

**GOVERNMENT OF WEST BENGAL**  
**OFFICE OF THE CHIEF ENGINEER**  
**Municipal Engineering Directorate**

*Bikash Bhawan, South Block (1<sup>st</sup> Floor) Salt Lake, Kolkata – 700091*

*Phone No: (033)2337-1331/ (033)2358-3347 \ Fax: (033) 2337-5472 /2337-5474*

*E-mail: ce\_medte@yahoo.com*

No. ME/1350/1F-01/2022

Dated :14/11/2022

**Draft Quotation Notice**

Quotations are hereby invited for the following item through email to ce\_medte@yahoo.com or may be submitted in the office of the undersigned in sealed envelope in working hours within due date & time from the reliable, resourceful and bonafide Contractor/Agencies/Suppliers with proven capability for the work of “**Design ,Supply , installation , testing and commissioning of Faecal Sludge Treatment Plant capacity 30KLD (as per attached BOQ)**”, for the purpose of formulation of DPR within different Urban Local Bodies of West Bengal.

- The quotation should be given with respect to following specification strictly.
- Last date of submission of quotation:**28/11/2022, 12:00 pm**
- The quotation should include all types of taxes, transportation and other expenditure if any. GST is to be mentioned separately also.
- Rate should be quoted in the BOQ attached as Annexure I
- The rate should be valid for at least two years

**Scope of Works :-**

“Design, Supply, installation, testing and commissioning of faecal sludge treatment plant total sludge handling capacity of 30 m3 per day in one module of 30 KLD. The tank shall be designed as water retaining structures in FRP Lining as required by the manufacturer's design.

The thickness of FRP tank shall be minimum 20 mm.

The Plant shall be complete with a Electrical Power and Control panel fully pre/site wired and with all power and control cables to all pumps and equipment including all instrumentation, water level controllers and other controls. All the equipment, piping, pumps, blowers and electrical are to be housed in a plant room. Puddle flange, inlet, outlet overflow, vent, drain channel with sump to house pumps will be included.

(The rates will include all pumps, piping, valves, controls, reactor and tube settler media, blowers, diffusers, Control panel with all power and control cables to all pumps and equipment including all instrumentation, water level controllers and other controls complete)

Nature of Faecal Sludge : Domestic faecal sludge from Municipality

**BASIC DATA ON INFLUENT RAW FECAL SLUDGE**

Total Suspended Solids (TSS) : 42120 mg/lit

BOD5 : 30000 mg/lit

COD : 65000 mg/lit

pH : 6.0 - 8.5

**TREATED FAECAL SLUDGE WATER QUALITY**

As stipulated by State Pollution Control Board (PCB), the treated effluent quality shall be within the following values for various parameters.

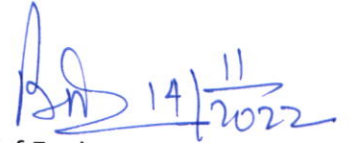
The treated water quality should be fit for Recycling in Landscaping -

Total Suspended Solids (TSS) :< 10 mg/lit pH : 6.5 - 8.3

BOD5 :< 30 mg/lit COD : < 100 mg/lit.

- The Faecal sludge treatment plant shall be designed based on the attached details and parameters.
- The Faecal sludge treatment plant should follow all the concern Indian and Local norms.
- The scope of work includes design, drawings, coordinating during construction, erection, commissioning, trial run and obtaining test results of completely faecal sludge treatment plant with electrical, mechanical, piping and controls along with submission of detailed GA drawings (Plan & Section), P & I diagram, of the plant indicating all sleeves etc. for the various component and additional component if so required for the complete working of the FSTP. The drawings will have to submit for approval before start of work.
- The work is required to be carried out on a turnkey basis covering a guarantee of satisfactory performance as per the standards laid for a minimum of Six month.
- The Total cost should be included all charges and taxes as per Govt. Norms.
- Quoted rate should be put in figures and words in Company Pad with GST no.

The undersigned is not bound to accept the lowest quotation and reserve the right to reject any or all the quotations without assigning any reason thereof.

A handwritten signature in blue ink, followed by the date '14/11/2022' written in blue ink.

Chief Engineer,

Municipal Engineering Directorate



**BOQ for Electro-mechanical Work for FSTP of 30 KLD Capacity**

**Scope of Work:** Design, Supply, installation, testing and commissioning of fecal sludge treatment plant total sludge handling capacity of 30 m<sup>3</sup> per day in one modules of 30 KLD. The tank shall be designed as water retaining structures in FRP Lining as required by the manufacturer's design.

The thickness of FRP tank shall be min 20 mm .

The Plant shall be complete with a Electrical Power and Control panel fully pre/site wired and with all power and control cables to all pumps and equipment including all instrumentation, water level controllers and other controls. All the equipment, piping, pumps, blowers and electrical are to be housed in a plant room. Puddle flange, inlet, outlet overflow, vent, drain channel with sump to house pumps will be included.

(The rates will include all pumps, piping, valves, controls, reactor and tube settler media, blowers, diffusers, Control panel with all power and control cables to all pumps and equipment including all instrumentation, water level controllers and other controls.)

Nature of Fecal Sludge : Domestic fecal sludge from Municipality

**BASIC DATA ON INFLUENT RAW FECAL SLUDGE**

Total Suspended Solids (TSS) : 42120 mg/lit

BOD<sub>5</sub> : 30000 mg/lit

COD : 65000 mg/lit

pH : 6.0 - 8.5

**TREATED FECAL SLUDGE WATER QUALITY**

As stipulated by State Pollution Control Board (PCB), the treated effluent quality shall be within the following values for various parameters.

The treated water quality should be fit for Recycling in Landscaping -

Total Suspended Solids (TSS) : < 10 mg/lit pH : 6.5 - 8.3

BOD<sub>5</sub> : < 30 mg/lit COD : < 100 mg/lit.

\*The Fecal sludge treatment plant shall be designed based on the attached details and parameters.

\*The Fecal sludge treatment plant should follow all the concern Indian and Local norms.

\*The Contractor shall have to submit detailed GA drawings (Plan & Section), P & I diagram, of the plant indicating all sleeves etc for the various component and additional component if so required for the complete working of the FSTP.

\*The drawings will have to submit for approval before start of work. \*The scope of work includes design, drawings, coordinating during construction, erection, commissioning, trial run and obtaining test results of completely fecal sludge treatment plant with electrical, mechanical, piping and controls.

(\*The scope of work includes design, drawings, coordinating during construction, erection, commissioning, trial run and obtaining test results of completely fecal sludge treatment plant with electrical, mechanical, piping and controls.)

(\*The work is required to be carried out on a turnkey basis covering a guarantee of satisfactory performance as per the standards laid for a minimum of Six month.)

The Fecal sludge treatment plant shall consist of following units but not limited to these unit as may be required by the manufacturer's design to achieve the desired quality parameters in treated effluent.

SI No	Item Description	Quantity	Unit	Rate (Rate inclusive of all taxes, GST etc.)	Amount in Rs.
1	<p>Supply, installation testing &amp; commissioning of 1m<sup>3</sup>/hr., 10 mt. capacity horizontal, centrifugal non-clog open impeller self priming pump with Eff-1 Squirrel case Induction motor TEFC, IP55 flexibly coupled with accessories like, MABT/FABT, flexible coupling, with surid, NRV, common base frame complete in all respect &amp; as per direction of EIC.            MK : Pump :- Kirloskar/KSB/MBH            Motor :- ABB/Marathon/Cr. Greaves.</p>	2 No. Unit (1W+1S)	Nos.		
2	<p>Supply, installation testing &amp; commissioning of primary lamella clarifier/IPS for a maximum flow of 2810 lt/hr. with a retention time at max<sup>m</sup> flow is 18 minute as per technical specification &amp; direction of EIC.</p> <p>Flash Mixture Tank Vol. 70-120 lit.            Flocculation Tank Vol. – 78 lit.            Pre treatment Vol. – 95-98 lit.            Effluent pipe connection – 2”, 150 flange            Solid discharge connection – 2” 150 flange            Sludge capacity – 158.76 lit.            Plate are – 3.62 m<sup>2</sup>            Liq. Volume – 669.06 lit.            Retention time on Max<sup>m</sup> flow – 18 minute            Solid removal – 95+%@200 PPM influent            Under flow solids – 1-2%            MOC – under lining FRP</p>	1 Job	Set		
3	<p>Introduction of Aeration system by using fine bubble diffusers. The air quantity required shall be suitable to provide sufficient oxygen for aerobic bio degradation of the inlet organic matter. Capacity to handle 30KLD &amp; 50 KLD as per technical specification &amp; direction of EIC. (MBBR-1 &amp; 2)            Min. HRT – 3 to 4 hrs. Free board – 0.5m</p>	2 Jobs	Set		



SI No	Item Description	Quantity	Unit	Rate (Rate inclusive of all taxes, GST etc.)	Amount in Rs.
4	Supply, installation testing & commissioning of secondary lamella clarifier suitable to Handle 30 KLD as per technical specification & direction of EIC & ready for HOCL dosing.	1 Job	Set		
5	Introduction of holding sump MS Epoxy with underlining FRP coating for ozonization .	1 Job	Set		
6	Supply, installation testing & commissioning of 2m <sup>3</sup> /hr. with suitable head, centrifugal mono-block filter feed pump.	2 No. Unit(1W+1S)	No.		
7	Introduction of Multi-grade filter with FRP/MS Epoxy with graded media.	1 Job	Set		
8	Introduction of activated Carbon filter with FRP/MS Epoxy with Carbon media.	1 Job	Set		
9	Supply, installation testing & commissioning of 10-20 m <sup>3</sup> /hr. twin lobe air blower with 0.3 kg/sq.cm pressure with prime mover complete. Mk : Air Vak/ Akash / KAY / Everest	2 nos.	No.		
10	Supply, installation testing & commissioning of ozonator unit with a dosing capacity 5 gm. Mk.:- ORAIPL / Equiv.	1 No.	No.		
11	Supply, installation testing & commissioning of Dosing pump one working & one stand by of capacity 0-4 liter/ hour. Handling liquid HOCL as per direction of EIC.	1 Job	Set		
12	Supply & installation of Dosing tank of capacity 100 ltr. MOC-To fit with the system.	1 Job	Set		
13	Supply of clear water collection tank suitable to handle 52m <sup>3</sup> /day MOC – Sintex / Equiv.	1 Job	Set		

SI No	Item Description	Quantity	Unit	Rate (Rate inclusive of all taxes, GST etc.)	Amount in Rs.
14	Supply, installation testing & commissioning of level controller unit as per technical specification & direction of EIC. P. supply – 230V AC, Panel Mounted IP- 68 Protection, Handling length minimum 5 mtr. Mk.: - Siemens/ equivalent.	1 Job	Set		
15	Supply, installation testing & commissioning of Control Panel dust & varmin proof wall mounted with Ammeter, Voltmeter, incoming feeder, outgoing feeders, indicating lamps etc. 125A minimum rating complete in all respect. L&T/ Siemens / Selwin/ RNR	1 Job	Set		
16	Illumination of plant area with suitable LED fixture & pole & plant building with Decorative Tubelight fittings including all point wiring & cable laying termination etc. complete including supply of exhaust fan & wall mounted cabin fan / ceiling fan as per direction of EIC.	1 Job	Set		
17	Inter connection of the units with necessary piping, valves of UPVC/MS/PVC material & HDPE of approved make suitable grade 63/80/100 for 6 kg/sq.cm pressure as per technical specification & direction of EIC.	1 Job	Set		
18	Trail run & commissioning of the system as per direction of EIC.	1 Job	Set		
19	Operation & maintenance cost including consumables as per direction of EIC for 5 years.	5 years	Year		
	Total in Rs. =				
Total amount in words =					

Authorized Signatory with Designation and Date