

Terms of Reference Site Engineer

Country	Somaliland
Project Holder	Ministry of Water Development
Project	Water Resource Development – Borama Water Supply System Construction
Fund	Somaliland Development Fund Phase 2
IFA Title	Site Engineer – Borama Water Supply System
Location	Borama – with travel to Hargeisa for Project Meetings
IFA No.	P101-040

1. Background to SDF2

The Somaliland Development Fund (SDF) was established in 2012 to provide a single vehicle through which development partners could support Somaliland's development goals. The first phase of the SDF was implemented in 2013-2017 and supported the Government of Somaliland (GoSL) filling a critical gap through funding projects that are fully aligned to the National Development Plan (NDP) while at the same time recognizing the role of GoSL in the delivery of basic services.

The Somaliland Development Fund – Phase 2 (SDF2) covers the period 2018-2023. SDF2 is conceived as an inclusive economic development programme. It supports the GoSL in delivering infrastructure that is relevant for inclusive economic development. It focuses on sustainable investments that spur job creation and fast growth, while at the same time laying the foundation for long-term resilience and development, leading to a more stable and peaceful Somaliland. SDF2's support is fully aligned with government priorities as defined in the National Development Plan 2 (NDP2) 2017-2021 and reflect the priorities set out in Somaliland Vision 2030.

The objectives of the SDF2 are threefold:

- Support increased inclusive economic growth through investment in productive, strategic infrastructure to enhance economic growth and revenue generation.
- Strengthen and maintain the capabilities of the government of Somaliland to prioritise and manage the sustainable and equitable development of Somaliland's infrastructure.
- Support strong government ownership of development priorities aligned with the National Development Plan.

2. Background to Project

2.1 Ministry of Water Development

The Ministry of Water Development is mandated to ensure that Somaliland citizens have easy access to clean; adequate and affordable WASH facilities in a sustainable and environmentally friendly manner. Ministry's strategic purposes are: 1) development of underground and surface water resources, 2) improvement of regulatory framework and oversight of water sector and sustainable management, 3) strengthening capacity of MoWD and its constituent bodies, 4) coordination and information management of WASH sector in Somaliland, and 5) mitigation of droughts and impacts of climatic and environmental changes to national water resources.

The Ministry of Water Development faces serious constraints to its capability to deliver services: limited availability of water resources, lack of infrastructure facilities and mostly inadequate existing facilities, associated with weak managerial, financial, and human resources necessary to extend reliable and safe services to the population. The limited institutional capacity of the Ministry, lower governance structures and water providers (whether public, private, communal or otherwise) are manifested in dysfunctional water supply schemes that keep relying on external support for operation and maintenance.

2.2 Borama Town – project location

Borama town is the regional capital of Awdal and is located 120 km west of Hargeisa. The population of Borama Town is estimated to be 103,000.¹ Taking an average annual growth rate of 3.2%, the population will be 214,000 persons by 2038. It is 3 km from the north of the Ethiopia-Somaliland borderline with the upper catchment of Durdur watershed between latitude 9° and longitude 23°. A PPP option is in place for the management of the water supply system in Borama Municipality. SHABA, a private operator, took over the water delivery services in October 2003. The first lease tripartite agreement between the MoWD, SHABA and Borama Municipality of 10 years was ratified effectively transferring service delivery responsibilities to the private operator and making this the first pilot PPP model in Somaliland. In September 2013, the lease agreement was renewed for another 10 years.

2.3 Project

The Borama water supply depends on ground water supply from three aquifers; current records show that the water table in these aquifers is steadily decreasing and in a period of four to five years, there will not be any water available to supply to the system.² Therefore, this project intends to contribute to alleviating a potential water shortage in Borama.

The Borama Master Plan estimated that by 2038, the total daily domestic water demand will be 8,550 cubic meters and the industrial/commercial demand will be 850 cubic meters, totalling 9,400 cubic meters per day. At present, six (three majorly contributing and the other three having a meagre contribution) out of nine wells are functioning, with a total production of 3,000 m³/day. To

¹ UN Habitat study (2014) and the population figure was adopted by the Borama Master Plan Study

² The population of the town has been estimated at between 100,000 and 120,000. The Consultant will obtain a reasonable estimate on the basis of existing data from the Government and from Shaba, the operator of the system.

meet the present water demand, the boreholes have to be pumped continuously with some boreholes working for 23 hours and others for 16 hours. This has two consequences: the continuous pumping of the boreholes does not allow them to recharge and there is no opportunity for the storage tanks that exist in the system to store water. With the limited storage available, in case of any system malfunction such as a transmission main damage or generators malfunction, the town will have no water. These figures are indicative of the potential of the aquifer and to that end; the Master Plan recommends further detailed geophysical surveys.

Responding to these challenges, UNICEF and the MoWD have committed to carrying out further detailed groundwater surveys, drilling, and equipping the three boreholes in Afraaga area, located in the western part of Borama. However, due to financial constraints, these boreholes were not connected to the town.

Therefore, SDF1 committed to bridge the above-mentioned gap by bringing available water from these sources to the town. A team of engineers in the SDF Secretariat and MoWD completed the design work, and it is now ready for implementation. Subsequently, SDF2 committed to implementation its design work as immediate measures with the following scope:

- Connection of the 3 boreholes;
- Construction of approximately 5 km pipe network;
- Construction of a 6 km transmission mains from the boreholes to the reservoir;
- Construction of a reservoir;
- Construction of a 4 km distribution mains from the proposed reservoir to the existing distribution system;

The SDF Secretariat, on behalf of MoWD are therefore seeking the services of a qualified Site Engineer to work under the Resident Engineer for to work under the site supervision of the above works under the Borama Water Supply System Construction.

3. Scope of Work

3.1 Objective of Assignment

The overall objective of the assignment is to assist the Resident Engineer (RE) in the provision of services for supervising the construction of works under Borama Water Supply System and other associated works as mentioned in section 2 above.

3.2 Key Tasks/ Activities and Sub-Tasks

The Site Engineer shall assist the RE in the supervision of the construction of all the components of the Borama Water Supply system which will involve managing several contractors.

SDF Secretariat intends to award the construction works to up to four different contractors under the following lots:

- Lot 1: installation of borehole pumps at three boreholes; construction of pipelines to a sump tank; construction of a pumping complex; construction of a local area power supply system; installation of a SCADA system; construction of surge tanks
- Lot 2: construction of pumping pipeline main to the main water tanks (2 X 500 cubic meters).
- Lot 3: construction of foundations for two prefabricated 500 cu.m tanks and installation of the tanks; construction of distribution pipelines to the town, including inlet and outlet connections to the water tanks on Dhagax Cas Hill.
- Lot 4: construction of an access road up to a set elevation at Dhagax Cas Hill and excavation in rock of the space for installation of the water tanks.

Each Lot shall have a Project Manager, Site Engineers and supervisors provided by the contractors/implementing partners. Most of the pipes, fittings, SCADA and power system have been procured by SDF Secretariat and have been stored by Shaba (the local water supply company), at a site located approx. 8 km from the works sites.

Site Engineer role shall involve duties and tasks associated with the execution of all obligations entrusted to the RE in accordance with the contract between SDF Secretariat and the contractors.

The tasks to be performed by the Site Engineer shall include the following:

- Advise the Contractors during mobilization, siting of their construction yards and on social and environmental aspects of their mobilisations;
- Review work plans of each of the contractors and ensure modifications to ensure practical implementation of the works;
- Ensure that inputs are ordered in time from the Shaba Stores. Each contractor shall plan to requisition for materials 1 – 2 times a month and shall store them at their own construction yards.
- Ensure that the quality of materials and workmanship conform to the specifications of the construction contracts;
- Closely monitor the progress of works and report to the RE through monthly reports which include details of work done, difficulties and delays in the work, their causes, the proposed remedial measures and financial status of the works contracts;
- In the event that any work is behind programme, consult with the contractors to arrange the necessary modifications to the programmes or work methods such that the contractual completion dates can be achieved and issuing instructions necessary to achieve these goals;
- Review and advise the RE (for approval) all designs, calculations, specifications and methods proposed by the Contractors for permanent and temporary works, formworks, access roads etc. to ensure conformity with the construction contracts and that the work can be carried out safely and in accordance with recognized internationally accepted practices;
- Check the setting out of works to line and level before any construction takes place and ensure that sufficient markers are in place for easy control of the operation;
- Carryout regular joint measurement of works (with the contractor) in order to prepare and recommend interim payments to contractors;

- Ensure that the Contractors achieve construction performance measures and especially those related to Time, Cost, Quantity, and Quality and Environmental Protection;
- Ensure that the works designed to mitigate any adverse impacts as specified in the Environmental and Social Management Plan are built into the construction works.
- Check and verify as built drawings, and O&M manuals and the Contractor's final certificate;
- Assist with the commissioning of works, supervise any identified outstanding works during the defects notification period, and prepare the final progress report;
- Guide the contractors on compiling an Operation and Maintenance Manual and forward three copies of the Manual to SDF Secretariat as provided for in the Works Contract;
- Participate in coordination meetings with SDF Secretariat, through the Project Management Team (PMT). The SE shall furthermore readily participate in informal discussions with SDF Secretariat /PMT in order to optimise the performance and coordination.

4. Reporting

- The SE shall work under the overall supervision of the RE on all aspects of the project:

5. Deliverables

The SE will be expected to contribute to delivery of the following:

- Inception report
- Weekly and monthly reports
- Site Mission reports.
- End of assignment report.
- All soft copies should be presented in the original software used for its production. PDF alone will not be accepted.

6. Required Qualifications, Skills and Experience

Qualifications and skills

- A Bachelors' degree in Civil Engineering or Water Engineering;
- Demonstrated excellent command of spoken and written English and Somali; and
- Excellent interpersonal and diplomatic skills.

General professional experience

- A minimum of 8 years of experience in implementation/supervision of urban or large rural water supply systems;
- Experience with donor funded water supply projects within Somaliland; and
- Proficiency in use basic computer software such as MS Access, Excel, Word, Power point, AutoCAD, and water modelling software such as EPANET.

Specific professional experience

- A minimum of 3 years of experience as Site Engineer in one or more large or rural water supply projects of similar size and complexity;
- At least 3 years of demonstrable experience in contract management and dealing with contractors/IPs; and
- Must be able to prepare and modify drawings in AutoCAD.

7. Duration of Assignment

The assignment will be expected to last twelve (12) months from the commencement of the contract. The location of the position is in Borama town, Awdal region.

8. Payment

- All fees will be paid monthly basis after the Project Manager endorses and the SDF Secretariat approves his/her timesheet and invoice;
- The SDF Secretariat will organize and pay for Expert accommodation and DSA as per SDF2 guidelines.

9. Duty of Care

- The Expert will work under the overall SDF Secretariat Health, Safety and Security protocols;
- The Expert will be expected to provide own insurance for health care, accidents, and other risks associated to the assignment. The SDF Secretariat or MoWD shall be free from any liabilities arising from the same.

10. Other provisions

- The Project Management Team staff and other relevant technical staff at MoWD will be available to work closely with the SE;
- Personal Computers: The SE shall be responsible for the provision of his/her own computer;
- The SDF Secretariat shall facilitate the SE with transport for all his official work in Borama and outside Borama;
- The SE shall not receive any DSA in Borama.