

## TENDER FOR UPGRADING OF TWO (02) HIGH YIELD BOREHOLES TO SOLAR-POWERED MOTORISED WATER YARDS IN FANGAK -2023

### Background

With funding from SSHF Reserve 4 allocation, Africa Development Aid is implementing Water, Sanitation and Hygiene (WASH) mainstreaming with nutrition response in Old Fangak, Mareang and Paguir Payam, Fangak County, Jonglei State. Two (02) locations have been identified in two payam of Fangak County for nutrition centers to be supported with solar motorized water yards boreholes. Africa Development Aid therefore, seeks a contractor to carry out the works of upgrading two water yards, to the required standards as clearly specified on the technical specification.

In order to achieve these objectives Africa Development Aid intends to upgrade 02 boreholes into solar-powered motorized mini water yards in Nutrition facilities in Fangak County. Specific objective of this scheme is to improve the nutrition status of the targeted local population through increasing access to clean and safe drinking water to the SAM/caretakers and population catchment areas which will ultimately contribute to the improved nutrition condition of the SAM children.

### **(1) Scope of the project**

**Location:** The project is expected to be implemented in Fangak County of Jonglei State. The project site is located in the following locations Mareang payam, Nyadin Boma and Paguir, Pulita and Old Fangak, alternatively, the sites maybe change to another location based on the pumping test result that will be conducted by the contracted company before actual upgrading work.

The job scope would be up-grading of existing boreholes into the solar-powered motorized system, this involves the use of solar-powered submersible pumps, overhead tanks, and steel tanks 20,000 litres each,

Elevated steel water tanks of capacity 20,000 liters will be installed on a steel tower appropriately design (as in the drawings). There shall as well be 02 water collection points (01 for nutrition facility and 01 for public stand posts) in each site, each tap stand post is equipped with 06 bib cocks (taps), in a concrete/ block work stands (as per technical drawings).

### **(2) General notes:**

#### **(a) Prices and currency**

The prices quoted by the contractor shall be in United States dollars (USD), and shall not be exchangeable with other currencies. Inflation and escalation or changes what so ever shall not be subjected of claim later on.

#### **(b) Materials**

All materials to be put on the project are to be of the best new standard available and recommended under ADA. Items that contains specific make with names of manufacturers are to be taken as samples of what will be required. Subject to the employer approval, the contractor may at his own discretion, offer similar products of other makes but ensure that, the equivalent quality of that product are guaranteed.





(c) **Quantities**

All quantities given here in the BOQ shall be deemed estimated quantities of the work to be done, but they are not to be taken as 100% actual and correct quantities of the work to be executed, they are not to be taken as guaranteed, increase or decrease and any claim what so ever that comes for the cost of extra expenses incurred from such increase or decrease will not be accepted. Contractor should have allowed for small percentage not exceeding 2% of the total value as a provision for cover ups in case such situation of increase comes around. These would strictly be in plumbing work from tank out let to various water collection points, plumbing work from submersible pump to well head then from well head to the tank, concrete work on footings,

(d) **Special conditions**

- The upgrading and construction work, in case of default in any component(s) of the system when happened due to poor workmanship, will be the responsibility of the contractor for the first three (03) months. A defect liability of 10% of the overall cost will be held back until post construction inspection immediately after the three months have elapsed. Failure to rectify any default identified and communicated to the contractor within the specified period, the organization has the right to conduct rectification of the default from the 10% liability defect and share report with the contractor.
- Contractor shall include his price for the required training of local staff to be familiar with installation, operation, maintenance and repair work of the system.
- Protection of public: The contractor to put in place buffer zones and warning signs, all necessary to protect the public clear away from the site.
- Decommissioning: The contractor shall keep the site free and clear from all debris and wastes arising from the execution of the work. Wastes such as sharp objectives, chemicals and human wastes that could directly cause injuries and indirectly affect have negative effect on public health.

**Tasks and expected days of work**

The contractor is expected to carry out the job accordingly, while assigning specific and clear task of jobs to specific team group e.g. Plumbers, welders, masons, and water engineers and technicians. The work is expected to take maximum 2 months including mobilization.

The unit price quoted in the various items in the bill of quantities shall include all operation for the execution, completion and maintenance of the various items, shall cover all aspects costs of every kind what so ever including supply of materials, transport and handling, labor costs, equipment and plant.

**Roles and responsibilities**

**The contractor:**

- Is solely responsible for provision of all the materials, services, transportation and personnel needed for the work, ensure that all materials, services and personnel conform to approved grade, skills and standards.
- Responsible for the team deployed for the work, all their basic needs are catered for, should not interfere with the work.
- Provide weekly update to the project officer in the field of work progress, Challenges and constraints should be reported and challenges addressed.



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**ADA:**

- Responsible for coordination with authorities, communities and other stake holders in all matters pertaining to the construction work.

Reference Number	Item Description	Quantity
01	Mobilization: allow for the cost of Transporting all equipment, and personnel to site and demobilization at completion of contract	2
02	Site survey, preparation and set ups.	2
03	Allow for overhauling of the existing hand pump, thereafter, carry out pump testing	2
04	Supply of galvanized steel tanks 6m tower with wall walk Supply of 20,000 liters, complete with Floater valve and water level sensor, well painted  Provide and fabricate metallic tank stand: Angle bar 75mmx75mmx 6mm thick or 100mmx100mmx4mmx 6m long, thick hollow section pipes in tower legs, 4No. 50mmx50mmx 6mm RSA thick hollow section pipe in diagonal	2
05	install the submersible pump, solar Groundfos SQ Flex solar power submersible water pump P.V.C pipe riser mains to depth of 80.0m	2
06	Supply and install solar panels (preferably 100-120-Watt Panels) corresponding to 1,400-Watt pump capacity. Solar	2
07	Solar Control panel (CU 200), 1,400 Watts, groundfus	2
08	HDPE pipes in main lines, complete with all fittings and joints (as in the drawings), excavation and back filling included	2
09	Mobilize, pumping test for step draw down and constant discharge test, including installation removal of pumping test equipment and water level observation, for not less than 6 hours, ensure 80% well recovery is achieved at end of the exercise, the pumping test aims at establishing the recharge capacity of the well and the dynamic water level, crucial for designing the pump and pumping flow rate.	2
10	Provide and carry out fencing around water collection points (tap stands) to perimeter, 5mx4m (18 linear meters). -2 1/2"x2 1/2"x2.5m long angled iron bars in main posts well welded, 14 pcs, line wire, 02 roles. Chain link wires, 03 roles. Line wires 01 role. Cement 03 bags, sand 1.0m <sup>3</sup> , aggregate 2.0m <sup>3</sup> . Metal door complete with provision for locking 01 piece.	2
11	Provide and allow for extra 4" PVC pipes extension of drainage channel crossing road	2
12	Provide and allow for excavation of 1.5m diam. x 2.0m deep pit soak away pit, filled with selected filling stones, well covered with plastic sheet and soil.	2
13	Decommission – demobilization of the construction equipment	2



- Conduct regular monitoring visits, inspection of all materials and services involved in the work. - Will provide guidance and technical advice and support as deemed necessary.

#### **Interface**

- Ensure there is very good line of communication and coordination between ADA and the contracted company.
- All communication and coordination should be done through the company focal person in the field and the organization's project officer in field office.

#### **Reporting**

- Contractor to report on each phase of work successfully completed, this includes: pumping test result, development of the borehole, installation of the submersible pump, fabrication and installation of the tower, installation of the tank including plumbing work from and to the tank, fixing of solar systems complete, construction of water collection points (public tap stand)

#### **Handing over**

- Final inspection will be jointly conducted with the County WASH Department and community leaders. Various components of the system will be inspected. In case of defaults in any component, has to be rectified before final handing over is done.
- After the facility is handed over, ADA will carry out post construction monitoring for a period of three months as defect liability period.

#### **Visibility**

- The contractor is expected to fix three (2) signed posts at each water yard site. There shall be 01 sign post at the elevated tank, and each one of the two water collection points will have a sign post as follows: Sign post (a) length 1.20m x height 0.80 m fix fabricated using 40mmx40mm rectangular pipes in main frames, on 21/2" x 21/2" stands angled bars for (legs) at least 1.80m from the ground level. Sign post (b) is length 1.20m x height 0.80m framed, without legs but to be fixed up on the tower cage.



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