

Technical Specifications

Safe Water Access and Community Health Promotion

Wadi Thar Water Project

1. Scope

These specifications cover supply, installation, testing and commissioning of the solar pumping system, civil works, fencing, water point, tank and associated works.

2. Applicable Standards

Works shall comply with IEC, ISO, BS EN, ASTM, AWWA, WHO and applicable Yemeni standards.

3. Contractor Responsibilities

Site verification, shop drawings, material approvals, QA/QC, HSE, testing, commissioning, O&M manuals and training.

4. Solar Submersible Pumping System

Pump: stainless steel construction; Motor: IP68, Class F, S1 duty; PV modules: N-type TOPCon, IEC 61215/61730; Hybrid inverter IP66 IEC62109; HDPE PE100 PN16/ISO4427; complete earthing and lightning protection; testing for 48 hours continuous.

5. Solar Panel Fence

PVC-coated galvanized chain-link, galvanized posts, concrete foundations, lockable gate, anti-corrosion protection.

6. Civil Works

Excavation, backfilling, SRC cement, concrete, masonry, plastering, curing, waterproofing, painting in accordance with approved drawings.

7. Well Protection Chamber

Circular chamber, drainage, steel cover, steel door, weather resistant finishes.

8. Water Tank and Water Point

5000 L UV-stabilized food-grade polyethylene tank, brass valves, overflow, drainage, taps, anchoring system.

9. Testing & Commissioning

Pressure testing, insulation resistance, earth resistance, hydraulic performance, flow/head verification, functional tests, SAT and commissioning.

10. Documentation

Material submittals, warranties, test certificates, O&M manuals, spare parts, training records and as-built drawings.