
Technical Scope of Work for Drilling Deep Well and Solar System

1.0 INTRODUCTION

The Required services for drilling Deep well, installation of the water pump and reservoir, installation of solar panel, construction of hand wash station, and reservoir stands including all required accessories as detailed in the financial offer, project drawings in 6 targeted areas at Kandahar City, Daman and Zheray districts. The services will be provided by the winning service provider of this open local tender procedure. The service provider is required to implement the project based on the This TOR, the projects Drawings as attached with the TOR.

The main project activities are listed below:

1. Drilling Deep water well for 6 target area and installation of the water pump and accessories.
2. Installing the solar system for pumping the water from the deep well to the reservoir
3. Installing the reservoirs for water management for 6 targeted area and establishing a hand wash station and shades on the top of Water station in each area.
4. Constructing the stands for the reservoirs accordingly
5. Supply and installation of Boundary Wall and fence for Solar panels

Note: for more detailed information, please refer to the attached Financial Offer, Project plan (Drawings), and Scope of work.

2.0 SITE PREPARATION

The site should be cleared for a 3m radius around the water station and solar Panel area. The ground should be levelled, and barriers set up to demarcate the working area. During work excavated soil will transfer far from the working area, and similar at the completion stage of work the area will be made clean.

3.0 QUALITY CONTROL AND PREFERABLE STANDARDS

The Quality of the Equipment and raw materials will be checked by the RSDO Technical staff and project engineer and should be equivalent and approved with and meet the DRRD Standards of Kandahar province as the stockholders of this project

4.0 CONSTRUCTION WORKS

The construction works will mainly consist of the following:

4.1 Well drilling

The Deep water well is drilling with a percussion machine with 13" diameter depends on soil texture. If during the drilling there found stoon on the soil texture, or any other challenges found during the drilling of deep well, all challenges is upon the construction company. RSDO is only responsible to pay for successful deep well with an at least 70 Meter dept. In case the deep well is successful on 100-meter dept or above, RSDO will pay for the deep well completely.

Note: All challenges during the project implementation shall shared with the Project engineer and contracting Authority as soon as possible.

4.2 Reservoir and Stand for Reservoir

The reservoir shall be with Metal/Galvanized Reservoir (10,000 liters) with 4 mm thickness, foundation, 3 cots painting inside and outside of the Reservoir. Metal base for Water Reservoir 5-meter Height (Iron

Box 14 x 14 cm steel 4 mm with at least 50 Kg weight and 3 coat painting). The reservoir should be enough strong to bear the Weight of Water tank as detailed in the drawings.

4.3 Stone and brick masonry for water station and boundary walls

The contractor will use 1st class Stone and brick during the construction water station and under the boundary wall. The strength of bricks will be around 105 kg/cm² of brick area and 600 Kg/Cm². During brick masonry, no saline deposit should be used. Bricks will not absorb water more than 20% of brick weight when immersed in water for 24 hours. For brick and stone masonry sand cement mortar of 1:3 will be used. All brick masonry walls are 20cm thick and stone masonry walls are 40*50cm thick and perform as load-bearing walls, thus essential care is required during its construction regarding alignment, curing, and mortar quality.

4.4 Pointing

Painting of the inner and outer sides of the stone masonry under Boundary walls will be carried out by the contractor.

4.5 Casing Pipe

The dimensions of the pipe should be 8" in diameter, and high quality (P10). The Preferred Brands for casing pipes are Schedule pipe, Polymer Golpayegan pipe, and Engel pipe companies or any brand which can compete in quality with the mentioned companies and meet the DRRD Standards of Kandahar province.

4.6 PPR Pipe

The Preferred Brands for PPR pipes are Shadab pipe, Power pipe, or Azin pipe companies, or any brand which can compete in quality with the mentioned companies and meet the DRRD Standards. In addition, the excavation of the PPR pipes should occur a minimum of 50 cm underground and meet the DRRD Standards of Kandahar province.

4.7 Polyethylene Pipe

The Preferred brand for Polyethylene pipes is P100 Brand and the Accessories brand is preferred to be Polyran or any brand which can compete in quality with the mentioned Brands and meet the DRRD Standards of Kandahar province.

4.8 Water Pump

The Preferred Brands for Water pumps are Donqin company or Shemige company Submersible pump (3 HP), 2 KW , 2" inch (28 Rotor , flow Rate 100-120 L/ Min from 120 m deep well or any brand which can compete in quality with the mentioned Brand and and meet the DRRD Standards of Kandahar province.

4.9 Solar Panels

The solar panels should have the following criteria:

- Polycrystalline solar panels (430 watts)
- Should have 10 -15 years of guarantee
- Should be Grade A
- Should be registered by the Ministry of Agriculture (MoA)
- Should be approved by the project engineer and the Kandahar DRRD Standards of Kandahar province

4.10 Inverter

The Preferred Brands for inverters are either Sonic or Growatt inverters, which have long-life efficiency, and the ability to output power with the best quality, or any brand which can compete in quality with the mentioned Brand and and meet the DRRD Standards of Kandahar province.

4.11 Reservoir

The reservoirs should be steel and its paper's thickness should be a minimum of 4 mm. The reservoir should be painted with three coats from the inside and outside.

Notes:

During the course and before or after completion of this contract, RSDO will not be responsible for any damages and loss to the contractor's equipment and tools as well as for the dead and disability of its employees and labors if caused by terrorist attacks, natural disasters, or anything else during the construction work.

در طول دوره و قبل یا بعد از ختم این قرارداد، دفتر RSDO هیچگونه مسئولیتی در قبال خسارات وارده به تجهیزات و ابزارهای کار قرار دادی و همچنین در اثر کشته شدن در صورت ایجاد حملات تروریستی، بلایای طبیعی و از کارافتادگی کارمندان یا هر چیز دیگری در طول کار ساخت و ساز را به عهده نمیگیرد.

RSDO has the right to reject construction work if the quality of purchased items and installed items are poor and is not with the same standard as ordered.

RSDO این حق را دارد تا در صورتیکه کیفیت کار ترمیم کاری، وسایل خریداری شده و نصب شده ضعیف و یا مطابق استاندارد های سفارش شده نباشد، آنرا نپذیرد

The Contractor agrees at his own cost and expense to remove all the debris, rock, and earth from the site upon completion of project activities.

قرارداد کننده موافقت می کند تمام مواد اضافی مثل خاک، ریگ و ضایعات مواد ساختمانی بعد از ختم کار پروژه به هزینه خود از ساحه پاککاری نماید.

در هر مرحله از کار فعالیت های در هماهنگی با انجینیر پروژه باشد.