

TERMS OF REFERENCE (TOR)

For

HIRING OF CONTRACTOR FOR INSTALLATION OF WATER FILTRATION PLANTS AT SELECTED AREAS OF ISLAMABAD AND RAWALPINDI ON ENGINEERING, PROCUREMENT AND CONSTRUCTION (EPC) BASIS

1. BACKGROUND

Rawalpindi and Islamabad Capital Territory, often referred to as the “twin cities” are currently facing serious water related issues such as poor water supply, sanitation, and hygiene which contribute directly to high levels of childhood stunting and undermining human development. Women and children are the most vulnerable, especially in poor residential neighborhoods where sanitation is particularly inadequate and most water supplies are contaminated.

WWF-Pakistan is working on an Australia funded project titled ‘Australia-Pakistan Water Security Initiative’. The project aims to improve access to safe water and sanitation services in two disadvantaged urban communities in Islamabad and Rawalpindi in order to have safer and more reliable access to water and sanitation services, particularly for women, children and other financially vulnerable groups.

2. OBJECTIVE OF THE ASSIGNMENT

The major objective is to engage Construction Firm to provide clean drinking water to selected areas of Rawalpindi and Islamabad through the establishment of four (04) water filtration plants (Reverse Osmosis (RO), Ultra Filtration plants (UF)) on EPC basis depending upon the requirement at the site and water quality. The Construction Firm would be responsible to ensure that the selected plant will deliver performance, reliability and operational parameters.

The Construction Firm shall be fully responsible to assure the desired quality of all materials purchased, labor engaged, specifications given and physical works to be carried out under this contract. Any materials, labor, specifications or the physical works found deviating from the agreed standards, during or till one year (01) after the delivery of work, shall be deemed to be the fault of the firm, for which he will be liable to make necessary corrections and repair.

3. SCOPE OF WORK

The scope of services for the Construction Firm shall be (but not limited to) as follows;

The Construction Firm shall install, commission and maintain four (04) filtration plants (including plant room) in total, mainly two (02) in Farash Town, Islamabad, having a capacity of 2000 liters/hour and two (02) in James Town, Adiyala Road, Rawalpindi having a capacity of 1000 liters/hour for each plant.

Detailed Engineering Design

- a. Detail Process Design of Water Filtration Plants as per the water quality report
- b. Detail Structural design, P&ID, MEP design, Architectural design
- c. Detail Engineer's Estimate and Bill of Quantities (BOQ) / Cost estimation of civil, electrical, mechanical and plumbing works

Installation & Commissioning

- a. Borehole drilling upto depth confirming or ensuring sustainable water source based upon survey results
- b. Civil works including construction of plant room as per the detailed engineering design provided by the firm. Civil works must include construction of grey structure and exterior and interior finishing
- c. Branding of funding agency shall be included in Civil Works
- d. Procurement and installation of state-of-the-art filtration plant (including electrical, mechanical and plumbing works) as per the detailed design for meeting WHO standards of drinking water based on the water quality from the source
- e. Equipment with a warranty of upto five (05) years is required
- f. Complete commissioning of filtration plants

Operation & Maintenance

The Construction Firm shall;

- a. Provide operation & maintenance (O&M) for one (01) year starting from the date of commissioning of each water filtration plant (*including membrane cleaning etc*).
- b. Assist the community for resolving any technical issues during operation
- c. Train local plant operator for the plant operation and maintenance
- d. Be responsible for the satisfactory performance of filtration plants for continued supply of clean water as per WHO standards at all times, during O&M period
- e. Develop weekly log book for proper operations
- f. Develop operation and maintenance manual
- g. Prepare training manual for the operating staff

Other requirements

- a. Under the contract, the Construction Firm is completely bound not to assign or sub contract any of the activities prescribed herein the TORs to any one, without prior permission of WWF-Pakistan
- b. The filtration plants must be capable of removing physical, biological and chemical contaminations as per the standard provided by WHO for drinking water.

4. EQUIPMENT SPECIFICATIONS

The equipment specification list is provided below;

Components	Make/Model
Storage Tanks	HDPE/Transparent
Feed pumps	Centrifugal Newtech Precision (CNP)
Multi-media Sand Filter Vessel with sand	Pentair/Equivalent
Activated Carbon filter vessel with media	Pentair/Equivalent
Cartridge Filters (5 micron)	MUL Taiwan/Equivalent
Cartridge Filters (1 micron)	MUL Taiwan/Equivalent
UF Membrane	Hydranautics Hydra cap 40 A
RO Membrane	Hydranautics
Ozonator	China
UV system	Atlantis USA/Phillips
Backwash/CIP pump	Centrifugal Newtech Precision (CNP)
HMI + PLC	Weintek + Mitsubishi

Note: The equipment to be installed shall be finalized after water quality test from water source.

5. DELIVERABLES

The following deliverables shown in the table below shall be submitted by Construction Firm for completion of Project. The timelines of the project deliverables are stringent and non-negotiable.

Sr. No.	Deliverable
1.	Detailed Engineering Design Report (conceptual/process designs and detailed designs)
2.	Complete set of concept drawings (layout, plan & cross-section, structural, architectural, P&ID, electrical, mechanical and plumbing drawings)
3.	Complete cost estimation / BOQs
4.	Site Investigation Reports regarding borehole
5.	Procurement list of all materials with name, specifications, company, warranty disclaimers etc.
6.	Site Report
7.	04 completely commissioned filtration plants and the Project Completion Report (as built drawings, commissioning report and complete pictures of each facility)
8.	Log Book
9.	Operation and Maintenance manual
10.	Training manual

6. PERIOD OF CONTRACT

The duration of complete consultancy & report submission is three (03) months for both sites.

7. REQUIRED QUALIFICATION

- a. The Construction Firm must be registered with the Pakistan Engineering Council (PEC) having a minimum of 5 to 7 years relevant experience.
- b. Be able to demonstrate working ability under the COVID-19 (Corona Virus) circumstances as per the construction works guidelines issued by the Government of Pakistan
- c. Should be able to follow all the required Health, Safety and Environmental (HSE) protocols, as specified under the WWF-Pakistan HSE safeguard policy
- d. Should be able to comply with all the national and provincial construction standards and labor protocols

Please send your proposals to wwfadmin@wwf.org.pk