

# National Mission for Clean Ganga - NMCG

Format for submission of Monthly Progress Report (MPR) in the NGT Matter O.A.

No. 673 of 2018 (in compliance to NGT order dated 24.09.2020)

NGT has disposed-off the said matter vide its Order dated 22<sup>nd</sup> February 2021

## State of GOA

### Overall status of the State:

I. Total Population: Urban Population & Rural Population separately.

Urban Population:- 9,37,788 and Rural Population:-5,20,757. (Census 2011)

II. Estimated Sewage Generation (MLD): **112.53 MLD** (Urban area only)

### III. Details of Sewage Treatment Plant:

- Existing no. of STPs and Treatment Capacity (in MLD): **09 STPs' with 78.35 MLD capacity**
- Capacity Utilization of existing STPs: **31.65 MLD**.
- MLD of sewage being treated through Alternate technology: In state of Goa where sewer network is not available, Septic-tank- Soak-pit arrangement is adopted. Many Hotels and residential buildings (with 50 rooms / flats & above) have their own Treatment Plant (as mandated under the TCP Act 2010). Sulabh toilets (PWD) are provided for group of houses/community and Bio-toilets have been provided under Open Defecation Free (ODF) policy in the State.
- Gap in Treatment Capacity in MLD: **Negligible**.
- No. of Operational STPs': **09 nos.**
- No. of Complying STPs': **09 nos.**
- No. of Non-complying STPs': **NIL**

### Details of each existing STP in the State

No.	Location	Existing STP Capacity	Capacity Being Utilized	Operational Status of STP	Compliance Status of STP
1.	Shirvodem, Navelim.	20 - MLD	<b>10 - MLD</b>	Operational	Complied-with
2.	Vasco	20 – MLD	<b>6 - MLD</b>	Operational	Complied-with
3.	Durbhat	01 – MLD	0.4 – MLD	Operational	Complied-with
4.	Goa	1.35 MLD	0.5 – MLD	Operational	Complied-with

	Medical College (GMC)				
5.	Sancoale	01 – MLD	01 – MLD	Operational	Complied-with
6.	Sanquelim	0.8 – MLD	0.15 – MLD	Operational	Complied-with
7.	Tonca, Panaji	12.5 – MLD	10 – MLD	Operational	Complied-with
8.	Tonca, Panaji	15 – MLD	02 – MLD	Operational	Complied-with
9.	Shirvodem-Navelim	6.7 – MLD	<b>1.6 – MLD</b>	Operational	Complied-with
<b>Total</b>		<b>78.35 MLD</b>	<b>31.65 MLD</b> : Last-month, capacity being utilised was 30.35 MLD		

### Details of under construction STPs in the State

No.	Location	Capacity of the plant in MLD	Physical Progress (in %)	Status of I&D or House sewer connections	Completion Timeline
1	Kavlem, Ponda	15 –MLD	<i>96% (no change since last-month)</i> of civil works STP completed and <b>Electrical / Mechanical works 60% (+7% changes since last-month) completed.</b> Around <i>94% (no change since last-month)</i> of the sewer-network is completed.	<b>House Sewer-connection works are Tendered and road-crossing work in in-progress.</b>	December 2021
2	Colva	7.5 – MLD	<i>81% (no change since last-month)</i> of sewer-network is completed. STP is ready for trial-run and electrical connection obtained and work of effluent disposal line is in-progress.	<b>House Sewer-connection works are Tendered and road-crossing to commence from 15<sup>th</sup> October 2021 after receiving NOC from Road sectors.</b>	
3	Patto, Panaji	02 – MLD	<b>86% (+4% change since last-month)</b> completed physical progress.	100% completed	

4	Mapusa	5.4 – MLD	<b>94% (+1% change since last-month) progress</b>	<b>House Sewer-connection works are Tendered and commencement of Road-crossing work likely to start in November 2021 after award of works.</b>
5	Baga	5.6 – MLD	<b>100% (+1% change since last-month) progress</b>	

### Details of proposed STPs in the State

No.	Location	Capacity of the STP proposed in MLD	Status of Project (at DPR Stage/ Under Tendering/ Work to be Awarded)	Likely Date of Completion
1.	Undir, Bandora	15 – MLD	STP work could not be started due to local issues. Around <b>65% (no change since last-month)</b> of the sewer-network is completed.	16-months time-period required from start of work.
2.	Curti, Ponda	08- MLD	STP work could not be started due to local issues. Around <b>92% (no change since last-month)</b> of the sewer-network is completed.	
3.	Porvorim	20 – MLD	STP work could not be started due to local issues. Around <b>80% (no change since last-month)</b> of the sewer-network is completed.	

*\* Above data does not include any packaged treatment plants /sulabh-toilets and Bio-toilets*

#### **IV. Details of Industrial Pollution:**

- No. of industries in the State: 8,611
- No. of water polluting industries in the State: *Nil*
- Quantity of effluent generated from the industries in MLD:
- Quantity of Hazardous Sludge generated from the Industries in TPD:
- Number of industrial units having ETPs: 209
- Number of industrial units connected to CETP: *State does not have any CETP*
- Number and total capacity of ETPs (*details of existing/ under construction / proposed*)
- Compliance status of the ETPs: 207
- Number and total capacity of CETPs (*details of existing/ under construction / proposed*) : *State does not have any CETP*

- Status of compliance and operation of the CETPs : Not Applicable in view of above.

Town	No. of industries	Industrial discharge	Status of ETPs	Status of CETPs (existing, under construction & proposed)
Not Applicable				

#### V. Solid Waste Management:

- Total number of Urban Local Bodies and their Population: *As referred in MPR for the month ending December 2020.*
- Current Municipal Solid Waste Generation: **766 tons per day (TPD)** – *as per the waste characterization report, 2018.*
- Number, installed capacity and utilization of existing MSW processing facilities in TPD (*bifurcated by type of processing e.g.- Waste to Energy (Tonnage and Power Output), Compost Plants (Windrow, Vermi, decentralized pit composting), bimethanation, MRF etc., Refer Annexure - A.*
- Action plan to bridge gap between Installed Capacity and Current Utilization of processing facilities (if Gap > 20%): **Refer Annexure – B.**
- No. and capacity of C&D waste processing plants in TPD (*existing, proposed and under construction*): State has proposed 500-TPD capacity C & D waste processing plant at Cudchirem in Bicholim, North Goa district.
- Total no. of wards, no. of wards having door-to-door collection service, no. of wards practicing segregation at source: *As referred in MPR for the month ending November 2020.*
- Details of MSW treatment facilities proposed and under construction (*no., capacity, and technology*): **Refer Annexure – B.**
- No. and area (*in acres*) of uncontrolled garbage dumpsites and Sanitary Landfills.: **N.A.**
- No. and area (*in acres*) of legacy waste within 1-km buffer of both sides of the rivers: **Nil.**
- No. of drains falling into rivers and no. of drains having floating racks/screens installed to prevent solid waste from falling into the rivers: **Nil.**

#### Status of ULB wise Management of Solid Waste

ULB	Total MSW generation in TPD	Total MSW being processed in TPD	Existing MSW facilities	Utilization Capacity of the existing MSW facilities	Proposed MSW Facilities & Completion Timeline
As referred in MPR for the month ending-November 2020.					

**VI. Bio-medical Waste Management:** *As per Annual report*

- Total Bio-medical generation: 2,992 kgs. per day (*bio-medical waste*) / 17,179 kgs. per day (*sanitary waste*).
- No. of Hospitals and Health Care Facilities: **Refer Annexure – C.**
- Status of Treatment Facility/ CBMWTF: **Refer Annexure – B.**

**VII. Hazardous Waste Management:**

- Total Hazardous Waste generation:
  - (a) Incinerable waste : 39,379.80 TPA
  - (b) Land-fillable waste : 3,385.21 TPA
  - (c) Recyclable waste : 33,095.57 TPA
  - Total : 77,056.58 TPA.
- No. of Industries generating Hazardous waste : **1,628 nos.**
- Treatment Capacity of all TSDFs : **16,846 metric tons per year.**
- Avg. Quantity of Hazardous waste reaching the TSDFs and Treated: **Currently, majority of the HW-generated is disposed through Inter-State movement by recycling / utilization / disposal at common secured landfill site / common incinerator / co-processing to neighboring States under valid agreement.**
- Details of on-going or proposed TSDF : **The State has initiated the process to set-up Common Hazardous Waste Treatment Facility at Pissurlem Industrial Estate.**

**VIII. Plastic Waste Management:**

- Total Plastic Waste generation: **80.66 Tons per day (TPD)** – *as per the waste characterization report, 2018.*
- Treatment/ Measures adopted for reduction or management of plastic waste: **Establishment of Material Recovery facility (MRF) as well as Baling facilities (03 nos.).**

**IX.** Details of Alternate Treatment Technology being adopted by the State/UT: **The State has proposed to set-up Plastic-to-Fuel plant at Pernem Municipal Council (North Goa) on a trial-basis.**

**X.** Identification of polluting sources including drains contributing to river pollution and action as per NGT order on in-situ treatment: **There is no industrial discharge within any of the polluted river-stretches.**

- XI.** Details of Nodal Officer appointed by Chief Secretary in the State/UT: **Secretary, Environment is a Nodal Officer to be assisted by Director, Department of Environment & Climate Change (DoE & CC), Goa.**
- XII.** Details of meetings carried under the Chairmanship Chief of Secretary in the State/UT: **The State, in compliance to the NGT Order in a matter of 606 of 2018 (SWM-related matters & Ors.), has constituted the State Level Committee (SLC) under the Chairmanship of Chief Secretary who takes the review on regular-basis.**
- XIII.** Latest water quality of polluted river, its tributaries of polluted river; **refer Annexure – D.**
- XIV.** Ground water regulation: (a) Ground Water Act, 2002 is enacted in the State of Goa, (b) Ground water extraction is being monitored, (c) It is mandatory to register all the ground water structures in the State, (d) Commercial ground water extraction is levied with water tax, (e) Goa is declared as ‘Safe zone’ under the Ground water development by the Central Ground Water Board (CGWB), (f) guidelines issued by the Central Ground Water Board (CGWB) is implements. Expected level of compliance – 100%, **Actual compliance – 100%, Target – Target – achieved.**
- XV.** Good irrigation practices being adopted by the State: Water User Associations (WUAs’) are formed to economise the use of water. - Expected level of compliance: 80%, **Actual compliance: 65% (No change since last-month), Target: December 2021** (target revised from May 2021 to December 2021 due to COVID-19 restrictions).
- XVI.** Rain Water Harvesting: Although the State receives abundant rainfall to the tune of about 160-inches per year, the Town and Country Planning (TCP) Department has made roof-top rainwater harvesting mandatory for multi-dwelling units as well as residential-cum-commercial complexes. Department of Industries, Trade and Commerce (DITC) is encouraging the industries to adopt rainwater harvesting initiatives. - Expected level of compliance: 50%, **Actual compliance: 20% (no change since last-month), Target: December 2021** (target revised from May 2021 to December 2021 due to COVID-19 restrictions).
- XVII.** Demarcation of Floodplain and removal of illegal encroachments: **70%** - Expected level of compliance: 100%, **Actual compliance: 95%, (No change since last-month), Target: December 2021** (target revised from May 2021 to Dec. 2021 due to COVID-19 restrictions).
- XVIII.** Maintaining minimum e-flow of river: Rivers are perennial. **There is no issue of e-flow in major rivers.**
- XIX.** **Plantation activities along the rivers:** Major stretches of lower-reaches of major rivers (*i.e. downstream regions*) are flanked by mangroves while, along upper-reached (*i.e. upstream regions*), there is either coconut plantation or no space for any plantation.

- XX.** Development of Biodiversity Park: As referred in MPR for the month ending October 2020.
- XXI. Reuse of Treated Water:** Although there is no agricultural demand, partial utilization has been proposed for (i) release of STP-treated water at Colva into Sal-river so as to maintain the flow, (ii) flushing of St. Inez creek, (iii) municipal gardening, (iii) social forestry, (iv) private-plantation, (v) dust-suppression measures and every attempt is being made to utilize the STP-treated waters.
- XXII.** Model River being adopted by the State & Action Proposed for achieving the bathing quality standards: River Sal and River Valvonti. Polluting drains joining the river have been identified treated / filtered. De-weeding and desilting is being carried out including aeration of the stored water. Expected level of compliance 100 %. **Actual Compliance - 100%. Target – achieved.**
- XXIII. Status of Preparation of Action Plan:** All the action plans prepared for eleven polluted river-stretches have been approved by CPCB (*i.e. in case of priority criteria – III : 01 stretch – Sal river*) and RRC-Goa (*i.e. in case of priority criteria IV & V : remaining 10-stretches*). Accordingly, Action Plan Strategies (APSs’), referred in these action plans, are being regularly reviewed by the Secretary, Environment in the capacity as Chairman, RRC-Goa. Accordingly, the current-status of the implementation / execution of various Action Plan Strategies (APS) in respect of coastal rivers have been submitted to the CPCB in response to a matter of O.A. 829 of 2019 (*i.e. control of marine pollution in coastal states*). **In response, the CPCB has submitted observations vide letter dated 22<sup>nd</sup> September 2021 which is proposed to be discussed / deliberated during the RRC-Goa meeting scheduled on 08<sup>th</sup> October 2021 under the Chairmanship of Principal Secretary, Environment.**
- XXIV. Regulation of Mining Activities in the State/UT:** It is being **monitored as per Hon’ble Supreme Court Directives through the Department of Mines and Geology (DMG).**
- XXV.** Action against identified polluters, law violators and officers responsible for failure for vigorous monitoring: Ground water and river waters are monitored under Goa Ground Water Act, 2002 and Goa Irrigation Act, 1973 respectively by Ground Water and Canal Officers respectively. : Expected level of compliance: 100%, **Actual compliance: 100%, Target – achieved.**

## Annexure A

Number, installed capacity and utilization of existing GWMC MSWS sorting and baling processing facilities in TPD:

### 1. MRF facilities

- i. Verna MRF facility: **~8 TPD** (*dry waste*)
- ii. Cacora MRF facility: **~5 TPD** (*dry waste*)
- iii. Bicholim MRF facility: **~8TPD** (*dry waste*)

2. **Integrated Solid Waste Management Facility (SWMF)** of 150 tons per day (TPD) at Saligao and currently work is in progress of enhancing from existing 150-TPD to 250-TPD (+20%), **present 60% (+5% change since last-month) is completed.**



## Annexure B

Sr. No.	Project	Details		Status	Timeline
1	<b>Enhancement of Integrated Solid Waste Management Facility – Saligao</b>	Capacity :	250 TPD (+20%)	<p>Part enhancement of Integrated Solid Waste Management Facility (SWMF) from <i>100 tons per day (TPD) to 150 tons TPD</i> is completed and currently is in process of enhancing from existing 150-TPD to 250-TPD (+20%).</p> <ul style="list-style-type: none"> <li>• RCC wall work of digester-1 and digester-2 completed.</li> <li>• Roofing of wet-waste shed and sludge-dewatering shed completed.</li> <li>• Foundation &amp; Superstructure work has been completed.</li> <li>• Solar Drying shed machinery received.</li> <li>• <b>Road Works completed</b>, Plumbing, Electrical is nearing completion.</li> <li>• Equipment installation is in progress</li> <li>• <b>Current completion status is 60% (+5% change since last-month).</b></li> </ul>	<b>December 2021</b>
	Catering to :	Bardez, Pernem, Bicholim & Sattari Talukas			
	Cost of the Project	103.87 Cr			
2	<b>Integrated Solid Waste Management Facility – Cacora</b>	Capacity :	100 TPD (+25%)	<ul style="list-style-type: none"> <li>• Foundation works of MSRC shed, digester-tank, STP, gas-engine building completed.</li> <li>• Casting of both Digester-tanks completed and Construction of solar-drying shed completed.</li> <li>• Bag-opener and wind-sifter, digester-mixers, sedimentation-tanks received at site.</li> <li>• MSRC shed civil works in progress.</li> <li>• <b>Current completion status is 58% of civil works (+8% change since last-month).</b></li> </ul>	<b>December 2021</b>
	Catering to :	Sanguem, Dharbandora, Quepem & Canacona Talukas			
	Cost of the Project	173.98 Cr			
3	<b>Integrated Solid Waste Management Facility- Bainguinim</b>	Capacity :	250 TPD (+20%)	<ul style="list-style-type: none"> <li>• Environmental Clearance (EC) has been granted.</li> <li>• RFQ has been floated on 21/09/2020 and RFQ bid opened on 15/02/2021. Three bids were received. However, none of the bids are fulfilling the minimum eligible criteria and / or have not submitted all mandatory documents.</li> <li>• The Board of Directors meeting held on 15<sup>th</sup> April 2021 decided to reject all the pre-applications bids for request for pre-qualification (RFQ) due to incomplete bids / discrepancies in bid-document from all three bidders and decided to refloat the RFQ by incorporating the pre-qualification criteria adopted after the pre-bid meeting of earlier RFQ and give 06-weeks time to make the bid more competitive and attract more bidders. Accordingly, GWMC prepared the revised RFQ-document.</li> </ul>	<b>Proposed timeline for completion is October 2022.</b>
	Catering to:	Tiswadi & Ponda Talukas			

				<ul style="list-style-type: none"> <li>Expert Committee meeting was held on 31/05/2021 to finalize the technical specification of the revised RFQ and minutes approved on 20<sup>th</sup> June 2021. After approval of revised RFQ by GWMC TASC on 20/07/2021, RFQ was floated on 28/07/2021.</li> <li><b>Pre application conference was held on 20<sup>th</sup> August 2021 and minutes / clarification have been uploaded online on 28/09/2021.</b></li> <li><b>RFQ opening is tentatively scheduled on 22/10/2021.</b></li> <li><b>Proposed timeline for completion is October 2022.</b></li> <li><b>A Civil Appeal No. 4983 of 2021 with interlocutory application no. 105533 of 2021 (application for stay) has been instituted in Hon'ble Supreme Court of India by Bainguinim Citizen Forum V/s GWMC &amp; others. Next date of hearing is on 17/11/2021.</b></li> </ul>	
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4	<b>Solid Waste Management Facility – Verna (250 TPD + 20%)</b>	Capacity	250 TPD (+20%)	<ul style="list-style-type: none"> <li>Work order to conduct Environment Impact Assessment (EIA) Studies for 250 TPD + 20% Integrated Solid Waste Management Facility &amp; Waste-to-Energy has been issued to M/S Sadekar Enviro Engineers Pvt. Ltd.,</li> <li>The proposal for appointment of IVL Swedish Environmental Research for carrying out pre-feasibility studies for setting up Waste to Energy Facility in Goa for the amount of 35,000 Euros (<i>exclusive of any value-added tax</i>) on nomination basis is approved in Cabinet meeting.</li> <li>Agreement is placed for vetting from legal and treaties division of the Ministry of External Affairs. <b>Vetting Pending at L&amp;T division of MEA, follow-up taken by GWMC continuously.</b></li> <li>Ambient Air Quality Monitoring completed on 31<sup>st</sup> May. Compilation of Baseline data for three-months has been completed.</li> <li><b>Biodiversity survey is completed.</b></li> <li><b>Currently drafting of final EIA-report is in progress.</b></li> <li>Consultant has submitted a letter dated 31/08/2021 requesting for extension of timeline for the EIA work due to the prevailing situation of Covid-19 and the extension of curfew period in the State of Goa.</li> </ul>	<b>Upon grant of Environmental Clearance (EC), GWMC shall float tender for SWMF 250 TPD.</b>
			Catering to Mormugao & Salcete Talukas		
5	<b>Construction &amp; Demolition Waste Management Facility – Bicholim</b>	Capacity: 500 TPD		<ul style="list-style-type: none"> <li>GWMC has taken the possession of revenue, land under survey no 146/2,3,4,6 and 148/2,6,7 at Curchirem Village in Bicholim taluka.</li> <li>Whereas it has been observed that there are names in Form I &amp; XIV of the aforementioned survey number under another rights column as lessee. Hence, the matter</li> </ul>	GWMC shall float tender for setting up C & D Waste Management Facility by December-2021
		Land:44,478 sqm			

		Catering to: State of Goa	<p>was placed before Collector North to grant the land free from all encumbrances.</p> <ul style="list-style-type: none"> <li>• Further matter regarding demarcation of this land is going on before the Dy. Collector Bicholim. Subsequently, <u>07 hearings (+2 since last-month)</u> have been conducted and out of 27 opponents only 2 opponents have been objected. Order to be passed by Dy. Collector of demarcation after which fencing, security-cabin will be set-up.</li> <li>• Meantime, GWMC has requested the District Magistrate, North Goa Collectorate to hand over the said land to GWMC without any encumbrances after following due procedure prescribed under law, the said matter has been forwarded to the Deputy Collector/SDO Bicholim for necessary action. Awaiting Order from Deputy Collector, Bicholim.</li> <li>• GWMC received objection from VP Ona-Maulinguem, Bicholim dated 23/06/2020 for setting up garbage/MSW facility. Hence, letter has been sent on 12/10/2020 to the VP informing that the plant is not for garbage/MSW and instead for C&amp;D facility.</li> <li>• The Demarcation Order has been passed on 29<sup>th</sup> January 2021 by Dy. Collector &amp; SDM (Bicholim). The demarcation order has been forwarded to ISLR, Bicholim for inspection and demarcation. The demarcation was fixed on 05/05/2021 at 10.30 a.m. However, due to section 144 imposed and implementation of curfew, the said work was postponed. <b>Demarcation date is fixed on 2<sup>nd</sup> August 2021 by ISLR Bicholim.</b></li> <li>• On 02/08/2021, however the demarcation had to be suspended due to the objection raised by local village residents during the demarcation process.</li> <li>• Meantime GWMC office has requested ISLR, Bicholim to submit the work status and refix the demarcation date along with police protection.</li> <li>• Final draft copy of DPR has been submitted by SINTEF on 04.02.2021 which has been approved in Board of Directors meeting held on 15/04/2021. Subsequently, DPR was before TASC for scrutiny and for technical clearance in July and queries raised by TASC committee have been forwarded to SINTEF for clarification.</li> <li>• The District Collector (North) has identified quarry in Tuem for back-filling with inert Construction debris and Demolition wastes (<i>i.e. C &amp; D waste</i>). GWMC had constructed portable cabinet at Tuem site and accordingly informed Corporation of Panaji (CCP) to start disposing C &amp; D wastes with proper S.O.P. as issued by the Collector –North Goa district and GWMC. Also, solar based electrical connection provided at security cabin at Tuem.</li> <li>• Regarding tender for fencing and security-cabin at Bicholim, the tender has been finalized and work order will be issued post demarcation. <b>Re-demarcation date is not yet received by ISLR, Bicholim.</b></li> </ul>	<p>due to delay in site clearance from Revenue Department and construction work towards the same shall commence by May- 2022 and to be completed in 18 months i.e., December 2023 after getting the land without any encumbrances including trial operation.</p>
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6	<b>Common Bio-Medical Waste Treatment Management facility (CBMWTF)</b>	Capacity	200 kgs. Per. hour incinerators	<ul style="list-style-type: none"> <li>The concessionaire has installed and setup the Incinerator, Autoclave, Boiler, shredder, ETP, APCD, Chimney, Plastic Recycling plant to reduce/ recycle the treated plastic scrap and other machinery that are required for treatment of Bio-Medical Waste</li> <li><b>Plant has started operations and Bio-Medical waste collection will be started by plant operator within the state of Goa from October 2021.</b></li> <li><b>Currently 100% of project is completed.</b></li> </ul>	<b>December 2021 (Project completed within the timeline proposed)</b>
7	<b>Common Hazardous Waste Treatment Storage and Disposal Facility (CHWTSDF)</b>	Capacity	25,000 TPA Secured Landfill (SLF) & 1.5 ton/hr incinerators	<ul style="list-style-type: none"> <li>Phase 1: Completed, <i>i.e.</i> secured landfill - 1 (SLF1), storage shed - 1, weigh bridge, wheel washing, security cabin, laboratory.</li> <li>GSPCB has granted consent to operate of SLF1 on 31/03/2021.</li> <li><b>ETP ready for commissioning.</b></li> <li><b>Phase 2: 68% (+3% change since last-month) completed</b>, timeline for completion of phase 2 is December 2021.</li> </ul>	Landfill - 1 commissioned on March 2021. Project will be completed by <b>December 2021.</b>
8	<b>Design-Build and Operate an E-Waste Management (Collection, Storage and Dismantling)</b>	Capacity	<b>15 - TPD</b>	<ul style="list-style-type: none"> <li>Tender for selection of service provider for Design-Build and Operate an E-Waste Management (<i>Collection, Storage and Dismantling</i>) for the State of Goa was floated on 06/07/2020.</li> <li>Technical bid was opened on 30<sup>th</sup> November 2020.</li> <li>Technical presentation before the TEC of technical proposal held on 27<sup>th</sup> January-2021.</li> <li>Financial Bid of the single bid tender was opened on 11/03/2021</li> <li><b>Work Order is issued to the contractor dated 27/08/2021.</b></li> <li><b>GWMC is in process of executing Deed of Lease Agreement with Goa Industrial Development Corporation.</b></li> </ul>	<b>March 2022</b>

## Annexure C

### **Total Number of Hospitals & healthcare facilities:**

- The State of Goa has 50 public healthcare facilities (*excluding veterinary & dispensaries*) with a total bed capacity of 3159.
- Total number of non-bedded facilities under public healthcare systems are 14 dispensaries.
- Goa has 102 facilities under the category of private healthcare with a total bed capacity of 2443.
- The total beds currently available under both public and private sector are 5602.
- Goa has one dental college under public healthcare and 251 dental clinics across the state under private health care system.
- The state also has 5 veterinary hospitals and 25 clinics under public facilities and 27 pet clinics under the category of private facilities.
- Apart from bedded facilities in private sector the state also has approximately 482 non bedded facilities (excluding dental clinics) that cater to consultations, observation, diagnostics and select treatment.

## Annexure D

### DATA of 11 Polluted River Stretches for Major Rivers of September 2021

#### 1.RIVER CHAPORA NEAR ALORNA FORT, PERNEM

Sr. No.	Parameters	Sep-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.34	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.9	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	2200	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	490	-

**Remarks: All parameters are within permissible limits.**

#### RIVER CHAPORA NEAR SIOLIM BRIDGE

Sr. No.	Parameters	Sep-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.48	6.5-8.5
2	Turbidity(NTU)	8.91	30 NTU
3	Dissolved Oxygen (mg/l)	7.5	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1100	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	330	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.**

#### 2.RIVER TIRACOL AT KERI, PERNEM

Sr. No.	Parameters	Sep-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.36	6.5-8.5
2	Turbidity(NTU)	12.60	30 NTU
3	Dissolved Oxygen (mg/l)	7.1	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	700	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	110	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.**

#### 3.RIVER SINQUERIM, CANDOLIM SIDE

Sr. No.	Parameters	Sep-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.75	6.5-8.5
2	Turbidity(NTU)	5.55	30 NTU
3	Dissolved Oxygen (mg/l)	6.8	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	330	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	110	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.**

#### RIVER SINQUERIM, NEAR GANPATI TEMPLE

Sr. No.	Parameters	Sep-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.38	6.5-8.5
2	Turbidity(NTU)	6.88	30 NTU
3	Dissolved Oxygen (mg/l)	7.0	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	490	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	170	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.

#### 4.RIVER ZUARI AT MADKAI JETTY

Sr. No.	Parameters	Sep-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	6.5	6.5-8.5
2	Turbidity(NTU)	28.9	30 NTU
3	Dissolved Oxygen (mg/l)	6.8	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1700	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	220	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.

#### RIVER ZUARI AT BORIM BRIDGE

Sr. No.	Parameters	Sep-21	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	6.62	6.5-8.5
2	Turbidity(NTU)	10.50	30 NTU
3	Dissolved Oxygen (mg/l)	6.6	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	1300	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	130	-

Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.

#### 5.RIVER ASSANORA AT ASSANORA

Sr. No.	Parameters	Sep-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.52	6.0-9.0
2	Dissolved Oxygen (mg/l)	6.8	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	240	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	23	-

Remarks: All parameters are within permissible limits.

#### 6.RIVER VALVANTI AT SANQUELIM

Sr.No.	Parameters	Sep-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.33	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.9	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	1700	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	78	-

Remarks: All parameters are within permissible limits.

#### 7.RIVER KHANDEPAR, OPA, PONDA

Sr. No.	Parameters	Sep-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.3	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.0	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	270	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	79	-

Remarks: All parameters are within permissible limits.



**RIVER KHANDEPAR, CODLI**

Sr. No.	Parameters	Sep-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.2	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.3	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	1300	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	110	-

**Remarks: All parameters are within permissible limits.**

**8.RIVER BICHOLIM BARAZAN NAGAR, BICHOLIM**

Sr. No.	Parameters	Sep-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.95	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.0	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	4900	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	330	-

**Remarks: All parameters are within permissible limits.**

**9.RIVER MANDOVI AT TONCA MARCELA**

Sr. No.	Parameters	Sep-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.05	6.5-8.5
2	Turbidity(NTU)	19.13	30 NTU
3	Dissolved Oxygen (mg/l)	7.4	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	790	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	240	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.**

**10.RIVER TALPONA AT CANACONA**

Sr. No.	Parameters	Sep-21	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.28	6.0-9.0
2	Dissolved Oxygen (mg/l)	7.3	4 mg/l or more
3	BOD (mg/l)	BDL	3 mg/l or less
4	Total Coliform (MPN/100ml)	220	5000 or less MPN/100ml
5	Fecal Streptococci (MPN/100ml)	33	-

**Remarks: All parameters are within permissible limits.**

**11.RIVER SAL AT KHAREBAND,MARGAO**

Sr. No.	Parameters	Sep-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.37	6.5-8.5
2	Turbidity(NTU)	19.21	30 NTU
3	Dissolved Oxygen (mg/l)	4.4	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	4900	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	790	-

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.**

**RIVER SAL AT MOBOR**

Sr. No.	Parameters	Sep-21	Limit for class SW II rivers as per CPCB classification based on designated best use of rivers
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1	pH	7.39	6.5-8.5
2	Turbidity(NTU)	10.41	30 NTU
3	Dissolved Oxygen (mg/l)	6.3	4 mg/l or more
4	BOD (mg/l)	BDL	3 mg/l or less
5	Fecal Coliform (MPN/100ml)	790	100 or less MPN/100ml
6	Fecal Streptococci (MPN/100ml)	140	

**Remarks: Fecal Coliform is exceeding the permissible limit for the month of September 21.**

NOTE:

1)BDL- Below Detection Limit