

**Technical Specification for Effluent Treatment Plant (ETP) Modular type for  
25000 Ltrs/day**

**ANNEXURE – I**

**A. MAJOR PARAMETER**

<b>S. No.</b>	<b>Particulars</b>	<b>Capacity/Rating</b>	<b>Unit</b>	<b>Qty</b>
<b>Mechanical Equipments</b>				
1	Chemical solution tank with agitator	0.01	m3	2
2	Chemical feed pump( 2 working + 1 Stand by )	0.3	m3/h	3
3	Raw effluent Lifting pump with level controller non clog , effluent application type of (1w+ 1sb) rating Head, m	12	kld	2
		10	m	
4	Reactor cum Settler	4.0	m3	1
5	Filter Feed pump non clog , effluent application type of rating head, m	12	kld	2
		25	m	
6	Pressure Sand Filter made of MS Epoxy of dia Height	0.30	m	1
		2.00	m	
7	Effluent transfer pump head, m	12	kld	2
		10	m	
<b>ELECTRICAL/INSTRUMENTATION EQUIPMENT</b>				
1	Automation Panel with PLC for Auto On/off control of Entire STP			lot
<b>CIVIL WORK</b>				
1.	Construction of waste water Pit Size (3mX2.5mX3m) underground			

**B. MINOR PARAMETER**

S. No.	Particulars	Capacity/Rating	Unit	Qty
<b>Mechanical Equipments</b>				
1	Bar Screen	1	m	1
2	Piping Valve & fitting of different size and transit sumps as per the technical requirement.			lot
<b>ELECTRICAL/INSTRUMENTATION EQUIPMENT</b>				
1	MCC of three phase 440V cubical suitable for above P/E			1set
2	Electrical Cables from MCC panel to all electric motor and instruments			lot
3	Earthing etc			lot
<b>Concomitant Accessories</b>				
1	Guide			
2.	Training to staffs for operation			
3	User Manual for the Trainer			
<b>Optional Accessories- Nil</b>				
<b>Spares</b>				
1.	Standard tools & accessories as specified by manufacturer			
<b>AMC requirement :-</b> One year after completion of warranty				
<b>Warranty Requirement :-</b> 12 months from the date of commissioning against all pumps, valves for manufacturing defects or bad workmanship.				
<b>Special Conditions:-</b>				
1. Modular type arrangement for housing the pumps etc.				
2. Firm should have their own production unit, sufficient infrastructure & working facilities as per IS specification				
3. Firm should be ISO 9001:2008 certified for manufacturing of equipments				
4. Firm shall have successes fully supplied/executed atleast 02 works of 25 KLD CAP.				
5. Inspection by - RITES				

### **Scope of Work for Railway Supply**

1. 3phase, 440 V power supply, 10KV upto the plant.
2. Untreated water(used during cleaning of Rakes at Habibganj C&W Washing Siding)
3. Tank for treated water and piping arrangement from outlet of the plant to treated water tank.

### **ANNEXURE – II**

#### **PLANTS & EQUIPMENTS SPECIFICATION AND MAKES**

<b>SUBMERSIBLE PUMP</b>	
Type:	Sewage Submersible Pump.
Drive:	Direct coupled with three phase, 440 V, TEFC, Submersible duty electrical motor.
Construction material	C I
Make:	KSB, Grundfos, Aqua, Darling, Zenith
<b>CHEMICAL SOLUTION TANK</b>	
Type:	HDPE tank attached with propeller type agitator
Drive:	Direct coupled with three phase, 440 V, TEFC, Outdoor duty electrical motor.
Construction material	Agitator-SS-304
Make:	Tank-HDPE, Pollucon Tech Ltd., Akar Impex Pvt. Ltd., Aquagreen Tech. Pvt. Ltd.
<b>CHEMICAL FEED PUMPS</b>	
Type:	Positive displacement type
Drive:	Coupled with three phase, 440 V, TEFC, Outdoor duty electrical motor.
Construction material	Agitator-SS-304
Make:	Pollucon Tech Ltd., Positive Metering, Roto, Akar Impex Pvt. Ltd., Aquagreen Tech. Pvt. Ltd.
<b>REACTOR CUM SETTLER</b>	
Type:	Settling tank
Inclination:	55 Deg
Construction material	Tank-SS Epoxy, Tank-SS
Make:	Fabricated, Pollucon Tech Ltd., Akar Impex Pvt. Ltd., Aquagreen Tech. Pvt. Ltd.
<b>FILTER FEED:</b>	
Type:	Centrifugal horizontal pump.
Drive:	Direct coupled with three phase, 440 V, TEFC, Open duty, Electrical motor.
Construction material	C I
Make:	Kirloskar, KSB, M&P

Make:	Unitech,Usha, Swam Pneumatics ,Everest
<b>PIPES VALVES AND FITTING:</b>	
Type:	B-class/ 6 kg presser rating
MOC of Pipe	HDPE/GI/MS
Make:	Best Indian standard makes e.g Jindal, Swastik, Tata
<b>Pressure Sand Filter(PSF)</b>	
Type of filter :	Vertical Cylindrical
Type of dish end :	2 : 1 semi – ellipsoidal
Rating pressure kg/cm <sup>2</sup> .g :	4
Mech. Design Pressure kg / cm <sup>2</sup> .g :	4.4
Hydro Test Pressure kg / cm <sup>2</sup> .g :	5.7
Operating Temperature °C :	20
Mech. Design Temp. oC :	50
Stress relief :	NA
Corrosion Allowance mm :	2
Thinning Allowance mm :	2
Make:	Triveni, Pollucon Tech Ltd., Geomiller, Degreemond, Akar Impex Pvt. Ltd., Aquagreen Tech. Pvt. Ltd.
<b>ELECTRICAL CONTROL PANEL/AUTOMATION PANEL:</b>	
Type:	3 phase 440 V, cubical, nondrawout with microprocessor based controller.
Construction material	Body fabricated with 1.5 mm M S sheet Fitted with standard, switch gears of Havels, EE, L&T
Make:	Switch gear - L&T, EE, Havels Microprocessor-Soft-chip Body- Pollucon Tech Ltd., Akar Impex Pvt. Ltd., Aquagreen Tech. Pvt. Ltd.

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