, Verdy 09.02.2017 to 09.02.2022
 ಅರಣ್ಯ ಮತ್ತು ಪರಿಸರ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ಭಾರತ ಸರ್ಕಾರದ ಅಧಿಕಾರ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ
 (Recognized under section 12 of the Environment Protection Act, 1986) New Delhi, Verdy 09.02.2017 to 09.02.2022
एनवायरमेंटल हेल्थ एण्ड सेफ्टी रिसर्च एण्ड डेवलेपमेंट सेंटर
 (Recognized under section 12 of the Environment Protection Act, 1986) New Delhi, Verdy 09.02.2017 to 09.02.2022
 ISO 9001: 2015, ISO 14001: 2015 & BS OHSAS 18001: 2007

Test Report

Sample Number: EHSRDC/BWSSB/WW/20/02/13126
 Page No: 2 of 2

Sl. No	Parameters	Unit	Results	Test Methods
21.	Dissolved Phosphate	mg/L	0.55	APHA4500-P D
22.	Sulphide as S ²⁻	mg/L	3.0	APHA4500- S ²⁻ E
23.	Free Ammonia	mg/L	10.84	APHA 4500-NH ₃ F
24.	Nitrate Nitrogen as NO ₃ - N	mg/L	5.35	APHA 4500-NO ₃ E
25.	Fluoride as F	mg/L	BDL	APHA 4500F D
26.	Iron as Fe	mg/L	0.28	APHA 3500-Fe B
27.	Nickel as Ni	mg/L	0.005	IS 3025(Part 2):2004 RA-2014
28.	Vanadium	mg/L	BDL	IS 3025(Part 2):2004 RA-2014
29.	Copper as Cu	mg/L	0.019	IS 3025 (Part 2): 2004 RA 2014
30.	Zinc as Zn	mg/L	0.017	IS 3025 (Part 2): 2004 RA 2014
31.	Arsenic as As	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
32.	Selenium as Se	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
33.	Mercury as Hg	mg/L	BDL	IS 3025 (Part 48): 1994 RA 2014
34.	Lead as Pb	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
35.	Manganese as Mn	mg/L	0.215	IS 3025 (Part 2): 2004 RA 2014
36.	Total Chromium	mg/L	0.016	IS 3025 (Part 2): 2004 RA 2014
37.	Phenolic Compounds	mg/L	BDL	APHA 5530 C
38.	Cadmium as Cd	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
39.	Oil & Grease	mg/L	BDL	APHA 5520 B
40.	Faecal coliform	MPN index /100ml	170X20*	APHA 9221 A, B, C, D, E & F

BDL- Below Detectable Limit, BOD- Biochemical Oxygen Demand

***End of Report**

Government Analyst

Concern towards protecting Environment
 Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010
 ಕಛೇರಿ ವಿಳಾಸ : ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಶಾಮಕ ಕಛೇರಿ ಹತ್ತಿರ, ಸಾಂಕ್ರಮಿಕ ಕಾರ್ಖಾನೆ, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010
 भारतीय : नं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रियल टाउन, राजाजीनगर, बेंगलूर - 560 010
 See NOTE overleaf



ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 12 of the Environment (Protection) Act, 1986; New Delhi, Validity 09.02.2017 to 08.02.2022)
 ವಿನ್ಯಾಸ ಮತ್ತು ಅಧ್ಯಯನ ಕೇಂದ್ರ, ಪರಿಸರ ಮತ್ತು ಸುರಕ್ಷತೆ ಅಧ್ಯಯನ ಮತ್ತು ಅಭಿವೃದ್ಧಿ ಕೇಂದ್ರ
 (Recognized under section 12 of the Environment (Protection) Act, 1986; New Delhi, Validity 09.02.2017 to 08.02.2022)
 एमवायरमेंटल हेल्थ एण्ड सेफ्टी रिसर्च एण्ड डेवलेपमेंट सेंटर
 (पर्यावरण (संरक्षण) अधिनियम, 1986 अनुच्छेद 12 की पाठ वाक्यांश प्राप्त प्रमाणितता) न्यू दिल्ली, वनता वॉर्ड. 09.02.2017 - 08.02.2022

ISO 9001:2015, ISO 14001:2015 & BS OHSAS 18001:2007

Test Report

Sample Number: EHSRDC/BWSSB/WW/20/02/13129
 Page No: 2 of 2

Sl. No	Parameters	Unit	Results	Test Methods
21.	Dissolved Phosphate	mg/L	1.39	APHA4500-P D
22.	Sulphide as S ²⁻	mg/L	3.4	APHA4500- S ²⁻ -E
23.	Free Ammonia	mg/L	11.09	APHA 4500-NH ₃ F
24.	Nitrate Nitrogen as NO ₃ - N	mg/L	6.42	APHA 4500-NO ₃ E
25.	Fluoride as F	mg/L	BDL	APHA 4500F D
26.	Iron as Fe	mg/L	0.44	APHA 3500-Fe B
27.	Nickel as Ni	mg/L	0.007	IS 3025(Part 2):2004 RA-2014
28.	Vanadium	mg/L	BDL	IS 3025(Part 2):2004 RA-2014
29.	Copper as Cu	mg/L	0.026	IS 3025 (Part 2): 2004 RA 2014
30.	Zinc as Zn	mg/L	0.065	IS 3025 (Part 2): 2004 RA 2014
31.	Arsenic as As	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
32.	Selenium as Se	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
33.	Mercury as Hg	mg/L	BDL	IS 3025 (Part 48): 1994 RA 2014
34.	Lead as Pb	mg/L	0.009	IS 3025 (Part 2): 2004 RA 2014
35.	Manganese as Mn	mg/L	0.113	IS 3025 (Part 2): 2004 RA 2014
36.	Total Chromium	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
37.	Phenolic Compounds	mg/L	BDL	APHA 5530 C
38.	Cadmium as Cd	mg/L	0.003	IS 3025 (Part 2): 2004 RA 2014
39.	Oil & Grease	mg/L	BDL	APHA 5620 B
40.	Faecal coliform	MPN Index /100ml	240X10 ⁴	APHA 9221 A, B, C, D,E & F

BDL- Below Detectable Limit, BOD- Biochemical Oxygen Demand

End of Report

Government Analyst

Concern towards protecting Environment

Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.
 ಕಛೇರಿ ವಿಳಾಸ : ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಶಾಮಕ ಸಂಸ್ಥೆಯ ಹತ್ತಿರ, ಇಂಡಸ್ಟ್ರಿಯಲ್ ಟೌನ್, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010
 भाकीर : सं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इन्डस्ट्रियल टाऊन, राजाजीनगर, बेंगलूर - 560 010
 See NOTE overleaf



ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 12 of the Environment Protection Act, 1986) New Delhi, Verkhay 09.02.2017 to 09.02.2022
 (अनुमोदित अधिनियम 12 के अंतर्गत पर्यावरण संरक्षण अधिनियम, 1986) नई दिल्ली, सत्यापन तिथि: 09.02.2017 से 09.02.2022 तक
एनवायरमेंटल हेल्थ एंड सेफ्टी रिसर्च एंड डेवलपमेंट सेंटर
 (पर्यावरण (संरक्षण) अधिनियम, 1986 अनुभाग 12 के तहत मान्यता प्राप्त प्रयोगशाला) नई दिल्ली, सत्यापन तिथि: 09.02.2017 - 09.02.2022
 ISO 9001:2015, ISO 14001:2015 & BS OHSAS 18001:2007

Test Report

Sample Number: EHSRDC/BWSSB/WW/20/02/13130
 Page No: 2 of 2

Sl. No	Parameters	Unit	Results	Test Methods
21.	Dissolved Phosphate	mg/L	1.94	APHA4500-P D
22.	Sulphide as S ²⁻	mg/L	3.0	APHA4500- S ²⁻ E
23.	Free Ammonia	mg/L	11.63	APHA 4500-NH ₃ F
24.	Nitrate Nitrogen as NO ₃ - N	mg/L	6.85	APHA 4500-NO ₃ E
25.	Fluoride as F	mg/L	BDL	APHA 4500F D
26.	Iron as Fe	mg/L	0.61	APHA 3500-Fe B
27.	Nickel as Ni	mg/L	0.007	IS 3025(Part 2):2004 RA-2014
28.	Vonadium	mg/L	BDL	IS 3025(Part 2):2004 RA-2014
29.	Copper as Cu	mg/L	0.032	IS 3025 (Part 2): 2004 RA 2014
30.	Zinc as Zn	mg/L	0.065	IS 3025 (Part 2): 2004 RA 2014
31.	Arsenic as As	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
32.	Selenium as Se	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
33.	Mercury as Hg	mg/L	BDL	IS 3025 (Part 48): 1994 RA 2014
34.	Lead as Pb	mg/L	0.305	IS 3025 (Part 2): 2004 RA 2014
35.	Manganese as Mn	mg/L	0.138	IS 3025 (Part 2): 2004 RA 2014
36.	Total Chromium	mg/L	0.007	IS 3025 (Part 2): 2004 RA 2014
37.	Phenolic Compounds	mg/L	BDL	APHA 5530 C
38.	Cadmium as Cd	mg/L	0.003	IS 3025 (Part 2): 2004 RA 2014
39.	Oil & Grease	mg/L	BDL	APHA 5520 B
40.	Faecal coliform	MPN Index /100ml	220X10 ⁴	APHA 9221 A, B, C, D,E & F

BDL- Below Detectable Limit, BOD- Biochemical Oxygen Demand

End of Report

Government Analyst

Concern towards protecting Environment

Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.
 ಕಛೇರಿ ವಿಳಾಸ : ನಂ. 13/2, 1^{ನೇ} ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಕಾರ್ಮಿಕ ಕಛೇರಿ ಹತ್ತಿರ, ಇಂಡಸ್ಟ್ರಿಯಲ್ ಟೌನ್, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010
 आधीस : नं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रियल टाउन, राजाजीनगर, बेंगलूर - 560 010
 See NOTE overleaf



ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 12 of the Environment Protection Act, 1986) New Delhi, Validity 09.02.2017 to 08.02.2022
 ಅರಣ್ಯ ಮತ್ತು ಪರಿಸರ ಸಂರಕ್ಷಣೆ ಮತ್ತು ಅಪಾಯ ನಿವಾರಣೆ ಇಲಾಖೆ, ಭಾರತ ಸರ್ಕಾರ
 (ಸಂಖ್ಯೆ: 100/1986) ದಿನಾಂಕ: 1986 ರ 12 ನೇ ಅಧಿನಿಯಮದ ಅಡಿಯಲ್ಲಿ ಸಂರಕ್ಷಿಸಲಾಗಿದೆ
 (ಸಂಖ್ಯೆ: 09.02.2017) ದಿನಾಂಕ: 09.02.2017 - 08.02.2022
एनवायरमेंटल हेल्थ एण्ड सेफ्टी रिसर्च एण्ड डेवलेपमेंट सेंटर
 (प्राधिकृत (संख्या) अधिनियम, 1986 अन्तर्गत 12 की प्रावधानानुसार संरक्षित) नू दिल्ली, प्रमत्तता तारीख: 09.02.2017 - 08.02.2022
 ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018

Test Report

ANALYSIS REPORT OF WATER QUALITY

1. Name of the Project : Bangalore Water Supply & Sewerage Board, Bangalore.
2. Sample Collected by : M/s. Environmental Health and Safety Research & Development Centre, Bangalore - 560 010.
3. Date of Collection : 12.02.2020
4. Particulars of Sample Collected : Agara Y- Junction Inlet Water
5. Date of Sample Receipt : 13.02.2020
6. Sample Number : EHSRDC/BWSSB/ww/20/02/13127
7. Analysis started on : 13.02.2020
8. Analysis Completed on : 17.02.2020
9. Page No. : 1 of 2
10. Report to be Sent : 17.02.2020
11. Protocol : APHA, 23rd Edition/ IS: Standards.

Sl. No	Parameters	Unit	Results	Test Methods
1.	pH		7.08	APHA 4500H- B
2.	Temperature	°C	26	APHA 2550B
3.	Colour	Hazen	<1	IS 3025(Part 4):1983
4.	Odour		Disagreeable	IS 3025(Part 5):1983
5.	Dissolved Oxygen	mg/L	Nil	APHA 4500-O C
6.	Electrical Conductivity	µs/cm	1305	APHA 2510 B
7.	Chloride as Cl ⁻	mg/L	128.11	APHA 4500Cl- B
8.	Total Dissolved Solids	mg/L	887	APHA 2540 C
9.	Sulphate as SO ₄	mg/L	51.52	APHA 4500 SO ₄ ²- E
10.	Total Suspended Solids	mg/L	160	APHA 2540 D
11.	Particulate size of suspended Solids		Passes	Sieve Method
12.	BOD (3 Days @ 27°C)	mg/L	250	APHA 5210 B
13.	Chemical Oxygen Demand	mg/L	768.0	APHA 5220 B
14.	Total Kjeldahl Nitrogen	mg/L	37.14	APHA 4500- Norg B
15.	Ammonical Nitrogen	mg/L	36.09	APHA 4500- NH ₃ B C
16.	Alpha Emitters	Bq/L	BDL	IS 14194 (Part -2): 1994
17.	Beta Emitters	Bq/L	BDL	IS 14194 (Part -1): 1994
18.	Total Residual Chlorine	mg/L	BDL	APHA4500-Cl B
19.	Hexavalent Chromium	mg/L	BDL	APHA3500 Cr B
20.	Cyanide	mg/L	BDL	APHA4500-CN D

(Signature)
Government Analyst

Concern towards protecting Environment
 Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.
 ದಿವರೆದ ವಿಳಾಸ : ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಶಾಮಕ ಕಛೇರಿ ಹತ್ತಿರ, ಇಂಡಿಯಾ ರಬ್ಬರ್ ಟೌನ್, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010
 आफिस : सं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रीयल टाउन, राजाजीनगर, बेंगलोर - 560 010
 See NOTE overleaf



ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 12 of the Environment (Protection) Act, 1986) New Delhi, Validity 09.02.2017 to 08.02.2022
 ವಿಜ್ಞಾನ ಮತ್ತು ಸಂಶೋಧನೆ ಕೇಂದ್ರ
 (Recognized under section 12 of the Environment (Protection) Act, 1986) New Delhi, Validity 09.02.2017 to 08.02.2022
 ಪುನಃನಿರೀಕ್ಷಿಸಿದ ಹೆಲ್ತ್ ಆಂಡ್ ಸೇಫ್ಟಿ ರಿಸರ್ಚ್ ಆಂಡ್ ಡೆವಲಪ್‌ಮೆಂಟ್ ಸೆಂಟರ್
 (Recognized under section 12 of the Environment (Protection) Act, 1986) New Delhi, Validity 09.02.2017 to 08.02.2022
 ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018

Test Report

Sample Number: EHSRDC/BWSSB/WW/20/02/13127
 Page No: 2 of 2

Sl. No	Parameters	Unit	Results	Test Methods
21.	Dissolved Phosphate	mg/L	0.63	APHA4500-P D
22.	Sulphide as S ²⁻	mg/L	4.8	APHA4500-S ²⁻ E
23.	Free Ammonia	mg/L	11.24	APHA 4500-NH ₃ F
24.	Nitrate Nitrogen as NO ₃ - N	mg/L	6.16	APHA 4500-NO ₃ E
25.	Fluoride as F	mg/L	BDL	APHA 4500F D
26.	Iron as Fe	mg/L	0.42	APHA 3500-Fe B
27.	Nickel as Ni	mg/L	0.014	IS 3025(Part 2):2004 RA-2014
28.	Vanadium	mg/L	0.007	IS 3025(Part 2):2004 RA-2014
29.	Copper as Cu	mg/L	0.201	IS 3025 (Part 2): 2004 RA 2014
30.	Zinc as Zn	mg/L	0.149	IS 3025 (Part 2): 2004 RA 2014
31.	Arsenic as As	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
32.	Selenium as Se	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
33.	Mercury as Hg	mg/L	BDL	IS 3025 (Part 48): 1994 RA 2014
34.	Lead as Pb	mg/L	0.025	IS 3025 (Part 2): 2004 RA 2014
35.	Manganese as Mn	mg/L	0.211	IS 3025 (Part 2): 2004 RA 2014
36.	Total Chromium	mg/L	0.011	IS 3025 (Part 2): 2004 RA 2014
37.	Phenolic Compounds	mg/L	BDL	APHA 5530 C
38.	Cadmium as Cd	mg/L	0.006	IS 3025 (Part 2): 2004 RA 2014
39.	Oil & Grease	mg/L	BDL	APHA 5520 B
40.	Faecal coliform	MPN Index /100ml	280X10 ⁴	APHA 9221 A, B, C, D,E & F

BDL- Below Detectable Limit, BOD- Biochemical Oxygen Demand

End of Report

Government Analyst

Concern towards protecting Environment

Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.
 ಕಛೇರಿ ವಿಳಾಸ: ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಶಾಮಕ ಕಛೇರಿ ಹತ್ತಿರ, ಅರಣ್ಯೋಪವಿಳಿ, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010
 आफिसीत : नं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रीयल टाऊन, राजाजीनगर, बेंगलोर - 560 010
 See NOTE overleaf


ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE

(Recognized under section 12 of the Environment (Protection) Act, 1986) New Delhi, Validity 09.02.2017 to 08.02.2022
 ನವಿರಾಜ್ ಮೆಟಲ್ ಹೆಲ್ತ್ ಅಂಡ್ ಸೇಫ್ಟಿ ರಿಸರ್ಚ್ ಅಂಡ್ ಡೆವಲಪ್ ಮೆಂಟ್ ಸೆಂಟರ್
 (ಜಾರಿ (ವಿವೇಕ) ಕಾಯ್ದೆ, 1986 ರ ಉ-12 ರ ಅಡಿಯಲ್ಲಿ ಕಂಡು ಬಂದಿದೆ) ನವ ದೆಹಲಿ, ದೃಢೀಕರಣ ಅವಧಿ: 09.02.2017 ರಿಂದ 08.02.2022

ಉದ್ಯೋಗ (ರಾಜ್ಯ) ಸುರಕ್ಷತೆ, 1986 ಅನ್ವಯ 12-ನೇ ಪಾಠ ಅನ್ವಯಿಷಾ ಪ್ರಮಾಣಪತ್ರ) ನ್ಯು ದೆಹಲಿ, ವಾಲ್ಯಿಡಿಟಿ ಪೀರಿಯಡ್: 09.02.2017 - 08.02.2022

ISO 9001:2015, ISO 14001:2015 & BS OHSAS 18001:2007

Test Report
ANALYSIS REPORT OF WATER QUALITY

1. Name of the Project : Bangalore Water Supply & Sewerage Board, Bangalore.
2. Sample Collected by : M/s. Environmental Health and Safety Research & Development Centre, Bangalore - 560 010.
3. Date of Collection : 12.02.2020
4. Particulars of Sample Collected : Agara V- Junction Outlet Water
5. Date of Sample Receipt : 13.02.2020
6. Sample Number : EHSRDC/BWSSB/WW/20/02/13128
7. Analysis started on : 13.02.2020
8. Analysis Completed on : 17.02.2020
9. Page No. : 1 of 2
10. Report to be Sent : 17.02.2020
11. Protocol : APHA, 23rd Edition/ IS: Standards.

Sl. No	Parameters	Unit	Results	Test Methods
1.	pH	-	7.47	APHA 4500H* B
2.	Temperature	°C	26	APHA 2550B
3.	Colour	Hazen	<1	IS 3025(Part 4):1983
4.	Odour	-	Disagreeable	IS 3025(Part 5):1983
5.	Dissolved Oxygen	mg/L	Nil	APHA 4500-O C
6.	Electrical Conductivity	µs/cm	1423	APHA 2510 B
7.	Chloride as Cl ⁻	mg/L	159.65	APHA 4500Cl ⁻ B
8.	Total Dissolved Solids	mg/L	887	APHA 2540 C
9.	Sulphate as SO ₄	mg/L	56.43	APHA 4500 SO ₄ ²⁻ E
10.	Total Suspended Solids	mg/L	138	APHA 2540 D
11.	Particulate size of suspended Solids	-	Passes	Sieve Method
12.	BOD (3 Days @ 27°C)	mg/L	180	APHA 5210 B
13.	Chemical Oxygen Demand	mg/L	544.0	APHA 5220 B
14.	Total Kjeldahl Nitrogen	mg/L	42.07	APHA 4500- Norg B
15.	Ammonical Nitrogen	mg/L	41.32	APHA 4500- NH ₃ B C
16.	Alpha Emitters	Bq/L	BDL	IS 14194 (Part-2): 1994
17.	Beta Emitters	Bq/L	BDL	IS 14194 (Part-1): 1994
18.	Total Residual Chlorine	mg/L	BDL	APHA4500-Cl ⁻ B
19.	Hexavalent Chromium	mg/L	BDL	APHA3500 Cr B
20.	Cyanide	mg/L	BDL	APHA4500-CN D

Government Analyst

Concern towards protecting Environment

Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.

ಕಛಿರಿ ವಿಳಾಸ: ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅ/ಉದ್ಯೋಗ ಕಛಿರಿ ಕಛಿರಿ, ಇಂಡುಸ್ಟ್ರಿಯಲ್ ಟೌನ್, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010

आफिस : नं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रीयल टाउन, राजाजीनगर, बेंगलूर - 560 010

See NOTE overleaf

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ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 13 of the Environment (Protection) Act, 1986) New Delhi, Validity 09.02.2017 to 08.02.2022
 ವಿಸ್ತೃತವಾಗಿ ಮಂಜೂರು ಮಾಡಿದ ಅಂತರ ರಾಷ್ಟ್ರೀಯ ಅಂತರ ದೂರವಿಜ್ಞಾನ ಕೇಂದ್ರ
 (ಮಂಡು (ಸಂಸ್ಥೆ) ಸಂಖ್ಯೆ: 1886 ರ 12 ನೇ ಅಧ್ಯಕ್ಷರ ಕಡತ ಪ್ರಮಾಣಪತ್ರ) ನವ ದೆಹಲಿ, ಮುಕ್ತಾಯ ತಾರೀಖು: 09.02.2017 ರಿಂದ 08.02.2022
 ಉಪವಾಯು ಮತ್ತು ಸುರಕ್ಷತೆ ಅಧ್ಯಯನ ಕೇಂದ್ರ
 (ಸಂಸ್ಥೆ (ಸಂಖ್ಯೆ) ಸಂಖ್ಯೆ: 1886 ಅಧ್ಯಯನ 12 ನೇ ಭಾಗ ಸಂಖ್ಯೆ ಪ್ರಮಾಣಪತ್ರ) ನವ ದೆಹಲಿ, ಮುಕ್ತಾಯ ತಾರೀಖು: 09.02.2017 - 08.02.2022

ISO 9001 : 2015, ISO 14001 : 2015 & BS OHSAS 18001 : 2007

Test Report

Sample Number: EHSRDC/BWSSB/WW/20/02/13128

Page No: 2 of 2

Sl. No	Parameters	Unit	Results	Test Methods
21.	Dissolved Phosphate	mg/L	0.71	APHA4500-P D
22.	Sulphide as S ²⁻	mg/L	3.6	APHA4500- S ²⁻ E
23.	Free Ammonia	mg/L	11.05	APHA 4500-NH ₃ F
24.	Nitrate Nitrogen as NO ₃ - N	mg/L	6.16	APHA 4500-NO ₃ E
25.	Fluoride as F	mg/L	BDL	APHA 4500F D
26.	Iron as Fe	mg/L	0.42	APHA 3500-Fe B
27.	Nickel as Ni	mg/L	0.011	IS 3025(Part 2):2004 RA-2014
28.	Vanadium	mg/L	BDL	IS 3025(Part 2):2004 RA-2014
29.	Copper as Cu	mg/L	0.059	IS 3025 (Part 2): 2004 RA 2014
30.	Zinc as Zn	mg/L	0.077	IS 3025 (Part 2): 2004 RA 2014
31.	Arsenic as As	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
32.	Selenium as Se	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
33.	Mercury as Hg	mg/L	BDL	IS 3025 (Part 48): 1994 RA 2014
34.	Lead as Pb	mg/L	0.013	IS 3025 (Part 2): 2004 RA 2014
35.	Manganese as Mn	mg/L	0.184	IS 3025 (Part 2): 2004 RA 2014
36.	Total Chromium	mg/L	0.011	IS 3025 (Part 2): 2004 RA 2014
37.	Phenolic Compounds	mg/L	BDL	APHA 5530 C
38.	Cadmium as Cd	mg/L	0.004	IS 3025 (Part 2): 2004 RA 2014
39.	Oil & Grease	mg/L	BDL	APHA 5520 B
40.	Faecal coliform	MPN Index /100ml	220X10 ⁴	APHA 9221 A, B, C, D,E & F

BDL- Below Detectable Limit, BOD- Biochemical Oxygen Demand

End of Report

Government Analyst

Concern towards protecting Environment

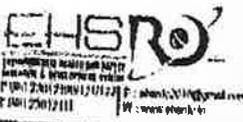
Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.

ಕಛೇರಿ ವಿಳಾಸ: ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಶಾಮಕ ಕಛೇರಿ ಹತ್ತಿರ, ಇಂಡಸ್ಟ್ರಿಯಲ್ ಟೌನ್, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010

आफिस : सं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रीयल टाउन, राजाजीनगर, बेंगलूर - 560 010

See NOTE overleaf

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ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
(Incorporated under section 13 of the Government (Public Trust) Act, 1950; New Delhi, India; 09.02.2017 to 08.02.2022)
 ವಿಜ್ಞಾನ ಮತ್ತು ಸಂಶೋಧನೆ ಕೇಂದ್ರ
 (ಜಿ.ಎಸ್.ಆರ್.ಡಿ.ಸಿ.) ಮತ್ತು 1950 ರ ಅಧಿನಿಯಮದ ಅಡಿಯಲ್ಲಿ ಸಂಸ್ಥಾಪಿಸಲಾಗಿದೆ, ನವ ದೆಹಲಿ, ಭಾರತ, 09.02.2017 ರಿಂದ 08.02.2022
 एमहासुरमेंटर हेसय एचर सेवटी रिगर्न एचर डेवलेपमेंट सेंटर
(एन.ए.एस.डी.सी.) और 1950 के अधिनियम 17 की शर्तों के अंतर्गत संस्थापित, नई दिल्ली, भारत, 09.02.2017 - 08.02.2022

ISO 9001:2015 ISO 14001:2015 & ISO 45001:2018 2007

Test Report

ANALYSIS REPORT OF WATER QUALITY

- | | |
|------------------------------------|--|
| 1. Name of the Project | : Bangalore Water Supply & Sewerage Board, Bangalore. |
| 2. Sample Collected by | : M/s. Environmental Health and Safety Research & Development Centre, Bangalore - 560 010. |
| 3. Date of Collection | : 12.02.2020 |
| 4. Particulars of Sample Collected | : Bellandur STP Outlet Water |
| 5. Date of Sample Receipt | : 13.02.2020 |
| 6. Sample Number | : EHSRO/BJWSB/WW/20/02/13134 |
| 7. Analysis started on | : 13.02.2020 |
| 8. Analysis Completed on | : 17.02.2020 |
| 9. Page No. | : 1 of 2 |
| 10. Report to be Sent | : 17.02.2020 |
| 11. Protocol | : APHA, 23 rd Edition/ IS Standards. |

Sl. No	Parameters	Unit	Results	Test Methods
1.	pH	-	7.37	APHA 4500H ⁺ B
2.	Temperature	°C	26	APHA 2550B
3.	Colour	Hazen	<1	IS 3025(Part 4) 1983
4.	Odour	-	Disagreeable	IS 3025(Part 5) 1983
5.	Dissolved Oxygen	mg/L	Nil	APHA 4500-O C
6.	Electrical Conductivity	µs/cm	1474	APHA 2510 B
7.	Chloride as Cl ⁻	mg/L	167.53	APHA 4500Cl ⁻ B
8.	Total Dissolved Solids	mg/L	992	APHA 2540 C
9.	Sulphate as SO ₄	mg/L	83.98	APHA 4500 SO ₄ ²⁻ E
10.	Total Suspended Solids	mg/L	120	APHA 2540 D
11.	Particulate size of suspended Solids	-	Passes	Sieve Method
12.	BOD (3 Days @ 27°C)	mg/L	250	APHA 5210 B
13.	Chemical Oxygen Demand	mg/L	768	APHA 5220 B
14.	Total Kjeldahl Nitrogen	mg/L	37.14	APHA 4500-Norg B
15.	Ammonical Nitrogen	mg/L	36.27	APHA 4500- NH ₃ B C
16.	Alpha Emitters	Bq/L	BDL	IS 14194 (Part -2): 1994
17.	Beta Emitters	Bq/L	BDL	IS 14194 (Part -1): 1994
18.	Total Residual Chlorine	mg/L	BDL	APHA4500-Cl ⁻ B
19.	Hexavalent Chromium	mg/L	BDL	APHA3500 Cr B
20.	Cyanide	mg/L	BDL	APHA4500-CN D

[Signature]
Government Analyst

Concern towards protecting Environment

Office Address : No.13/2, 1st Main Road, Near Fire Station, Industrial Town, Rajajinagar, Bangalore - 560 010.
 ಕಛೇರಿ ವಿಳಾಸ : ನಂ. 13/2, 1ನೇ ಮುಖ್ಯ ರಸ್ತೆ, ಅಗ್ನಿಶಾಮಕ ಕಛೇರಿ ಹತ್ತಿರ, ಇಂಡಸ್ಟ್ರಿಯಲ್ ಟೌನ್, ರಾಜಾಜಿನಗರ, ಬೆಂಗಳೂರು - 560 010
 आफीस : सं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रीयल टाउन, राजाजीनगर, बेंगलूर - 560 010
 See NOTE overleaf



ENVIRONMENTAL HEALTH AND SAFETY RESEARCH AND DEVELOPMENT CENTRE
 (Recognized under section 13 of the Environment (Protection) Act, 1986) New Delhi, India. 09.02.2017 to 08.02.2022
 (ವಿಶ್ವವಿದ್ಯಾಲಯದ ಅಡಿಯಲ್ಲಿ ಗುರುತಿಸಲಾಗಿದೆ) (Recognized under section 13 of the Environment (Protection) Act, 1986) New Delhi, India. 09.02.2017 to 08.02.2022
एनवायरमेंटल हेल्थ एण्ड सेफ्टी रिसर्च एण्ड डेवेलपमेंट सेंटर
 (विश्वविद्यालय) अधीन, 1986 अधिनियम 12 की धारा 13 के तहत प्रमाणित) न्यू दिल्ली, भारत 09.02.2017 - 08.02.2022
 ISO 9001 : 2015, ISO 14001 : 2015 & BS OHSAS 18001 : 2007

Test Report

Sample Number: EHSRDC/BWSSB/WW/20/02/1313-
 Page No: 2 of 2

Sl No	Parameters	Unit	Results	Test Methods
21.	Dissolved Phosphate	mg/L	0.95	APHA4500-P D
22.	Sulphide as S ²⁻	mg/L	2.6	APHA4500- S ²⁻ E
23.	Free Ammonia	mg/L	11.35	APHA 4500-NH ₃ F
24.	Nitrate Nitrogen as NO ₃ - N	mg/L	6.24	APHA 4500-NO ₃ E
25.	Fluoride as F	mg/L	BDL	APHA 4500F D
26.	Iron as Fe	mg/L	0.44	APHA 3500-Fe B
27.	Nickel as Ni	mg/L	0.012	IS 3025(Part 2):2004 RA-2014
28.	Vanadium	mg/L	0.014	IS 3025(Part 2):2004 RA-2014
29.	Copper as Cu	mg/L	0.027	IS 3025 (Part 2): 2004 RA 2014
30.	Zinc as Zn	mg/L	0.096	IS 3025 (Part 2): 2004 RA 2014
31.	Arsenic as As	mg/L	0.008	IS 3025 (Part 2): 2004 RA 2014
32.	Selenium as Se	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
33.	Mercury as Hg	mg/L	BDL	IS 3025 (Part 48): 1994 RA 2014
34.	Lead as Pb	mg/L	0.014	IS 3025 (Part 2): 2004 RA 2014
35.	Manganese as Mn	mg/L	0.202	IS 3025 (Part 2): 2004 RA 2014
36.	Total Chromium	mg/L	0.006	IS 3025 (Part 2): 2004 RA 2014
37.	Phenolic Compounds	mg/L	BDL	APHA 5530 C
38.	Cadmium as Cd	mg/L	BDL	IS 3025 (Part 2): 2004 RA 2014
39.	Oil & Grease	mg/L	BDL	APHA 5520 B
40.	Faecal coliform	MPN Index /100ml	260X10 ⁴	APHA 9221 A, B, C, D, E & F

BDL- Below Detectable Limit, BOD- Biochemical Oxygen Demand

End of Report

Government Analyst

Concern towards protecting Environment

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 आधील : सं 13/2, पहली मुख्य सड़क, फायर स्टेशन के पास, इंडस्ट्रियल टाउन, राजाजीनगर, बेंगलूर - 560 010

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Government of Karnataka

No. HFW 54 CGM 2020

Karnataka Government Secretariat
Vidhana Soudha
Bengaluru, dated 23.03.2020.

ORDER

Read : Order Covid-19 dated: 13.03.2020, revised order dated: 20.03.2020 and addendum order dated: 21.03.2020 bearing the same number.

It is imperative to adopt strict social distancing and isolation measures to contain the spread of Covid-19 which is playing havoc across the world including India. Karnataka has witnessed more than 20 Covid-19 positive cases and 1 death. Most of the positive cases are from Bangalore Urban & Bangalore Rural, Kalaburagi, Chikkaballapur districts and one case each has been reported from Mysuru, Madikeri, Dharwad, Belagavi and Mangaluru districts.

2. Whereas, Government of Karnataka in exercise of the powers conferred under Sec.2,3 & 4 of the Epidemic Diseases Act, 1897 (Central Act 3 of 1897 & Mysuru Act II of 1897) under Sec.16 of the Hyderabad Infectious Disease Act, 1950 (Hyderabad Act XII of 1950) has framed The Karnataka Epidemic Diseases (Covid-19) Regulations 2020.

3. Therefore, now in exercise of its powers under Section 2 of the Epidemic Diseases Act, 1897 read with enabling provisions of the Disaster Management Act, 2005, the Government of Karnataka hereby notifies that the following restrictions shall be imposed in the territorial jurisdiction of the revenue districts of Bangalore Urban including BBMP area, Bangalore Rural, Kalaburagi, Chikkaballapur, Mysuru, Madikeri, Dharwad, Mangaluru and Belagavi from 00.00 hrs of 23.03.2020 to 00.00 hrs of 01.04.2020:

- a) All shops, commercial establishments, Offices, workshops, godowns dealing shall close their operations subject to the exceptions mentioned below.
- b) All industries and factories except those dealing with essential goods and services, food, medical equipment, drugs, fuel, agricultural inputs etc. shall remain closed. They are advised not to remove any worker on this account and advised to sanction paid leave on these days to the remaining workers.
- c) All foreign returnees shall remain in strict home quarantine. Violation of home quarantine will entail penal action and shift to Government quarantine.
- d) All gatherings of more than 5 persons shall be prohibited in public places except for purposes of containment of Covid 19 and statutory and regulatory functions.

- e) All prayers gatherings and festival gatherings of all religions shall be stopped.
- f) All Information Technology & Bio-Technology units will ensure work from home except where it is not feasible to do so and in respect of the units and staff dealing with critical and essential services.
- g) All passenger transport services including Inter-State, inter-district and within the district operations of Road Transport Corporations and Private Operations shall be stopped.
- h) Plying of private vehicles shall be permitted only for procuring essential commodities and exceptions permitted in this order.
- i) All Ola, Uber, taxis, autorikshaws and other hired services shall not be permitted for passenger transport except for procuring essential commodities and medical emergencies.
- j) All Government offices dealing with non-essential services as notified by Government shall remain closed.
- k) State borders with other neighbouring States shall remain closed for inbound passenger movement in passenger transport, heavy and light, vehicles except in cases of medical emergencies and unavoidable circumstances.
- l) The restrictions imposed by earlier orders shall continue in force to the extent they are not modified by this order.

4. However, the following goods and services providing essential services shall be excluded from the operation of the above restrictions :

- a) Food, ration shops, milk, vegetables, groceries, meat, fish, fruit, wholesale and retail markets and shops
- b) Petrol Bunks, gas, LPG, oil agencies and related godowns
- c) Transport of all goods.
- d) Hospitals, clinics, pharmacies, optical stores, diagnostic centres and other health and medical related shops, establishments, godowns, factories.
- e) Police & Fire Services
- f) ULBs & Panchayati Raj Institutions offices, postal services.
- g) Government offices dealing with essential services as notified by Government.
- h) Electricity, Water & Municipal services
- i) Bank teller services, ATMs, Telecom, internet, cable services
- j) E Commerce/home delivery of goods and services.
- k) Take away/home delivery from the restaurants
- l) Canteen services provided by Government & Local bodies.
- m) Print and electronic media
- n) Security services including private security services
- o) Drinking water production, supply and distribution in bulk and in containers.
- p) Bus Stations, Railway Station, Airports and allied services.
- q) Transport of passengers to and from Hospitals, railway stations, bus stations, Airports.
- r) Private establishments required for efforts to contain COVID-19 including for production of drugs, masks, PPEs etc.
- s) Production and manufacturing units which are in continuous process mode

5. Commissioner, BBMP, Deputy Commissioners, Police Commissioners and officers authorised by them, are authorised to relax these conditions if unnecessary hardship is being caused to the public.

6. Commissioner, BBMP, Deputy Commissioners, Police Commissioners of the Cities in these districts, Commissioners/Chief Officers of all Municipal Corporations/Municipalities, Superintendents of Police, CEOs of Zilla Panchayats, PDOs of Gram Panchayats, RTOs shall take all necessary actions for enforcement and implementation of these measures. Officers and staff of all departments and State public sector undertakings of these districts shall assist the above officers in ensuring strict compliance.

7. Any person, institution, organisation violating any provisions of these regulations shall be proceeded against by the competent authorities empowered under the Epidemic Diseases Act, the Disaster Management Act, Section 188 of the Indian Penal Code and other relevant Codes, Acts.

8. No suit or legal proceedings shall lie against any person for anything done or intended to be done in good faith under this order.



(T.M. Vijay Bhaskar)

Chief Secretary to Government of Karnataka.

- 1.
2. All Additional Chief Secretaries / Principal Secretaries / Secretaries
3. Director General of Police, Police department
4. Commissioner, Health & Family Welfare Services
5. Mission Director, National Health Mission
6. All Commissioners, BBMP, Metropolitan Corporation / All Municipal Commissioners, City Municipal Councils / Chief Officers, Town Municipal Councils
7. All Deputy Commissioners
8. All Police Commissioners / Police Superintendents
9. All Chief Executive Officers, Zilla Panchayat
10. All Dean & Directors, Medical Colleges
11. All District Health & Family Welfare Officers
12. All District Surgeons, District Hospital
13. The Commissioner, Department of Information and Public relation, for wide publicity
14. O.S.D. SSU Covid-19 15. Special Officer, I E C & J D ABAK.

Guidelines on the measures to be taken by Ministries/ Departments of Government of India, State/Union Territory Governments and State/ Union Territory Authorities for containment of COVID-19 Epidemic In the Country.

1. Offices of the Government of India, its Autonomous/ Subordinate Offices and Public Corporations shall remain closed.

Exceptions:

Defence, central armed police forces, treasury, public utilities (including petroleum, CNG, LPG, PNG), disaster management, power generation and transmission units, post offices, National Informatics Centre, Early Warning Agencies

2. Offices of the State/ Union Territory Governments, their Autonomous Bodies, Corporations, etc. shall remain closed.

Exceptions:

- a. Police, home guards, civil defence, fire and emergency services, disaster management, and prisons.
- b. District administration and Treasury
- c. Electricity, water, sanitation
- d. Municipal bodies—Only staff required for essential services like sanitation, personnel related to water supply etc

The above offices (Sl No 1 & 2) should work with minimum number of employees. All other offices may continue to work-from-home only.

3. Hospitals and all related medical establishments, including their manufacturing and distribution units, both in public and private sector, such as dispensaries, chemist and medical equipment shops, laboratories, clinics, nursing homes, ambulance etc. will continue to remain functional. The transportation for all medical personnel, nurses, para-medical staff, other hospital support services be permitted.

4. Commercial and private establishments shall be closed down.

Exceptions:

- a. Shops, including ration shops (under PDS), dealing with food, groceries, fruits and vegetables, dairy and milk booths, meat and fish, animal fodder. However, district authorities may encourage and facilitate home delivery to minimize the movement of individuals outside their homes.
- b. Banks, insurance offices, and ATMs.
- c. Print and electronic media
- d. Telecommunications, internet services, broadcasting and cable services. IT and IT enabled Services only (for essential services) and as far as possible to work from home.
- e. Delivery of all essential goods including food, pharmaceuticals, medical equipment through E-commerce.

- f. Petrol pumps, LPG, Petroleum and gas retail and storage outlets.
- g. Power generation, transmission and distribution units and services.
- h. Capital and debt market services as notified by the Securities and Exchange Board of India
- l. Cold storage and warehousing services.
- j. Private security services

All other establishments may work-from-home only.

5. Industrial Establishments will remain closed.

Exceptions:

- a. Manufacturing units of essential commodities.
- b. Production units, which require continuous process, after obtaining required permission from the State Government

6. All transport services – air, rail, roadways – will remain suspended.

Exceptions:

- a. Transportation for essential goods only.
- b. Fire, law and order and emergency services.

7. Hospitality Services to remain suspended

Exceptions:

- a. Hotels, homestays, lodges and motels, which are accommodating tourists and persons stranded due to lockdown, medical and emergency staff, air and sea crew.
- b. Establishments used/ earmarked for quarantine facilities.

8. All educational, training, research, coaching institutions etc. shall remain closed.

9. All places of worship shall be closed for public. No religious congregations will be permitted, without any exception.

10. All social/ political/ sports/ entertainment/ academic/ cultural/ religious functions / gatherings shall be barred.

11. In case of funerals, congregation of not more than twenty persons will be permitted.

12. All persons who have arrived into India after 15.02.2020, and all such persons who have been directed by health care personnel to remain under strict home/ institutional quarantine for a period as decided by local Health Authorities, failing which they will be liable to legal action under Sec. 188 of the IPC.

13. Wherever exceptions to above containment measures have been allowed, the organisations/employers must ensure necessary precautions against COVID-19

virus, as well as social distance measures, as advised by the Health Department from time to time.

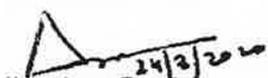
14. In order to implement these containment measures, the District Magistrate will deploy Executive Magistrates as Incident Commanders in the respective local jurisdictions. The Incident Commander will be responsible for the overall implementation of these measures in their respective jurisdictions. All other line department officials in the specified area will work under the directions of such Incident commander. The Incident Commander will issue passes for enabling essential movements as explained.

15. All enforcing authorities to note that these strict restrictions fundamentally relate to movement of people, but not to that of essential goods.

16. The Incident Commanders will in particular ensure that all efforts for mobilisation of resources, workers and material for augmentation and expansion of hospital infrastructure shall continue without any hindrance.

17. Any person violating these containment measures will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005, besides legal action under Sec. 188 of the IPC (as per Appendix).

18. The above containment measures will remain in force, in all parts of the country, for a period of 21 days with effect from 25.03.2020.


Union Home Secretary



GOVERNMENT OF KARNATAKA

No. RD 158 TNR 2020

Karnataka Government Secretariat,
Vidhana Soudha,
Bengaluru, Dated: 13-07-2020

ORDER

Whereas, the State Government vide Order No. RD 158 TNR 2020, dated 30.06.2020, issued Unlock 2 guidelines for the entire State which permits re-opening of more activities in a calibrated manner, in areas outside the Containment Zones, and to extend lockdown in Containment Zones upto 31.07.2020. These guidelines will continue to be enforced throughout the State with the additional restrictions imposed under this order in Bengaluru Area.

Whereas, there has been a surge in COVID 19 positive cases in Bengaluru area, particularly in the last two weeks.

Whereas, the Experts have examined the matter in detail and have suggested taking further stringent measures to contain the spread of COVID 19.

Hence, in exercise of the powers, conferred under Section 24 (I) of the Disaster Management Act, 2005, the undersigned, in the capacity of Chairman, State Executive Committee, hereby orders Lockdown of Bengaluru area comprising of BBMP area, Bengaluru Urban District and Bengaluru Rural District, to combat the spread of COVID 19, for a period of 7 days with effect from 8 pm on 14.07.2020 to 5 am on 22.07.2020. The guidelines on Lockdown are annexed for strict implementation by the Commissioner, BBMP, Commissioner of Police, Bengaluru, Deputy Commissioners of Bengaluru Urban and Bengaluru Rural districts, and Superintendent of Police of Bengaluru Rural District.

T. M. Vijay Bhaskar

(T. M. VIJAY BHASKAR)
Chief Secretary and Chairman,
State Executive Committee

To:

The Compiler, Karnataka Gazette, Bengaluru

**Guidelines for Lockdown in Bengaluru area (comprising of BBMP,
Bengaluru Urban and Rural districts)**

(Order No. RD 158 TNR 2020, dated 13-07-2020)

1. Lockdown shall continue to remain in force upto 5 am on 22nd July, 2020.
2. **Offices of the State Government and their Autonomous Bodies, Corporations, etc. shall remain closed.**
Exceptions (outside containment zone):
 - a. Health, Medical Education, Police, Home Guards, Civil Defence, Fire and Emergency Services, Disaster Management, BBMP, and Prisons.
 - b. All offices operating and maintaining essential services such as Electricity, Water, Sanitation, etc.
 - c. BBMP and Subordinate Offices, Bengaluru Urban and Bengaluru Rural DC and Subordinate Offices.
 - d. Secretariat Offices in Vidhana Soudha, Vikas Soudha and MS Building with 50% strength.
 - e. Courts and Offices related to judicial work shall operate as per the existing guidelines issued by the Hon'ble High Court.
 - f. All Offices, Officers, staff deputed for COVID related work.
 - g. Offices and volunteers of NGO's deployed by BBMP and Deputy Commissioners of Bengaluru Rural and Urban District for COVID 19 related work
 - h. Treasury offices.

All other offices shall encourage their staff to work from home.

3. **Offices of the Government of India, its Autonomous/ Subordinate Offices and Public Corporations shall remain closed.**
Exceptions (outside containment zone):
 - a. Defence, Defence PSUs, central armed police forces, and Telecommunication.
 - b. Offices operating and maintaining essential services.
 - c. Treasury (including, Pay & Accounts Offices, Financial Advisers and field offices of the Controller General of Accounts, with bare minimum staff).
 - d. Public utilities (including petroleum, CNG, LPG, PNG), power generation and transmission units, post offices, Disaster management and Early Warning Agencies.
 - e. National Informatics Centre.
 - f. Customs clearance at airports/land border, GSTN; and MCA 21 Registry with bare minimum staff.
 - g. Banks, Reserve Bank of India and RBI regulated financial markets and entities like NPCI, CCIL, payment system operators and standalone primary dealers with bare minimum staff.

4. All health Services(including AYUSH and Veterinary Hospitals) to remain functional, such as: (outside containment zone)

- a. All hospitals nursing homes, clinics, labs, collection centers, Telemedicine facilities, dispensaries, pharmacies, chemist, Jan Aushadhi Kendras, home care providers and all kinds of medicine shops including medical equipment shops.
- b. All pharmaceutical and research labs.
- c. All manufacturing units of drugs, pharmaceuticals, medical devices, medical oxygen, their packing material, raw material and intermediates.
- d. All construction pertaining to medical/health infrastructure.
- e. Movement (inter and intra State, inter and intra district) of all medical, paramedics, nurses, scientists, lab technicians, mid-wives and other hospital support services.

5. Agriculture and related activities(outside containment zone):

I. All agriculture and horticulture activities to remain fully functional, such as(outside containment zone):

- a. Farming operations by farmers and farm workers in field.
- b. Agencies engaged in procurement of agriculture products, including MSP operations.
- c. All Mandis, vegetable and fruit markets, e-marketing, direct marketing of vegetable and fruits or by industries directly by group of farmers/group of farmers, FPOs's Co-operative, etc.
- d. Shops of agriculture machinery, its spare parts (including its supply chain) and repairs to remain open.
- e. "Custom Hiring Centers" related to farm machinery.
- f. Manufacturing, distribution and retail of fertilizers, pesticides and seeds.
- g. Movement (inter-intra state and inter-intra district) of harvesting and sowing related machines like combined harvester and other agriculture/horticulture implements.

II. Fisheries-the following activities will be functional

- a. Operation of the fishing (inland)/aquaculture industry, including feeding & maintenance, harvesting, processing, packaging, cold chain, sale and marketing.
- b. Hatcheries, feed plants, commercial aquaria.
- c. Movement of fish/shrimp and fish products, fish seed/feed and workers for all activities.

III. Animal Husbandry-the following activities will be functional.

- a. Collection, processing, distribution and sale of milk and mild products by milk processing plants, including transport and supply chain.

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- b. Operation of animal husbandry farms including poultry farms & hatcheries and livestock farming activity.
- c. Animal feed manufacturing and feed plants, including supply of raw material, such as maize and soya. Operations of animals feed stalls/shops.

6. Social Sector: following to remain functional outside containment zone

- a. Operation of homes for children/disabled/mentally challenged/senior citizens/destitutes/women/widows, etc.
- b. Observation homes, after care homes and places of safety for juveniles.
- c. Disbursement of social security pensions, e.g., old age/widow/freedom fighter pensions; pension and provident fund services provided by EPFO.
- d. Operation of Angawadis- distribution of food items and nutrition once in 15 days at doorsteps of beneficiaries, e.g., children, women and lactating mothers. Beneficiaries shall not attend aganwadis.
- e. MNRGA works to be allowed with strict adherence to National Directives for COVID 19 management

7. Unrestricted movement of all types of goods and cargo (outside containment zone):

Movement of all types of goods through trucks (including empty trucks/goods vehicle), railways and air.

8. The following activities will be prohibited throughout Bengaluru area:

- a. Only flights and trains already scheduled will continue to operate during the Lockdown period. Flight and train tickets shall serve as the passes for movement of persons by taxis/cab aggregators/auto rickshaws to board flight and trains. **No new flights or trains will be permitted.**
- b. Metro rail services.
- c. Taxis (including auto rickshaws) and services of cab aggregators, except while hired for emergency and as permitted in these guidelines.
- d. Schools, colleges, educational/ training/ coaching institutions etc. will remain closed. Online/ distance learning shall continue to be permitted and shall be encouraged. However, examination already scheduled shall be permitted with strict adherence to National Directives for COVID 19 management.
- e. Hotels, restaurants, and hospitality services, except those meant for housing health/ police/ Government officials/ healthcare workers/

stranded persons including tourists and for quarantine facilities. However, hotels and restaurants shall be permitted to operate kitchens for take away/home delivery of food items only.

- f. All cinema halls, shopping malls, gymnasiums, sports complexes, stadia, swimming pools, entertainment parks, theatres, bars and auditoriums, assembly halls and similar places.
- g. All social/ political/ sports/ entertainment/ academic/ cultural/ religious functions/ other gatherings and large congregations.
- h. All religious places/ places of worship shall be closed for public. Religious congregations are strictly prohibited.

9. Movement of people:

- a. No movement of people by KSRTC, BMTC, Private buses or passenger vehicles except as permitted under these guidelines.
- b. Inter-State and Intra-State movement of passenger vehicles, only in cases of emergencies or as permitted under these guidelines. The movement is through registration/obtaining valid pass through Seva Sindhu portal.
- c. Intra-district (within Bengaluru area) movement of passenger vehicles and buses only in emergency cases or for permitted activities under these guidelines.
- d. Movement of passenger vehicles to and from Bengaluru area only in case of emergency after obtaining valid passes and strictly adhering to the prevailing SOPs/guidelines issued by Department of Health and Family Welfare.
- e. Movement of personnel traveling with valid ID card issued by their Organization/Institution to the place of work and back for permitted activities in these guidelines.
- f. Students appearing for exams can use Admission ticket as travel pass and use mode of transport available to them including taxi/auto rickshaw, etc.

10. Commercial and private establishment shall be closed down

Exceptions (outside containment zone):

- a. Shops, including ration shops (PDS), dealing with food, groceries, fruits and vegetables, dairy and milk booths, meat and fish, animal fodder to open only from 5 am to 12 noon. Home delivery of essential items shall be encouraged to minimize movement of individuals outside their homes. Operations shall be subject to adhering to National Directives for COVID 19 management.
- b. All facilities in the supply chain of essential goods, whether involved in manufacturing, wholesale or retail of such goods through local stores, large brick and mortar stores or e-Commerce companies

should be allowed to operate adhering to National Directives for COVID 19 management.

- c. All food processing and related industries.
- d. Banks, insurance offices and ATM.
- e. Print and electronic media.
- f. Telecommunication, internet services, broadcasting and cable services, IT and IT enabled services with minimum staff for essential purposes. As far possible work from home should be encouraged.
- g. Delivery of essential items such as food, medicines, pharmaceuticals, medical equipment through E-Commerce.
- h. Power generation, transmission and distribution units and services.
- i. Capital and debt market services and notified by the Securities and Exchange Board of India.
- j. Cold storage and warehousing services.
- k. Private security services.
- l. Delivery of goods by E-Commerce companies.

All other establishments, wherever possible, should encourage employees to work from home.

11. Industries/Industrial Establishments (both Government and Private), as listed below will be allowed to operate (outside Containment):

- a. Production units which require continuous process, and their supply chain.
- b. Food processing industries, manufacturing of essential goods, including drugs, pharmaceuticals, medical devices, their raw material and intermediates.
- c. Manufacturing of packing materials.
- d. Manufacturing and other industrial establishment with access control in Special Economic Zones (SEZs) or outside municipal limits and Export Oriented Units (EoUs), Industrial townships adhering to National Directives for COVID 19 management.

12. Construction activities, listed as below, will be allowed to operate outside containment zone adhering to National Directives for COVID 19 management.

- a. Continuation of works in construction projects, where workers are available on site and no workers are required to be brought in from outside (in situ construction).

13. Containment Zones

- a. In the Containment Zones, only essential activities shall be allowed. There shall be strict perimeter control to ensure that there is no movement of people in or out of these zones, except for medical emergencies and for maintaining supply of essential goods and services.

- b. In the Containment Zones, there shall be intensive contact tracing, quarantine watch, house-to-house surveillance, home isolation watch and other clinical interventions, as required.

14. Commissioner BBMP, Police Commissioner, Bengaluru, Deputy Commissioners of Bengaluru Urban and Bengaluru Rural districts based on their assessment of the situation, may prohibit certain other activities in the various zones, or impose such restrictions as deemed necessary.

15. National Directives for COVID-19 Management

National Directives for COVID-19 Management, as specified in Annexure I, shall continue to be followed in Bengaluru Area.

16. Protection of vulnerable persons

Persons above 65 years of age, persons with co-morbidities, pregnant women, and children below the age of 10 years, shall stay at home, except for essential and health purposes.

17. Use of Aarogya Setu

- a. Aarogya Setu enables early identification of potential risk of infection, and thus acts as a shield for individuals and the community.
- b. With a view to ensuring safety in offices and work places, employers on best effort basis should ensure that Aarogya Setu is installed by all employees having compatible mobile phones.
- c. BBMP and District authorities may advise individuals to install the Aarogya Setu application on compatible mobile phones and regularly update their health status on the app. This will facilitate timely provision of medical attention to those individuals who are at risk.

18. Strict enforcement of the guidelines

- a) BBMP, Bengaluru Urban and Bengaluru Rural Districts shall not dilute these guidelines issued under the Disaster Management Act, 2005, in any manner.
- b) The Commissioner, BBMP, Commissioner of Police, Bengaluru, Deputy Commissioners of Bengaluru Urban and Bengaluru Rural districts and Superintendent of Police, Bengaluru Rural district shall strictly enforce the above measures.
- c) In order to implement these measures, the BBMP Commissioner, will deploy Executive Magistrates as Incident Commanders in the respective local jurisdictions. The Incident Commander will be responsible for the overall implementation of these measures in their respective jurisdictions

19. Penal provisions

Any person violating these lockdown measures and the National Directives for COVID-19 Management will be liable to be proceeded against as per the provisions of Section 51 to 60 of the Disaster Management Act, 2005, besides legal action under Section 188 of the IPC, and other legal provisions as applicable. Extracts of these penal provisions are at **Annexure II**.


(T. M. VIJAY BHASKAR)
Chief Secretary and Chairman,
State Executive Committee

Annexure I

National Directives for COVID-19 Management

1. Face Covering: Wearing of face cover is compulsory in public places; in workplaces; and during transport. Fine of Rs.200 in Municipal Corporation areas and Rs. 100 in other areas shall be imposed for not wearing face cover as required.
2. Social distancing: Individuals must maintain a minimum distance of 6 feet (2 gaz ki doori) in public places.
Shops will ensure physical distancing among customers and will not allow more than 5 persons at one time.
3. Gathering: Large Public gathering/congregations continue to remain prohibited. Marriage related gathering: Number of guests not to exceed 50.
Funeral/last rites related gathering: Number of persons not to exceed 20.
4. Spitting in Public Places will be punishable with fine, as may be prescribed in accordance with its laws, rules or regulations by the local authorities.
5. Consumption of liquor, paan, gutka, tobacco etc, in public places is prohibited.

Additional directives for Work Places

6. Work from Home (WfH): As far as possible the practice of WfH should be followed.
7. Staggering of work/business hours will be followed in offices, work places, shops, markets and industrial & commercial establishments.
8. Screening & hygiene: Provision for thermal scanning, hand wash and sanitizer will be made at all entry and exit points and common areas.
9. Frequent sanitization of entire workplace, common facilities and all points which come into human contact, e.g., door handles, etc., will be ensured, including between shifts.
10. Social distancing: All persons in charge of work places will ensure adequate distance between workers, adequate gaps between shifts, staggering the lunch breaks of staff, etc.


(T. M. VIJAY BHASKAR)
Chief Secretary and Chairman,
State Executive Committee

Annexure II

Offences and Penalties for Violation of Lockdown Measures

51. Punishment for obstruction, etc.—Whoever, without reasonable cause —

- (a) obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under this Act; or
- (b) refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under this Act,

shall on conviction be punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

52. Punishment for false claim.—Whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

53. Punishment for misappropriation of money or materials, etc.—Whoever, being entrusted with any money or materials, or otherwise being, in custody of, or dominion over, any money or goods, meant for providing relief in any threatening disaster situation or disaster, misappropriates or appropriates for his own use or disposes of such money or materials or any part thereof or wilfully compels any other person so to do, shall on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

54. Punishment for false warning.—Whoever makes or circulates a false alarm or warning as to disaster or its severity or magnitude, leading to panic, shall on conviction, be punishable with imprisonment which may extend to one year or with fine.

55. Offences by Departments of the Government.—(1) Where an offence under this Act has been committed by any Department of the Government, the head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a Department of the Government and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any officer, other than the head of the Department, such officer shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

56. Failure of officer in duty or his connivance at the contravention of the provisions of this Act.—Any officer, on whom any duty has been imposed by or under this Act and who ceases or refuses to perform or withdraws himself from the duties of

his office shall, unless he has obtained the express written permission of his official superior or has other lawful excuse for so doing, be punishable with imprisonment for a term which may extend to one year or with fine.

57. Penalty for contravention of any order regarding requisitioning.—If any person contravenes any order made under section 65, he shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

58. Offence by companies.—(1) Where an offence under this Act has been committed by a company or body corporate, every person who at the time the offence was committed, was in charge of, and was responsible to, the company, for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly.

Provided that nothing in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company, and it is proved that the offence was committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also, be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Explanation.—For the purpose of this section—

- (a) "company" means anybody corporate and includes a firm or other association of individuals; and
- (b) "director", in relation to a firm, means a partner in the firm.

59. Previous sanction for prosecution.—No prosecution for offences punishable under sections 55 and 56 shall be instituted except with the previous sanction of the Central Government or the State Government, as the case may be, or of any officer authorised in this behalf, by general or special order, by such Government.

60. Cognizance of offences.—No court shall take cognizance of an offence under this Act except on a complaint made by—

- (a) the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised in this behalf by that Authority or Government, as the case may be; or
- (b) any person who has given notice of not less than thirty days in the manner prescribed, of the alleged offence and his intention to make a complaint to the National Authority, the State Authority, the Central Government, the State Government, the District Authority or any other authority or officer authorised as aforesaid.

B. Section 188 in the Indian Penal Code, 1860

188. Disobedience to order duly promulgated by public servant.—Whoever, knowing that, by an order promulgated by a public servant lawfully empowered to promulgate such order, he is directed to abstain from a certain act, or to take certain

order with certain property in his possession or under his management, disobeys such direction, shall, if such disobedience causes or tends to cause obstruction, annoyance or injury, or risk of obstruction, annoyance or injury, to any person lawfully employed, be punished with simple imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both; and if such disobedience causes or tends to cause danger to human life, health or safety, or causes or tends to cause a riot or affray, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

Explanation.—It is not necessary that the offender should intend to produce harm, or contemplate his disobedience as likely to produce harm. It is sufficient that he knows of the order which he disobeys, and that his disobedience produces, or is likely to produce, harm.

Illustration

An order is promulgated by a public servant lawfully empowered to promulgate such order, directing that a religious procession shall not pass down a certain street. A knowingly disobeys the order, and thereby causes danger of riot. A has committed the offence defined in this section.

De-silting of Bellandur Lake
Annexure-3



Bellandur lake De-silting







Bellandur Lake de silting



Bellandur Lake de silting



De-silting of Varthur Lake

Annexure-4









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