महाराष्ट्र जीवन प्राधिकरण

मुख्य अभियंता, पुणे प्रादेशिक विभाग पुणे,
नवीन प्रशासकीय इमारत, पुणे लष्कर पा.पु. केंद्र आवार,
४६३ स्टेव्हली रोड, सेंट मेरी चर्च शेजारी, कँप, पुणे-४११००१
दूरध्वनी : कार्यालयीन ०२०-२९७०६०६४/२९७०६०६८
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जाक्र :- मु.अ(पुणे)/चिशा/दरसुची २०२१-२२/शुध्दीपत्रक/३७५१ दि.०१ ऑक्टोबर २०२१

शुध्दीपत्रक क्र ३

विषय:- मजीप्राच्या सन २०२१-२२ च्या दरसुची मध्ये १) Supply and installation of prefabricated ground water storage bolted tanks आणि २) Integrated Wetland Technology Based Sewage Treatment Plant चा समावेश करण्याबाबत.

संदर्भ:- १) अधीक्षक अभियंता(मु),मजीप्रा, मुंबई यांचे पत्र क्र.मजीप्रा/सस/तांशा ३/ १११८ दि.०८/०९/२०२१.

२) या कार्यालयाद्वारे डॉकेट स्वरुपात (जा.क्र.मु.अ(पुणे)/तांशा-२/१४०९ दि.१८/०८/२०२१) सादर केलेल्या प्रस्तावास, सदस्य सचिव कार्यालयाच्या टिप्पणी दि. २३/०९/२०२१ द्वारे मिळालेली मान्यता.

मजीप्राची पुणे प्रादेशिक विभागाची सन २०२१-२२ ची दरसुची दि.१५/०६/२०२१ पासून लागू करण्यात आली आहे. संदर्भीय पत्र क्र.१ अन्वये, सदर दरसुचीमध्ये Supply and installation of prefabricated ground water storage bolted tanks चा समावेश करण्याबाबत सुचना प्राप्त झालेल्या आहेत. यानुसार सन २०२१-२२ च्या दरसुचीमध्ये शुध्दीपत्रकाद्वारे सदर बाबीचा समावेश करण्याची माहिती खालीलप्रमाणे आहे.

Section H (Miscellaneous)

Sr. No.	Description	Unit	Rate 2021-22	
			With RCC Foundation	Without RCC Foundation
	Supply and installation of prefabricated ground water storage bolted tanks, a complete package in knockdown, ready to assemble construction consisting of outer wall surface made out of special grade hot dip aluminum – Zink alloy, metallic			

Sr. No.	Description	Unit	Rate 2021-22	
			With RCC Foundation	Without RCC Foundation
	factory coated steel confirming to IS-15961-2012 minimum thickness of 0.6 mm = The inner surface should be provided with liners of minimum 0.6 mm thickness of reinforced polyethylene or polypropylene or metallocene material suitable for drinking water purpose. Top cover shall be of polyethene tape monophylament yarn or woven polypropylene or corrugated G.I. Sheets Rate include cost of inlet, outlet, overflow Pipes up to 5 m from periphery of tank including ball valves of standard quality , aluminum ladder, level indicator, water tightness test, transportation up to site of work and all taxes etc complete.			
	Above tanks can be installed on elevated platform. (ESR) the rate of tank does not include the cost of elevated platform. 2% extra to be considered for installation of tank on elevated platform.The elevated platform needs to be designed as per requirement & which will be paid separately. The elevated platform must be of steel framed structure.			
	For the dome type GI corrugated roof structure with hot dip galvanized trusses with GI manhole for access for cleaning and maintainance, 10 % extra shall be added.			
	For heavy duty five layer polypropylene reinforced liner with mettallocene contact layer having a minimum thickness of 1 mm- 10 % extra shall be added.			
	Incase Rain water harvesting filters & system to catch the rain form the GI Tank roofs mounted on the Tank roof and supplied with tank then 10 % extra shall be added.			
	25000	Lit	14.10	13.38
	30000	Lit	12.80	12.07
	50000	Lit	11.70	10.97
	75000	Lit	9.95	9.23
	100000	Lit	8.59	7.87
	150000	Lit	7.67	6.99
	200000	Lit	7.15	6.42
	250000	Lit	6.48	5.76

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Sr. No.	Description	Unit	Rate 2021-22	
			With RCC Foundation	Without RCC Foundation
	300000	Lit	6.28	5.55
	375000	Lit	5.50	4.77
	500000	Lit	5.05	4.01
	750000	Lit	4.72	3.99
	1000000	Lit	4.54	3.81
	1500000	Lit	4.20	3.47

संदर्भ क्र.२ अन्वये, Integrated Wetland Technology Based Sewage Treatment Plant चा समावेश करण्याबाबत निर्देश प्राप्त झाले आहेत. त्याअनुषंगाने सन २०२१-२२ च्या दरसुचीमध्ये शुध्दीपत्रकाद्वारे सदर बाबीचा समावेश करण्याची माहिती पुढीलप्रमाणे सादर करण्यात येत आहे.

Section J (II) Treatment Plant - STP

Sr. No.	Description	Unit	Rate (Rs.) 2021-22	
			Complete	Labour
I	**Integrated Wetland Technology (IWT) BASED SEWAGE TREATMENT PLANT**			
	Designing, providing, constructing, hydraulic testing, commissioning and giving satisfactory trials of Integrated Wetland Technology (IWT) based Sewage Treatment Plant (STP) consisting of Screen chamber, Oil and Grease trap, RCC Primary treatment tank (including manholes, vent pipes and graded gravel media) and RCC Secondary treatment tank (SBBR) (including gravel media, PVC sheets, wetland plants, plastic mesh, etc. as required.), RCC intermediate and treated water tank, sludge recirculation pump and pipe network, room for tertiary treatment unit, Electrical and Mechanical works for tertiary treatment including associated piping work, internal pathways, wire fencing, etc. complete as turnkey job with all involved civil, electrical and mechanical works inclusive of following items, units as per detailed specifications for civil, electrical and mechanical components with all duties and taxes excluding GST Allied structure shall be constructed as per the provision in appropriate and relevant standards and			

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Sr. No.	Description	Unit	Rate (Rs.) 2021-22	
			Complete	Labour
	design guidelines of respective authorities. RCC and civil works will be as directed by Engineer-in-charge. Sewage Treatment Plant (STP) to be designed to treat the raw water sewage with the characteristics in table number **"A"** to produce the treated sewage with characteristics as mentioned in table number **"B"**			
A	**Raw Sewage Characteristics**			
	Temperature - Ambient			
	pH - 5.5-9.0			
	BOD_5 - 300 mg/L			
	COD - 600 mg/L			
	TSS -500 mg/L			
	Total N : 50 mg/L			
	Total P : 15 mg/L			
	Faecal Coliform (MPN) : 10^6- 10^7			
B	**Treated Water Characteristics**			
	Temperature - Ambient			
	pH - 6.5-8.0			
	BOD_5 < 10 mg/L			
	COD < 40 mg/L			
	TSS < 20 mg/L			
	Total N < 5 mg/L			
	Total P <1 mg/L			
	Faecal Coliform (MPN) < 10 mg/lt			
	Note: If raw sewage characteristics observed as per test are more critical than the mentioned in description (Table A) same shall be used for the design of Sewage Treatment Plant (STP), otherwise raw sewage characteristics mentioned (Table A) shall be used.			
II	**FOLLOWING COMPONENTS ARE INCLUDED**	**Components**		
	1. SCREEN CHAMBER: Screening is a unit operation that separates large floating materials in and/or on water. Found in different sizes. Screening prevents floating material entering in wastewater treatment units and mains.	1 Nos.		
	2. Oil and Grease Trap Designing, providing and constructing manual type Oil and Grease removal mechanism in RCC (M-300) capable of removing grease, oil	1 Nos.		

Sr. No.	Description	Unit	Rate (Rs.) 2021-22	
			Complete	Labour
	and scum including providing and making necessary arrangements. Removal will be done manually and stored in a tank for defined period after which it will be disposed to appropriate disposal facility. Inlet and outlet channels of required sizes as per make shall be required to connect the flow to connecting unit, etc. complete including hydraulic testing for water tightness of structure having adequate Free Board, and platform. All arrangements shall be done and as per detailed specifications and as directed by Engineering in Charge.			
	3. Primary Treatment Tank Designing, providing, constructing and hydraulic testing in RCC (M-300) watertight underground primary treatment tank (including **PSRT, SABR, BSF**). Designs as per the drawings given by IWT technology provider. Design will consider the average flow, the 2 Dry Weather Flow (DWF) and the peak flow. Tank will be covered and PVC vent pipes having sand and activated carbon (as per details and design provided by technology provider) will be installed to prevent odour. 0.5% of horizontal slope is provided in the tank for the collection of sludge. Minimum free board of 0.3m is provided. It includes providing all necessary items such as gravel media, piping, valves, joints, launder, baffling, etc. as shown in drawings and additional items will be as directed by Engineering in Charge.	1 Nos.		
	4.Static Bed Biofilm Reactor (SBBR) Designing, providing, constructing and hydraulic testing in RCC (M-300) watertight underground secondary treatment tanks (SBBR). 0.5% of horizontal slope is provided in the tank for the collection and recirculation of sludge. Design and drawings given by IWT technology provider. Design will consider the average flow, the 2 Dry Weather Flow (DWF) and the peak flow. Wetland plants will be planted on gravel media (as per designed by IWT technology provider). In the open recirculation sections a combination of Bottom screen, MS mesh, PVC sheet, and	1 Nos.		

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Sr. No.	Description	Unit	Rate (Rs.) 2021-22	
			Complete	Labour
	plastic mesh will be provided to support Wetland plants. Minimum free board of 0.3m is provided. It includes providing all necessary items such as gravel media, piping, valves, joints, launder, baffling, structural steel work, bottom screens, grill work, pvc sheet, plastic mesh, wetland plants etc. as shown in drawings items will be as directed by Engineering in Charge.			
	5. Intermediate and Treated Water Tank Designing, providing, constructing and hydraulic testing in RCC (M-300) watertight underground tank acting as a feed tank for tertiary treatment avoiding backflows. Designs as per the drawings given by IWT technology provider. Design will consider the average flow, the 2 Dry Weather Flow (DWF) and the peak flow. Tank will be covered. It includes providing all necessary items such as piping, valves, joints etc. as shown in drawings and will be as directed by Engineering in Charge.	1 Nos.		
	6. Tertiary Treatment Unit Designing, providing, installing and hydraulic testing of feed pump, activated carbon filter vessel with required sand and required activated carbon quantities, hypo dosing tank, dosing pump, necessary piping, pumps, joints, electrical cables, connections etc. complete. It also includes trial run of tertiary treatment unit. After dosing contact time of 30 min allows 99.99 % reduction of fecal coliform. Chlorine dosage will be as per standard requirement of 5-10 ppm. to match effluent quality as mentioned in table number "B" . The Unit shall be as per approved design of technology provider.	1 Nos.		
	7. Treated Water Outfalls Designing, providing, constructing appropriate outfall sewer of RCC NP Class -III pipe to discharge treated effluent, untreated effluent from bypass chambers to the point shown on the drawing including necessary chambers for inspection and cleaning including excavation, dewatering, refilling, concrete, encasing / bedding concrete at the point shown on the drawing.	1 Nos.		

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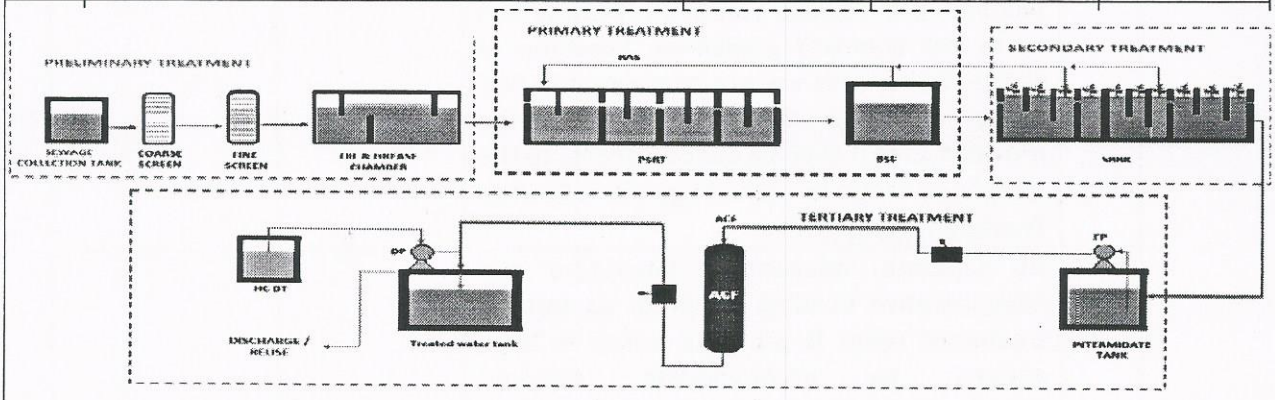
Sr. No.	Description	Unit	Rate (Rs.) 2021-22	
			Complete	Labour
	8. Block Diagram Integrated Wetland Technology (IWT)			



PSRT: Primary Solid Removal Tank	
BSF : Bio Sequential Filtration	HCDT: Hypo chloride Dosing Tank
RAS : Return activated sludge	DP: Dosing Pump
SBBR: Static Bed Biofilm Reactor	ACF: Activated carbon Filter

III	**PRICE SCHEDULE**			
	Capacity of the Plant in MLD **Area Requirement in Sqm**	**Unit**	Amount in (Rs.)	
	0.10 MLD 250	Job	42,76,060.00	
	Add capacity above 0.10 MLD to 0.25 MLD	Litre	29.32	
	0.25 MLD 630	Job	86,74,590.00	
	Add capacity above 0.25 MLD to 0.50 MLD	Litre	25.71	
	0.50 MLD 1100	Job	1,51,01,220.00	
	Add capacity above 0.5 MLD to 1 MLD	Litre	25.03	
	1.00 MLD 2090	Job	2,76,14,730.00	
	Add capacity above 1 MLD to 2 MLD	Litre	24.56	
	2.00 MLD 4040	Job	5,21,77,500.00	
	Add capacity above 2 MLD to 3 MLD	Litre	24.10	
	3.00 MLD 5990	Job	7,62,77,430.00	
	Add capacity above 3 MLD to 5 MLD	Litre	23.91	
	5.00 MLD 9950	Job	12,41,04,440.00	
	NOTES			
1	Screen chamber and O and G trap are of manual type			
2	Sodium hypochlorite dosing is adopted			
3	Dedicated sludge management is not provided as it is required every 12 to 18 months basis cycle from Primary Removal Tank (PSRT) and Static Bed Biofilm Reactor (SABR)			

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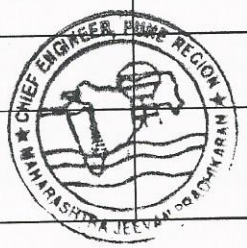
Sr. No.	Description	Unit	Rate (Rs.) 2021-22	
			Complete	Labour
4	Sludge will be removed from the Sewage Treatment Plant (STP) and will be disposed according to stakeholders general practice to nearest Fecal Sewage Treatment Plant (FSTP) or as per standard guidelines. Provision of sludge drying beds are not considered in IWT scope. If sludge drying beds are to be provided then it shall be additional cost to the Integrated Wetland Technology (IWT) Sewage Treatment Plant (STP)			
5	No separate Independent laboratory and administrative building required. As tertiary treatment room is provided which is large enough to accommodate required manpower, storage and instruments			
6	Site clearance, wire fencing to the boundary of Sewage Treatment Plant (STP) is included in scope of work			
7	All water retaining structures are in M300. grade of concrete			
8	Water table is considered 5m below Finish Ground Level (FGL) for design			
9	Soil bearing capacity is considered as 20 T/m^2 at 1.5m below from Ground Level (GL)			
10	Grade of cement used is OPC 43 grade. (Contractor can use higher grade with apropriate technical procedure).			
11	Grade of steel to be used is Fe 500			
12	Peak factor considered in design of IWT based STP as per CPHEEO manual guidelines			
13	Hypo dosing material and required manpower during trial run (90days) and commissioning is considered in scope of work			
14	Water and power during construction, trial run and commissioning shall be provided by client/ local body			
15	Power available near STP is assumed to be LT power supply			
16	All Integrated Wetland Technology (IWT) designs will be provided by IWT Technology provider			
17	Defect liability period shall be of 5 years to the contractor			
18	Maintenance and repair work of IWT shall be responsibility of the contractor and technology provider combine			



Annexure

Sr. No.	Description	Unit	Rate (Rs.) 2021-22	
			Complete	Labour
IV	**Equipments of following make shall be used**			

Sr. No.	Description	Make
1	Centrifugal Pumps	Kirloskar, Johnson, Kishor, Crompton or as per MJP approved make
2	Dosing pump	Milton Roy pumps, VK Pumps or equivalent
3	Screens	To be fabricated as per technology provider guidelines
4	Cables	Finolex, Polycab, Supreme or as per MJP standard
5	Plastic mesh and plastic tie lock	General standard with 1 to 2 inch gap grill bird net
6	PVC Sheet	General standard 4 to 6 mm thick to cover Sludge management unit
7	Valves	Intervalve, BDK, Procon OR AS PER MJP approved make
8	Gravel media	As per design and as approved by technology provider
9	Pipes	As per MJP approved design / make
10	Canna Indica Plants	Variegated canna or equivalent
11	Tertiary Unit	AS per standard specification and supplied by technology provider
12	Bio Culture and Growth Hormone	AS per standard specification and supplied by technology provider

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9.10.2024

(रा.सा.राहाणे)
अध्यक्ष ,दरसुची समिती तथा
मुख्य अभियंता
मजीप्रा प्रादेशिक विभाग, पुणे

प्रत:- मा. सदस्य सचिव, मजीप्रा ,मुंबई यांना माहिती करिता सविनय सादर.

प्रत:- मुख्य अभियंता, मजीप्रा , प्रादेशिक विभाग ठाणे/नाशिक/ औरंगाबाद/ अमरावती/ नागपुर यांना माहिती करिता अग्रषित.

प्रत:- अधीक्षक अभियंता मजीप्रा (मुख्यालय) / अधीक्षक अभियंता मध्यवर्ती नियोजन व सनियंत्रण कक्ष, मजीप्रा मुंबई यांना माहितीस्तव.

प्रत:- उप अभियंता, अद्यावत तंत्रज्ञान कक्ष, मजीप्रा, मुंबई यांना माहितीस्तव व मजीप्राच्या संकेतस्थळावर Upload करण्यासाठी.