

Terms of Reference (ToR) – Lot 4 – Pumping Station

1) Personnel Capabilities

Experience of prime candidates and alternatives for key management and specialist positions in the construction site:

- a) **Site engineer:** technical staff in the field holds a bachelor's degree in civil/construction engineering with a minimum experience in implementing similar construction and mechanical projects for 5 years.
 They will be responsible for setting out, levelling, planning, and surveying the site; assessing materials for suitability; supervising and monitoring the site workforce; conducting quality tests and inspection and health and safety; planning day-to-day activities; resolving any technical difficulties; liaising with foremen and workers; maintaining contact with IOM's technical staff through regular progress meetings and site visits.
 They will also lead the foremen, provide technical guidance, coordinate and supervise site investigation work and planning, arrange to test materials, and monitor the work. They will act as the main technical focal points to provide reports and feedback on the construction's adherence and compliance to IOM's Engineer.
- b) **Site foreman:** senior construction foreman in the field, holds a diploma degree in construction (preferably not mandatory) with minimum experience in organising construction work on the site for 10 years.
 They will organise tools, workshops, machinery, and materials; organise and supervise workers; ensure construction is carried out accurately, following plans and specifications; take responsibility for the site's health and safety and communicate project progress to IOM's technical staff and site engineer.
- c) **Mechanical Engineer:** technical staff in the field holds a bachelor's degree in mechanical engineering with a minimum experience in implementing projects similar to pumping stations installation and construction for 5 years.
 They will be responsible for installing the centrifugal pump, support the workers with installing the pipes, validate the quality, and testing the functionality of the pumping station and maintaining contact with site engineers.

The following table represents the minimum number needed:

Lot number	Project Name	Site Engineer	Site foreman	Mechanical Engineer
1	One new pumping station construction and one existing pumping station rehabilitation	1	1	1

Requested documents/information: filling key Personnel table in the respective section of the bid documents, including staff name, position/title, academic qualification, number of years of experience, location and contact details and provide a copy of each personnel curriculum vitae (CV)

2) Equipment Capabilities

Type, characteristics, minimum number, and availability of key equipment

- A. **Earth Moving Equipment:** used to carry out various excavation tasks such as digging and moving the earth. Different types of earth-moving equipment have unique applications and are primarily used for repairing, constructing, elevating, agriculture, and demolition.
 - a) **Crawler Excavators:** earth-moving vehicles that feature a bucket/auger/breaker, arm, rotating cab, and movable tracks to perform various functions, from digging trenches and breaking holes to lifting away waste and excavating underground level.
 - b) **Wheeled Loading Shovel:** a vehicle attached with a shovel designed to perform heavy-duty tasks in earthwork and construction operations. This shovel has specific capabilities to accomplish the loading tasks. This wheeled loader is furnished as a skid-steer, payloader, bucket loader, skip loader, and wheel loader.
 - c) **Compactors:** crush and compress loads of gravel and soil and contribute to the smoothing and levelling of a work site. The work performed by a heavy-duty compactor machine condenses, stabilises, and prepares the earth for concrete foundations or pavements.

The following table represents the minimum number needed:

Lot number	Project Name	Crawler Excavators	Wheeled Loading Shovel	Vibratory Compactor (Capacity 20 tons)	Rollers	Plate Compactor (Capacity 4-5 Tons)
1	One new pumping station construction and one existing pumping station rehabilitation	1	1	1		1

B. Construction Equipment

a) **Concrete Mixers:** A concrete mixer is a device that homogeneously combines cement, aggregate such as sand or gravel, and water to form concrete.

Preferred specifications:

Charging Capacity: 800 – 1200 Liter

Discharging Capacity: 500 – 750 Liter

Productivity: 18 – 22 cubic meter per hour

The following table represents the minimum number needed:

Lot number	Project Name	Concrete Mixer (Tilting Drum Mixers)	Concrete Truck (capacity 5 to 9 cubic metres)
1	One new pumping station construction and one existing pumping station rehabilitation	1	1

3) Schedule of Execution

The Contractor shall complete the work and services of the project to be executed under the contract in accordance with the execution schedule. Under the proposed project, an outlined work schedule is provided below:

Lot 4: Pumping Station

Provision of One pumping Station and one piping system for an existing pump in 60 calendar days (Two Months)

SN	Operation	W1	W2	W3	W4	W5	W6	W7	W8
1	Site Clearance and Preparation	■	■						
2	Foundation construction		■	■	■				
3	Erecting the steel structure for roofing			■	■	■			
4	Pump and fittings installation					■	■	■	
5	Piping and fittings work					■	■	■	
6	Levelling and backfilling							■	■
7	Testing								■
8	Handover								■

Requested documents/information: submit the Schedule of Execution in tabular or graphical form for the lot and per the above-suggested schedule.