



# 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 that do not have access to affordable, safe and purified drinking water, by setting up Any Time Water Machines (“ATWs”). The ATWs will be set-up on the land licensed by the local body, and subsidized rates will be charged for the supply of treated water to the community, in order to make the project sustainable. 10 such ATWs, each catering to a catchment in the range of 500 - 1000 households, are planned to be set-up in the next 6 months. All the ATWs 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 Any Time Water Machines (ATWs). The Partners are expected to provide reliable engineering services in establishing the ATWs, 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, Dashboard & IoT solution provider, Civil Contractor will be in the scope of the Partner. Once the ATW 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 ATW. 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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## **ATW Specifications:**

**Size:** The ATW shall be of the design to fit in the space of 5ft x 5ft x 8 ft (excl. source water storage)

### **Material of Construction (MOC):**

Structure: SS 304

Outer Shell: Powder coated MS

Product Water Storage: SS 304

Source Water Storage: HDPE

Pipeline: UPVC; from product water to Dispensing (SS 304)

**(for graphical representation/ understanding a model is referred at the end of this TOR)**

### **Treatment Technology:**

Source Water TDS Range (ppm)	Key Treatment Technology	Support Treatment	Disinfection
500 - 1500	Reverse Osmosis (RO)	Dual Media Filter, Micron Filters	Ultra Violet treatment (Dual - before Product water and before dispensing)
<500	Alternative technologies to RO that can achieve TDS reduction to the range of 50 - 100 ppm	Dual Media Filter, Micron Filters	Ultra Violet treatment (Dual - before Product water and before dispensing)

Plant Capacity: 500 lph

Dispensing Capacity: 20 liters in 3 minutes

Chiller: Online





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## **Functionality:**

- All operations shall be automated (except loading of Antiscalant/ chemicals, changing of filters)
- Dispensing of chilled water and normal water
- Dispensing with multiple quantity options (20 liter/ 10 litre/ 5 litre/ 1 liter)
- Feasibility to upgrade the firmware with FOTA (Firmware over The Air)
- Dispensing against custom designed Swasth Neer Prepaid RFID smart Card
- In built Data logger with communication module to transmit data to VCF's choice of server
  - Quantity of source water, Product water
  - Flow measurement of Product water
  - Transaction wise data of usage
  - Water quality data- TDS & pH (Source Water & Product Water)
  - Pressure Differences - Dual Media Filter, Micron Filters
  - Mechanism to alert on deviations in the functionality of the ATW
- Auto backwash and rinsing of tanks
- The display panel on the ATW should showcase the user card details, balance etc.

## **RFID Card functions:**

- The in-built IoT shall Enable end user to pay directly using payment gateway and the same shall be updated in the system/ RFID card
  - All such transactions shall be communicated to the Dashboard/ server selected by VCF
  - End user should receive confirmation communication on such transactions
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- 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





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## 1. 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](mailto:scmvja@vijayavahini.org) & [washvcf@vijayavahini.org](mailto:washvcf@vijayavahini.org). The submittals must include the following:

Part A: : Background of the organization, including experience in performing similar assignments in the past with the Tata Trusts, Govt agencies. Please provide work completion certificates and scope of the services provided in the previous assignment, Last two financial years turnover, registration certificate, Total Manpower.

Part B: Technical proposal outlining the detailed list of offerings, specifications and components, as per the outlined scope of work

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

### Other conditions:

- The Bidder, 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](mailto:scmvja@vijayavahini.org) & [washvcf@vijayavahini.org](mailto:washvcf@vijayavahini.org) on or before the due date for seeking clarification
- The proposals shall be submitted within the due date mentioned 16<sup>th</sup> May 2020 for submission and any bid received after the deadline will not be considered.



(Image courtesy: Google Images - Used for graphical representation)



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