Format for Submission of Monthly Progress Report by States / UTs'

(for the month ending August 2020)

(*Hon'ble NGT Order dated 06th December 2019 in a matter of O.A. 673 of 2018*)

Sr. No.	Activity to be monitored	Timeline	Submission of Progress Report by State / UT-Compliance Status
1	Ensure 100% treatment of sewage at least in-situ remediation	31.03.2020	Four major towns (*i.e. Panaji / Margao & Vasco – Mormugao*) have a underground sewerage network and as such, sewage received at Sewage Treatment Plant (STP) is treated and treated-water complies with the CPCB-prescribed prescribed norms. Further, whenever underground sewer network is not existing, conventional method of septic-tank / soak-pit is adopted by individual housing /complexes. In village or hinterland-areas (*i.e. pocket settlement areas*), stand alone soak-pit / septic-tanks system ensures effective treatment of domestic-sewage.
	Commencement of setting-up of STPs' and connecting all the drains and other sources of generation of sewage to the STPs' must be ensured.	31.03.2020	Sewage generation vis-a-vis its existing treatment as well as status and progress of STPs' are enclosed in **Annexure – A**.
2	Timeline for completing all steps of action plans including completion of setting up STPs' and their commissioning.	31.03.2021	Follow-up progress in respect of all Action Plan Strategies (APS) has been reviewed during the 21st RRC-Goa meeting held on 4th August 2020 chaired by Secretary (Environment). Further, follow-up action is scheduled to be reviewed shortly, prior to submission of 'revised' action plans to the CPCB.
5	Chief Secretaries may set up appropriate	22.01.2020	

	monitoring mechanism at State level. a. Specifying accountability of nodal authorities not below the Secretary level. b. Chief Secretaries may have an accountable person attached in their office for this purpose.		Secretary (Environment) is a Nodal Authority. Director, Department of Environment, Goa to assist O/o Chief Secretary.
	c. Monitoring at State-level must take place	Fortnightly commencing 21.12.2019	Noted.
6	Progress report may be furnished by the State /UTs' to – 1. Secretary, Ministry of Jal Shakti 2. Member Secretary, CPCB	Monthly (*preferably before 20th of every month*)	This is the MPR for the <u>month ending August 2020</u>.
6.1	Progress Report may be comprised of details along with completion timelines on:		
	(i) <u>Identification of polluting sources</u> including drains contributing to river pollution and action		Completed. There are no drains, *per se*, that contribute to river pollution but, natural streams which are mainly dry except during monsoon season (*i.e. seasonal*).

	as per NGT Order on in-situ treatment. (ii) <u>Status of STPs', I&D and sewerage networks</u>. Details of existing Infrastructure, Gap Analysis, Proposed along with completion timelines. (iii) <u>Status of CETPs'</u> Details of existing CETP and ETP infrastructure, Gap Analysis, Proposed along with completion timeline, Number of Industries and complying status. (iv) <u>Status of Solid Waste Management & Details of Processing Facilities</u>.		**Refer Annexure – A** (*submitted as a part of compliance against sr.nos.(1) & (2) above*). The State does not have any Common Effluent Treatment Plant (ETPs'). Further, there are no industrial units located within the catchment of any of the polluted river-stretches. Kindly refer **Annexure - B**

	Details of existing Infrastructure, Gap Analysis, Proposed along with completion timelines.		
	(v) Latest water quality of polluted rivers, its tributaries, drains with flow details and groundwater quality in the catchment of polluted rive;		**Kindly refer Annexure - C** For water-quality parameters (*i.e. pH, Turbidity (NTU), Dissolved Oxygen – D.O. (mg/l), Biochemical Oxygen Demand – B.O.D. (mg/l) and Total or Faecal colliform (MPN/100 ml.)*) for all polluted river-stretches for a period from May 2020 upto August 2020. It is seen that six river-stretches namely – (i) Talpona, (ii) Chapora, (iii) Assonora, (iv) Valvanti, (v) Khandepar and (vi) Bicholim continue to comply with the CPCB-prescribed norms as applicable to Class – C (*i.e. drinking water source with conventional treatment*).
	(vi) Preventing dumping of waste and scientific waste management including bio-medical waste, plastic wastes and decentralising waste processing, including waste generated from hotels, ashrams, etc.,		Being addressed.

	(vii) Ground water Regulation.		Same as referred in the last-MPR.
	(viii) Adopting good irrigation practices,		Same as referred in the last-MPR.
	(ix) Protection and management of Flood Plain Zones (FPZ),		Same as referred in the last-MPR.
	(x) Rain water harvesting,		Same as referred in the last-MPR.
	(xi) Maintaining minimum environmental flow (e-flow)		Water Resources Department (WRD) has informed that in all the rivers of Goa the demand water being a small percentage of the available yield, apparent e-flows were always maintained.
	(xii) Plantation on both sides of the river.		Not applicable.
	(xiii) Setting up Biodiversity Park on flood-plains by removing encroachments.		Same as referred in the last-MPR.

Annexure I Sewage Generation As per Census 2011

Sr No	Name of Towns	Population	Sewage Generation (in MLD) considering 150 LPCD	Status of Sewerage treatment	Remarks
			North Goa		
1	Pernem				
	Pernem (M Cl)	5,021	0.60	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	DPR is ready for Pernem Municipal area and the Scheme is designed for 30 years with 2019 as base year with population of 5865.The project will cover an area of 4.00 sq.km with 2 MLD STP
	Arambol (CT)	5,322	0.64		
	Mandrem (CT)	8,336	1.00		
	Parcem (CT)	4,627	0.56		
	Morjim (CT)	6,760	0.81		
2	Bardez				
	Mapusa (M CL)	39,989	4.80		Sewerage Scheme for Mapusa Municipal area is in progress with 5.4 MLD STP at Kamarkhazan
	Siolim (CT)	10,936	1.31		
	Colvale (CT)	4,818	0.58		
	Moira (CT)	4,299	0.52		
	Guirim (CT)	5,036	0.60		
	Anjuna (CT)	9,636	1.16		
	Calangute (CT)	13,810	1.66		Sewerage Scheme for Calangute-Baga area is in progress with 5.6 MLD STP at Calangute.
	Candolim (CT)	8,500	1.02	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	DPR is ready for Candolim and surrounding areas. The Scheme is designed for 30 years with 2016 as base year with population of 24687. The project will cover an area of 20.57 sq.km with 15 MLD STP .

	Saligao (CT)	6,280	0.75		DPR is ready for Saligao, Nerul, Pilerne and surrounding areas. The Scheme is designed for 30 years with 2017 as base year with population of 9906. The project will cover an area of 8.82 sq.km with 2 MLD STP .
	Pilerne (CT)	5,827	0.70		
	Nerul (CT)	5,042	0.61		
	Reis Magos (CT)	8,053	0.97		
	Penha-de-Franca (CT)	15,342	1.84		Areas will be party covered under Sewerage scheme for porvorim which is under progress.
	Salvador do Mundo (CT)	6,373	0.76		
	Socorro (CT)	12,908	1.55		
	Aldona (CT)	6,270	0.75		
3	**Tiswadi**				
	Panaji (M Corp. + OG)	70,991	8.52	Sewerage scheme for Panaji is operational with 12.5 MLD STP at Tonca.	
	Panelim (OG) WARD NO.-0031	980	0.12		
	Morambi-O-Grande (Merces) (OG) WARD NO.-0032	1,523	0.18		DPR is ready for St. cruz and surrounding areas. The Scheme is designed for 30 years with 2016 as base year with population of 43600. The project will cover an area of 5.00 sq.km with 15 MLD STP .
	Renovadi (OG) WARD NO.-0033	500	0.06		
	Morambi-O-Pequeno (Merces) (OG) WARD NO.-0034	931	0.11		
	Chimbel (CT)	15,289	1.83		
	Cujira (OG) WARD NO.-0035	1,229	0.15		

	Taleigao (OG) (Part) WARD NO.-0036	24,201	2.90	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	Sewerage Scheme for Taleigao area and areas of Durgawadi is already comissioned with 15 MLD STP at Tonca.
	Durgawadi (OG) (Part) WARD NO.-0037	1,610	0.19		
	Jua (CT)	4,134	0.50		
	Cumbarjua (CT)	4,917	0.59		
	Corlim (CT)	6,568	0.79		DPR is ready forfor Old Goa (Heritage Site) and Surrounding areas covering corlim. The Scheme is designed for 30 years with 2015 as base year with population of 28529. The project will cover an area of 33.00 sq.km with 12MLD STP .
	Murda (CT)	7,517	0.90		
	Calapor (CT)	14,077	1.69		
	Bambolim (CT)	6,885	0.83		
	Goa Velha (CT)	4,322	0.52		
	Mercurim (CT)	4,970	0.60		
4	**Bicholim**				
	Sankhlim (M cl)	13,651	1.64	Sewerage scheme for Sakhlim municipal area (covering only 3 wards) is operational with 0.8 MLD STP at Sankhlim	
	Bicholim (M CL)	16,986	2.04	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	DPR is ready for Bicholim municipal and surrounding areas. The Scheme is designed for 30 years with 2019 as base year with population of 21341. The project will cover an area of 14.46 sq.km with 6 MLD STP .
	Carapur (CT)	5,500	0.66		

	Pale (CT)	6,043	0.73		
5	**Satari**				
	Valpoi (M Cl)	8,532	1.02	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	DPR is ready for Valpoi Municipal Area and surrounding areas. The Scheme is designed for 30 years with 2019 as base year with population of 9906. The project will cover an area of 8.50 sq.km with 2 MLD STP .
	Onda (CT)	5,863	0.70		
6	**Ponda**				
	Ponda (M Cl)	22,664	2.72	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	Sewerage Scheme for Ponda is in progress with 15 MLD STP at Queula. 15 MLD at Undir and 8 MLD STP is proposed
	Quela (CT)	6,852	0.82		
	Bandora (CT)	12,722	1.53		
	Curti (CT)	16,385	1.97		
	Priol (CT)	8,164	0.98		
	Candola (CT)	5,354	0.64		DPR is ready for Marcela covering orgao, candola and surrounding areas. The Scheme is designed for 30 years with 2015 as base year with population of14470. The project will cover an area of 17.19 sq.km with 6 MLD STP .
	Orgao (CT)	4,602	0.55		
	Marcaim (CT)	6,215	0.75		
	Borim (CT)	8,257	0.99		
	Usgao (CT)	12,436	1.49		
	Total	**524,055**	**62.89**		
			South Goa		
7	**Mormugao**				

	Vasco (m Cl)	94,393	11.33	Sewerage scheme for Vasco is operational with 20 MLD STP at Katem Baina	
	Chicalim (CT)	6933	0.83	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	
	Sancoale (CT)	21,923	2.63		DPR is ready for of Cortalim, Sancoale (part) and surrounding areas. The Scheme is designed for 30 years with 2017 as base year with population of 31739 . The project will cover an area of 17.19 sq.km with 7.5 MLD STP .
	Cortalim (CT)	9,080	1.09		
	Verna (CT)	6,632	0.80		
8	**Salcete**				
	Margao (M Cl)	87,650	10.52	Sewerage scheme for Margao is operational with 20 MLD STP at Katem Baina	
	Davorlim (CT)	15,350	1.84		
	Navelim (CT)	12,323	1.48		
	Cuncolim (M cl)	16,623	1.99	Currently Adopting insitu treatment of	
	Nuvem (CT)	9,288	1.11		
	Raia (CT)	10,706	1.28		
	Curtorim (CT)	12,886	1.55		
	Sao Jose de Areal (CT)	10,229	1.23		
	Aquem (CT)	6,511	0.78		
	Benaulim (CT)	11,919	1.43		DPR is ready for

				conventional Septic tank and Soak Pit	south coastal belt phase II including areas VarcaBenaulim, Sernabatim, Vanelim etc. The Scheme is designed for 30 years. The project will cover an area of 42.24 sq.km with 11.50 MLD STP .
	Varca (CT)	5,439	0.65		
	Chinchinim (CT)	6,908	0.83		
9	**Quepem**				
	Quepem (M Cl)	14,795	1.78		
	Curchorem-Cacora (M Cl)	22,730	2.73	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	DPR is ready for Curchorem municipal and surrounding areas. The Scheme is designed for 30 years with 2015 as base year with population of 35017. The project will cover an area of 16.00 sq.km with 7 MLD STP .
	Xeldem (CT)	7,434	0.89		
10	**Sanguem**				
	Sanguem (M cl)	6,444	0.77		
	Sanvordem (CT)	5,103	0.61	Currently Adopting insitu treatment of conventional Septic tank and Soak Pit	DPR is ready for Sanvordem and surrounding areas. The Scheme is designed for 30 years with 2019 as base year with population of 10924 The project will cover an area of 18.02 sq.km with 2.25 MLD STP .
11	**Canacona**				
	Canacona(M Cl)	12,434	1.49		
	Total	**413,733**	**49.65**		
		Grand Total	**112.53**		

GOA WASTE MANAGEMENT CORPORATION

Ref: GWMC/Admin/37/2019-20/ 778 Date: 17.09.2020

To

Member Secretary,

Goa State Pollution Control Board,

Opp. Saligao Seminary,

Saligao, Bardez – Goa

Subject: Submission of Monthly Progress Report (MPR) by State for the month ending August 2020 in matter of O.A. 7673 of 2018 – Ministry of Jal Shakti, DoWR, New Delhi.

Reference: 1. No.1/20/2019-PCB/lab/8746 dated 08.09.2020

Madam,

With reference to the above-mentioned subject, the data requested pertaining to status of Solid Waste Management & Processing facilities is attached as Annexure-A in the required format.

Yours Faithfully,

(Dominic Fernandes)

General Manager

Encl: Annexure-A

Saligao Plateau, Saligao, Bardez, Goa - 403511 | T: 7767812925 | W: www.zerowastegoa.com | E: contact@zerowastegoa.com

Annexure-A

The Government of Goa through Department of Science & Technology formed a SPV as Goa Waste Management Corporation (GWMC) to handle all waste related matters. The Goa Waste Management Corporation Bill 2016 (GWMC 2016) (Bill no 29 of 2016) was approved on the 10th August 2016

The Government of Goa vide notification 3-157-2009/STE-DIR/Part I/SWMC/164 dated 29.09.2016 has appointed the Corporation from 02.10.2016 as the date on which the provisions of the Act would come into force.

As stated in the Act the Corporation has been formed to scientifically manage waste from 191 Panchayats, 13 Municipal Councils and 1 Corporation. The Board of Directors of Goa Waste Management Corporation in its 3rd Meeting held on 3rd July 2017, (resolution no 12) detailed the scope of work of the Corporation.

Existing infrastructure

1. Solid Waste Management Facility at Saligao

The Goa Waste Management Corporation (GWMC) is the managing associate for the SWMF at Saligao with Department of Science and Technology as the Nodal Department for the project. The facility was built on existing 30-year-old dump of approximately 70,000 tons after remediation.

The Capacity of the SWMF is 150 TPD. Facility was commissioned on 31th May 2016.

Facility Treated total of 1,88,697 Tons Municipal Solid Waste from May 2016 to July-2020.

Status Proposed facilities

Sr No.	Project	Details		Status as on 14th Sept 2020	Timeline
1	**Enhancement of Integrated Solid Waste Management Facility – Saligao**	Capacity:	250 TPD (+20%)	• **Part enhancement of Integrated Solid Waste Management Facility** (SWMF) from *100 tons per day (TPD) to 150 tons TPD* is completed and currently is in process of enhancing from existing **150-TPD to 250-TPD (+20%)** • Council of Ministers approved the escalation cost along with contract agreement on 01/07/2020 • GWMC issued Letter of Award on 07/07/2020 and contract agreement was executed on 07/07/2020. It may be noted that the lockdown due to COVID 19, i.e. since March-end 2020, the plant is receiving approximately 100 TPD though the capacity is 150	The project was scheduled to commence in March 2020 however due to administrative and financial approvals, and COVID 19 pandemic and consequent lockdowns, approval is expected to be completed by end of June 2020 where contract agreement will be signed with concessionaire and the project construction is expected to commence effectively post monsoons i.e. Sept 2020 and to be completed in 12 months, for trial operations which requires another 3 months time. Therefore, the timeline for the effective operation of expanded Saligao plant to 250TPD is **Dec 2021**
		Catering to:	Bardez, Pernem, Bicholim & Sattari Talukas		
		Cost of the Project	103.87 Cr		

				TPD as of now. It is expected that the intake waste will gradually increase to pre-pandemic capacity after restaurant and tourism activity commences, to achieve pre-pandemic capacity it may require approximately one year.	
2	**Integrated Solid Waste Management Facility – Cacora**	Capacity:	100 TPD (+25%)	• Letter of Award has been issued and the Concession Agreement has been executed. • After submission of BG letter of commencement issued and site handed over. • Drawings submitted by contractor have been submitted to Project Management Consultant (i.e. GSIDC) for approvals Due to COVID 19, Pandemic and consequent lockdown pre-construction work at the site was suspended since the mobilization of men and material to the site was hampered due to the lockdown. However, the site development works	The project was scheduled to commence in the month of March 2020 however due to COVID 19 pandemic, consequent lockdowns and monsoons, the work shall commence post monsoons in September 2020 and to be completed Dec 2021 thereafter 3 months of trial operation
		Catering to:	Sanguem, Dharbandora, Quepem & Canacona Talukas		
		Cost of the Project	173.98 Cr		

				such as levelling, and providing stormwater drains, ground demarcation /marking for excavation etc. was done.	
3	**Integrated Solid Waste Management Facility- Bainguinim**	Capacity: Catering to:	250 TPD (+20%) Tiswadi & Ponda Talukas	• Environmental Clearance (EC) has been granted. Tender documents based on RFQ and RFP is under final preparation and thereafter tender will be floated. *RFQ and RFP was placed before TEAC for technical approval on 02-Sept 2020.* *After approval RFQ will be floated*	The tender for Solid Waste Management Facility at Bainguinim was proposed to be floated by December 2020 after incorporating estimates of GSR 2019 and tweaking the tender document accordingly and work towards same shall commence April 2021 and expected to be completed in 18 months i.e. **October 2022** which includes 3 months of trial operation.
4	**Solid Waste Management**	Capacity	250 TPD (+20%)	• Tender for conducting Rapid EIA studies was	***As per the Hon'ble High Court Order dated 11/07/2019, time granted upto 28 months***

	Facility – Verna (250 TPD + 20%)	Catering to Mormugao & Salcete Talukas	floated and letter intent was issued on 15/06/2020. Contract agreement was executed after submission of Bank Guarantee. Work order will be issued after receiving revised TOR's from Goa SEAC considering additional study for setup of 250TPD waste to energy plant at the same site.	***from issue this order.*** GWMC to complete EIA studies by December 2020. Upon grant of EC, GWMC shall float tender for SWMF 250 TPD.
5	**Construction & Demolition Waste Management Facility – Bicholim**	Capacity: 500 TPD Land :44,478 sqm Catering to: State of Goa	• 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. • Whereas It has been observed that there are names in Form I & XIV of the aforementioned survey number under other rights column. Hence, the Deputy Collector/SDO Bicholim	The consultant shall submit DPR by mid-August and GWMC shall float tender for setting up C & D Waste Management Facility by November 2020 and construction work towards the same shall commence by January 2021 and to be completed in 18 months i.e. July 2022 after getting the land without any encumbrances including trial operation.

			has issued a public notice on the newspaper to all the persons in the other rights column of Form I & XIV to appear on 02/09/2020 in the court of the Deputy Collector and Divisional Magistrate, Bicholim in order to proceed the demarcation process. • Subsequently, hearing held on 02/09/202 and the Deputy Collector/SDO Bicholim has called again on 23/09/2020 for consecutive hearing to resolve the issue. • Furthermore, 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 in order to avoid hindrance during the establishment of the project as GWMC land with any encumbrances shall be practically of no use	

			for GWMC to set up C&D waste management facility on such land. Therefore, the Dy North Goa Collector has forwarded the letter to Dy collector/SDO Bicholim for necessary action. • In meantime, GWMC officials has inspected the site on 15/07/2020 and it has been observed that the illegal extraction of the stones from quarries/pits is still happening on the site. A copy of inspection report has been submitted to the Deputy Collector Bicholim, Mines department, the District Magistrate & North Goa Collectorate, Police Inspector, Police Station Bicholim, GSPCB and Mamlatdar Bicholim to take necessary action as per law. • GWMC consultant SINTEF, Scientific Research Organization from Norway is assisting GWMC in development & implementation of new	

				technologies in C&D Waste Management.	
6	Common Bio-Medical Waste Treatment Management facility (CBMWTF)	Capacity	200 kgs.per. hour incinerators.	• **Health Care Facilities (HCFs') generate about 02 tons of BMW per day and are being disposed-off as per the provision of the Bio-medical Waste Rules, 2018.** • **Goa Medical College (GMC) has commissioned incinerator since December 2019 having 100 Kg per hour capacity, wherein incinerable BMW collected from Government as well as Private HCFs' is treated.** • In respect of setting-up a CBMWTF, letter of Award has been issued to M/s Biotech Waste	The construction of the project was scheduled to commence in April 2020 however due to COVID 19 pandemic, consequent lockdowns and monsoons, the work shall commence in the month of September 2020 and to be completed in 15 months time i.e. December 2021 including trial operation

				on 04th February 2020 and GWMC has signed the Concession Agreement with M/s Biotic Waste Solutions Pvt. Ltd. Delhi to set up the Common Biomedical Waste Treatment Facility at Kundaim Industrial Estate. • Due to COVID 19 Pandemic and consequent lockdown mobilization of men and material at site to commence work has been hampered/delayed. 1. Compound wall under construction through GSIDC and the work is in progress.	
7	Common Hazardous Waste Treatment Storage and Disposal Facility	Capacity	25,000 TPA Secured Landfill (SLF) & 1.5 ton/hr incinerators	• Currently, the Hazardous Waste generated in the State are disposed of as per CPCB/GSPCB norms or guidelines for recycling and incineration at Maharashtra and Karnataka • As regard to setting-up a Common HW treatment and storage facility at Pissurlem industrial estate, it is informed that M/s	The laying of liners of the 1st SLF was supposed to be completed in May 2020 however due to COVID 19 pandemic, consequent lockdowns and oncoming monsoons, the laying of liners requires three months of the dry season, hence the laying of liners for 1st Secured Landfill (SLF) shall

	(CHWTSD)			Ponda Envirocare – an SPV of M/s SMS Envirocare (contractor) has commenced the erection of PEB-structure of shed-1 on-site. • Temporary laboratory facility on-site has been completed. Once the administration building is completed, the laboratory will be shifted accordingly. • Due to COVID 19 Pandemic and consequent lockdown mobilization of men and material to the site was hampered/delayed, so also laying of liners got delayed. • **Laying of liners of the 1st Secured Landfill (SLF) will commence post-monsoon.**	commence post monsoons i.e. in the month of November 2020 and to be completed in by February 2021. The operations of the Landfill shall commence by March 2021

The status of remediation of eleven dump-sites may please be referred in the table below:

Sr. No.	Location of dump	Estimated volume of dump (m^3)	Status	Completion
1	Curca, Bambolim	7454.94	Yet to commence, which will commence post monsoons	Two Years (Excluding Monsoon) from the date of issue of work order i.e. 28/09/2021 and 36 months from issue of work order for disposal of RDF in Cement
2	Campal, Panjim	7555.25	As on 02/06/2020 **~6,800 m^3** waste is remediated.	
3	Behind SBI, EDC, Patto	2524.2	Survey Completed, which will commence post monsoons	
4	Near Divja Circle, Panaji	1018.38	Survey Completed, which will commence post monsoons	
5	Sonsoddo, Margao	231239.76	As on 08/05/2020 **~1,05000 m^3** is remediated.	
6	Opp. to MPT Hospital, Headland Sada	83661.41	As on 02/06/2020 **~1,10,000 m^3** waste is remediated and completed	
7	Assagao Plateau (Mapusa)	127684.8	As on 02/06/2020 **~32,000 m^3** waste is remediated.	
8	Lakherem (Bicholim)	3165.25	Survey Completed, which will commence post monsoons	

Sr. No.	Location of dump	Estimated volume of dump (m^3)	Status	Completion
9	Pernem Municipal Council	210	Survey Completed, which will commence post monsoons	Factories. i.e. 28/02/2024
10	Dumane Shristhal, Canacona	493.21	Survey Completed, which will commence post monsoons	
11	Cuncolim	3616.95	Machineries mobilised and Preliminary work undertaken	

❖ *Note:*

1. *The volume of dump shown above was estimated in December 2018 and remediation work started post-December 2019. During this period the local bodies have continuously dumped waste at the site. Further, the waste below the ground level in the dump could not be quantified initially.*
2. *Due to COVID 19 and consequent lockdown the disposal of Refused Derived Fuel (RDF) to cement factories were hampered, However 1st week of June 2020, GWMC has made efforts to dispose RDF to cement factories. During monsoons RDF shall be covered as per the tender conditions*

DATA of 11 polluted river stretches from May 20-Aug 2020 for major Rivers

1.RIVER CHAPORA NEAR ALORNA FORT, PERNEM

Sr.No.	Parameters	May -20	June -20	July -20	August -20	Limit for class C rivers as per CPCB classification based on designated best use of rivers
1	pH	6.99	7.33	6.53	6.85	6.0-9.0
2	Dissolved Oxygen mg/l	6.1	6.5	7.2	7.5	4 mg/l or more
3	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	2300	3300	2700	3200	5000 or less MPN/100ml

Remarks:

RIVER CHAPORA NEAR SIOLIM BRIDGE

Sr.No.	Parameters	May -20	June -20	July -20	August -20	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.85	5.9	6.72	7.75	6.5-8.5
2	Turbidity (NTU)	17.10	6.17	16.80	43.32	30 NTU
3	Dissolved Oxygen mg/l	6.0	5.9	6.6	7.2	4 mg/l or more
4	BOD mg/l	2.0	BDL	BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	280	1300	1300	1100	100 or less MPN/100ml

Remarks:

2.TIRACOL AT KERI, PERNEM

Sr.No.	Parameters	May -20	June -20	July -20	August -20	Limit for SW II rivers as per CPCB classification based on designated best use of rivers
1	pH	7.82	7.68	6.64	6.88	6.5-8.5
2	Turbidity (NTU)	6.46	11.94	30.9	60.4	30 NTU
3	Dissolved Oxygen mg/l	5.0	5.5	6.6	6.3	4 mg/l or more
4	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	130	140	230	210	100 or less MPN/100ml

Remarks:

3.RIVER SINQUERIM, CANDOLIM SIDE						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.68	7.6	7.6	7.2	6.5-8.5
2	Turbidity (NTU)	7.51	4.98	13.8	23.7	30 NTU
3	Dissolved Oxygen mg/l	4.7	5.4	7.2	7.5	4 mg/l or more
4	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	330	2200	1300	1400	100 or less MPN/100ml
Remarks:						

RIVER SINQUERIM, NEAR GANPATI TEMPLE						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.78	7.6	7.6	7.4	6.5-8.5
2	Turbidity (NTU)	6.48	5.48	14.17	24.4	30 NTU
3	Dissolved Oxygen mg/l	6.5	5.2	7.1	7.2	4 mg/l or more
4	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	490	1400	2700	2100	100 or less MPN/100ml
Remarks:						

4.RIVER ZUARI AT MADKAI JETTY						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.8	6.7	6.5	6.58	6.5-8.5
2	Turbidity (NTU)	8.19	3.06	12.78	41.7	30 NTU
3	Dissolved Oxygen mg/l	5.0	4.0	6.2	7.5	4 mg/l or more
4	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	790	1100	1300	780	100 or less MPN/100ml
Remarks:						

RIVER ZUARI AT BORIM BRIDGE						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.10	6.71	6.32	6.50	6.5-8.5
2	Turbidity (NTU)	17.70	3.11	44.00	13.63	30 NTU
3	Dissolved Oxygen mg/l	3.8	4.5	6.3	7.0	4 mg/l or more
4	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	130	230	450	400	100 or less MPN/100ml
Remarks:						

5.RIVER ASSANORA AT ASSANORA						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.42	6.98	6.34	6.81	6.0-9.0
2	Dissolved Oxygen mg/l	5.7	6.8	6.5	6.9	4 mg/l or more
3	BOD mg/l	2.2	BDL	BDL	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	1700	1100	490	460	5000 or less MPN/100ml
Remarks:						

6.RIVER VALVANTI AT SANQUELIM						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.89	6.84	6.14	6.63	6.0-9.0
2	Dissolved Oxygen mg/l	6.4	6.4	7.6	7.7	4 mg/l or more
3	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	2200	3300	3300	2700	5000 or less MPN/100ml
Remarks:						

7.RIVER KHANDEPAR, OPA, PONDA						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.43	6.88	6.31	6.3	6.0-9.0
2	Dissolved Oxygen mg/l	6.7	6.5	7.3	7.6	4 mg/l or more
3	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	220	330	790	700	5000 or less MPN/100ml
Remarks:						

RIVER KHANDEPAR, CODLI						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.78	7.25	6.1	6.78	6.0-9.0
2	Dissolved Oxygen mg/l	6.5	7.0	7.0	7.5	4 mg/l or more
3	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	230	220	260	220	5000 or less MPN/100ml
Remarks:						

8.RIVER BICHOLIM BARAZAN NAGAR, BICHOLIM						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	6.73	6.31	6.07	6.07	6.0-9.0
2	Dissolved Oxygen mg/l	5.8	5.9	7.0	7.2	4 mg/l or more
3	BOD mg/l	2.0	BDL	BDL	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	4600	7000	7900	5800	5000 or less MPN/100ml
Remarks:						

9.RIVER MANDOVI AT TONCA MARCELA						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.2	6.88	6.57	6.47	6.5-8.5
2	Turbidity(NTU)	6.69	3.12	44.8	16.27	30 NTU
3	Dissolved Oxygen mg/l	5.2	4.0	6.5	7.3	4 mg/l or more
4	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	680	780	9300	1100	100 or less MPN/100ml
Remarks:						

10.RIVER TALPONA AT CANACONA						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class C rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.46	6.59	6.41	6.35	6.0-9.0
2	Dissolved Oxygen mg/l	6.8	7.0	7.1	7.4	4 mg/l or more
3	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
4	Total Coliform MPN/100ml	780	2700	4600	2200	5000 or less MPN/100ml
Remarks:						

11.RIVER SALAT KHAREBAND,MARGAO						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	Sample Not collected due to excessive growth of water hyacinth	Sample Not collected due to excessive growth of water hyacinth	6.8	7.23	6.5-8.5
2	Turbidity(NTU)			7.87	3.64	30 NTU
3	Dissolved Oxygen mg/l			4.7	4.3	4 mg/l or more
4	BOD mg/l			BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml			7000	4900	100 or less MPN/100ml
Remarks: Not applicable						

RIVER SAL AT MOBOR						
Sr.No.	**Parameters**	**May -20**	**June -20**	**July -20**	**August -20**	**Limit for class SW II rivers as per CPCB classification based on designated best use of rivers**
1	pH	7.72	7.82	7.8	6.89	6.5-8.5
2	Turbidity(NTU)	16.73	13.78	38.1	25.81	30 NTU
3	Dissolved Oxygen mg/l	5.0	6.0	6.5	6.4	4 mg/l or more
4	BOD mg/l	BDL	BDL	BDL	BDL	3 mg/l or less
5	Fecal Coliform MPN/100ml	1300	1700	2700	1300	100 or less MPN/100ml
Remarks:						

NOTE:
1)BDL- Below Detection Limit