



VIJAYAVAHINI CHARITABLE FOUNDATION

Supported by TATA TRUSTS

EPC engagement for the Design, Supply, Installation and Commissioning of Drinking Water Plants

1. PROJECT BACKGROUND:

Vijayavahini Charitable Foundation (“VCF”), a Section 8 Company supported by Tata Trusts, is a non-profit organization working across Andhra Pradesh in thematic areas like healthcare, livelihoods, nutrition, education, water and sanitation. One such initiative is to supply safe drinking water in remote villages of Krishna district, Andhra Pradesh. The primary objective is to develop a proof of concept to provide safe drinking water in select villages in Krishna District, through community based drinking water plants that are scalable and sustainable.

VCF intends to serve the communities in backward, high salinity and water stressed areas that do not have access to affordable, safe and purified drinking water, by setting up such Water Treatment Plants (“Plants”). The water treatment plant will be set-up on the land leased by the Gram Panchayat, and subsidized rates will be charged for the supply of treated water to the community, in order to make the project sustainable. 10 such water treatment plants, each catering to a catchment of about 1500 households, are planned to be set-up in the next 6 months. All the water treatment plants are planned to be equipped with a technology system, to enable automation of plant operations, to allow cashless transactions at water sale points and to provide detailed reports for data analytics.

2. SCOPE OF WORK:

VCF is looking to engage EPC partners (“Partners”) with a diverse range of experience and high level of expertise in the Design, Supply, Installation and Commissioning of Drinking Water Plants. The Partners are expected to provide reliable engineering services in establishing the Plants, and bring excellent implementation capabilities, technical expertise, project management capabilities and timely support. Supply of the necessary components and complete installation and commissioning of the plant in collaboration with other vendors i.e., Borewell Drilling, IOT solutions provider, Civil Contractor will be in the scope of the Partner. Once the plant is installed and commissioned, the Partner needs to establish best practices, standards, and an actionable process that will help VCF use the solution smoothly, without glitches. The Partner shall also do the necessary technology transfer to the VCF staff for handling operations and maintenance. The following components are proposed to be included in building the Water Treatment plant. The list may not be exhaustive and Bidders are encouraged to share additional components and features or any other changes that can be incorporated in the IoT system.



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COMPONENTS/ BOQ for establishing Drinking Water Treatment Plant of 1000 lph Product Water Capacity:

S NO	Item	Description	Make	Qty
1	Feed Water Pump	Centrifugal Pump SS-316, casing SS-316,35 mhead,2m3/hr (Three phase Motor)	Grundfos/ CRI/ Equivalent	1
2	Ozone Treatment	Generator capable to produce OZONE of at least 20 gms/ hour to operate in the range of 2 - 8 ppm	Cecon/ Equivalent	1
3	Active Filter Media Filter (AFM)	FRP Vessels (Sand filter) 16" x 69", 4" Top threaded opening	PENTAIR/ Equivalent	1
4	Active Filter Media	Active Glass Media (G-II, G-III)	Dryden/ Equivalent	As per requirement
5	Activate Carbon Filter (ACF)	FRP Vessels (Sand filter) 16" x 69", 4" Top threaded opening	PENTAIR/ Equivalent	1
6	Activate Carbon Media	1200 IV Coconut shell	Activated Carbon India/ Equivalent	As per requirement
7	Auto Multiport Valve (AMPV)	Auto Multiport valve 25 NB	Initiative/ Equivalent	1
8	Micron Filter Cartridge (MFC)	Polypropylene filter Housing,20"long, 1" BSP(F) end .Suitable for 4"x20" long pp spun bonded filter Cartridge with air release valve -Jumbo Cartridge for 5 micron filter	Gopani/ Equivalent	2
9	High Pressure Pump (HPP)	High Pressure Multistage Vertical Pump With Motor,SS-316, 310m Head, 3m3/hr (3 phase Motor)	CRI/ Grundfos/ Equivalent	1
10	Membranes	<i>RO Membrane,suitable for 8"x40"Pressure Housing commissioning of 8" Thin Film Composite Polyamide low foul membranes suitable for brackish water</i>	<i>SWC4 Series of Hydranautics/ equivalent</i>	2



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S NO	Item	Description	Make	Qty
11	Panel board	Electrical Panel board SS 304 Three Phase 5 kw load with ,Low Pressure & Overload trip facility, should Include Volt meter ,ammeter, Indicator lamps,timer & rotary switches. Should have Manual / Automatic Function - integration with IOT control system shall be met	Astral/Auto initiative	1
12	Membranes housing	Membrane Housing End port type,600psi in FRP Construction suitable for 2 Membrane 8"x40"size	Pentair (Side port)	2
13	Line Mount Pressure gauge	Pressure gauge-63 mm (2 1/2") dial size, flush panel back entry, 1/4" BSP(M)connection,SS 316 L bourdon,range 0 - 7 kg.per sq.cm, Glycerin filled, 2" 1/8 BSP	Forbes Marshal/ equivalent	2
14	Panel Mount Pressure gauge	Pressure gauge-63 mm (2 1/2")dail size,Bottom Entry 1/4" BSP(M)connection,SS 316L,range 0 - 50kg.per sq.cm, 0-21 KG/CM2 Glycerin filled, 2" 1/8 BSP	Forbes Marshal/ equivalent	2
15	Skid	SS 304, 40X1.6 mm thick square tubular frame work to place RO pressure vessels, micron filters, HP pump, UV, elec panel, CIP system and Drain network etc.	SS 304	1
16	ROTA Meters	Panel mounted type,Back connection Rotameter with SS Float (3/4"BSP(M) end connection) (0-3000 LPH)	Waves	2
17	Micron filters	4"x20" long pp spun bonded filter Cartridges	Gopani/ JUMBO	5
18	SS Piping	SS Pipeline network from RO Permeate to Product Water storage, Dispensing Lines	SS 304	1 set
19	Plumbing	UPVC lines as per requirement	PRINCE	1 SET
	UPVC Piping	Pipelines from Feeder pump to Prefiltration process end point		
20	Float switches		SINICON	2
21	Solenoid valves	¾", 12 Volts DC	AIRA	4



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23	Dosing pump & Tank	<i>Electronic Dosing Pumps capacity: 0-5 bar & 5 LPH capacity</i>	E Dose/ Equivalent with HDPE Tank	2
24	Plant Electrical wiring with proper earthing	internal wiring -Cu flexible insulated conductors laid inside PVC conduit and fixed thoroughly. with suitable CFL/ LED lights (internal & external). earthing pit with 1 1/2" dia GI pipe earth of long 6ft, with necessary fill of charcoal and salt. connecting pit with electrical drives and equipment with 3mm GI wire.	FINOLEX	As per requirement
25	Raw Water storage Tanks	Two/three layered PE Standards Food Grade Tanks Strong and thick of Capacity 5000 Ltr	SINTEX, RENO	2
26	Product Water Storage	stainless steel 304 shell 0.96mm thk corrugated, dished 0.96mm thk internal dairy finish and external mirror finish, supported on GI 40x5thk angular structural frame with 6 legs, ladder made out of SS 304 etc with a capacity of 3000 liters storage.	SS 304	1
27	Booster Pump	1 phase, 0.37kW/0.5 HP horizontal centrifugal mono-bloc pump of SS casing and norile / SS impeller operated with relay switch gear	Kirloskar/Sumo /Equivalent	1
28	UV	<i>UV System with 1" I/I & O/I threaded connection ,MOC SS-304 Phillips make Lamps Capacity 1000 lph Commissioning of Capacity : 2cu.m/h @ 300J/sq.m at EOL @ 95% UVT, with germicidal UV- C lamp of 32W, 4pin with electronic ballast, UV lamp housed inside quartz tube of od 28mm x id 26.4mm, outer shell SS 304 EP with full penetration automatic welds, inlet and outlet 3/4" BSP</i>	Sukrut/ Equivalent	2



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S NO	Item	Description	Make	Qty
29	CIP unit	Commissioning of Hot water tank cylindrical horizontal cap. 100l made of SS 304, supported on 4 legs 40x4 MS structural work, with electrical heater of 2kW 1ph, 220V (2 coils of 1.0kW each), thermostat controlled heating upto 90Deg.C, insulation with 50mm thk PUF insulation and GI powder coated cladding as required with inlet, outlet, vent pipe and drain nozzles of 3/4" with valves and fittings.	Suntek/ Equivalent	1
30	Chiller	<i>400lph capacity online chiller, skid mounted, fully automatic with controls, shell & tube of plate exchangers ensure constant & quick cooling effects; Stainless Steel Storage Tank, Digital temperature indicator and controller</i>	Vanguard/ Equivalent	1
31	Instrumentation	<i>Instrumentation/ Automation components required to handle the plant operations remotely in unmanned manner</i>		
32	Consumables	<i>Expected volume of required consumables for a period of one year shall be indicated along with Price - Filters, Filter Media, Membranes, Chemicals etc</i>		

- Warranty of 1 years shall be provided to all the components
- The Partner has to extend service support for a further period of 4 Years
- Free maintenance for the entire system for at least 1 year from the commissioning date.
- Any trouble shooting to be done within 24 hours after a concern is raised

3. PROCEDURE FOR SUBMITTING PROPOSALS

Companies with the ability to provide end to end technology solutions for the drinking water plants, including hardware and software, are invited to participate. A detailed proposal needs to be sent via e-mail to scmvja@vijayavahini.org & washvcf@vijayavahini.org. The submittals must include the following:



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Part A: Background of the organization, including experience in performing similar assignments in the part. Please provide work completion certificates and scope of the services provided in the previous assignment.

Part B: Commercial proposal, including all taxes and transport

Part C: Commercial proposal, including base fees, AMC charges and GST

Other conditions:

- The Partner, if it desires so, at its own responsibility and cost may visit and examine villages/mandals in Krishna district and obtain all information that may be necessary for preparing the Bid.
- In case any clarification is sought with respect to the RFP, the queries may be sent to the email id scmvja@vijayavahini.org & washvcf@vijayavahini.org on or before the due date for seeking clarification
- The proposals shall be submitted within the due date mentioned 27th Feb 2020 for submission and any bid received after the deadline will not be considered.



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