T/2453300/2022

Construction of Remaining Works of Sohar Sewage Network Phase -III

Volume II- OWWSC (Haya Water) Requirements

Section 2.1: SCOPE OF WORK

TABLE OF CONTENTS

2.1 Scope of Work

The Contract for Construction of Sohar Sewage Network Phase III is to provide piped sewage services for the citizens of Al Tarayf, Al Hambar south, Ghail a'Shibool and coastal areas of Hadirah, Shizaw and Subarh in Wilayat of Sohar. The Waste water collected will be conveyed to the existing STP at Al Mawailah.

The successful bidder shall take over the site from OWWSC and inspect (jointly with Engineer) the Works partly completed by the earlier contractor. The bidder shall consider that some of works are partially completed as such: gravity network, vacuum network, pumping (raising) mains, Pump stations/Vacuum stations and ancillary buildings. The successful bidder is required to complete the balance works and integrate the work done by the previous Contractor, all in accordance with Tender Documents

The successful bidder is responsible to do all works required to make good the part of work done by earlier Contractor. This may include (but not limited to) cleaning/flushing of Manholes/Pipelines, placing of cover slabs of Manholes, manhole covers, installation of pipes, valves, pumps, painting etc. and testing /commissioning of works.

The Contractor shall complete partially installed by pervious contractor and backfilled sewer lines due to Safety, the Contractor shall identify all such cases to make and complete the works as required.

This Contract includes the following works:

- Construction of about 40 Km of conventional sewers with pipe diameters ranging from 150 mm to 1000 mm.
- Construction of vacuum sewage collection network for coastal areas with 500 m gravity sewer of 150mm and 2500m vacuum network of 90mm to 250mm.
- Construction of Ghail a'Shibool new proposed Lifting Station.
- Construction of about 3 Km of pumping mains with pipe diameters ranging from 150mm to 400 mm.
- Balance works of new Pump stations at Hambar 1 and Tarayf.
- Upgrading of existing Pump stations at Hijra, Hambar 6, C1.
- Balance works of Vacuum stations at Hadirah and Shizaw.
- Balance works of Store and Workshop buildings.
- Construction of all other related works to make the project complete.
- Testing, commissioning of completed works.

2.2 **The project scope comprises of following bills**:

Part – 1: Balance Works for Supply and Installation of sewers.

a) Supply and Installation of sewers in Ghail 1
b) Supply and Installation of sewers in Ghail 2
c) Supply and Installation of sewers in Al Hambar South 1
d) Supply and Installation of sewers in Al Hambar South 2
e) Supply and Installation of sewers in Al Tarayf North
f) Supply and Installation of sewers in Al Tarayf North Near Health Center area
g) Supply and Installation of sewers in left out areas of Hambar, Waqaibah 1&4.
h) Supply and Installation of sewers in Hadirah
i) Supply and Installation of sewers in Shizaw & Subarah

Part - 2: Balance Works for Construction and upgradation of Lifting Stations / Pump Stations.

a) Construction of Ghail a' Shiboul Lifting Station 1
b) Hambar Pumping Station 1
c) Tarayf Pumping Station
d) Upgradation of Hijrah Pumping Station
e) Additional Pumps in Hambar Pumping Station 6
f) Upgradation of C1 Pump Station

Part - 3: Balance Works for Construction and installation of Vacuum Stations,

a) Hadirah Vacuum Station
b) Shizaw Vacuum Station

Part - 4: Balance Works for Supply and installation of pumping mains,

a) Supply and Installation of pumping main from Hambar Pump Station 1 to MH Q-23A and MH Q-23B
b) Supply and Installation of pumping main from Tarayf Pump Station to STP
c) Supply and Installation of pumping main from pump station C3 to MH P-42-1 and P-42-2
d) Supply and Installation of pumping main from Pump Station C3-21 to Pump Station C3
e) Supply and Installation of pumping main from Hadirah Vacuum Station to Hijrah Pump Station
f) Supply and Installation of pumping main from Shizaw Vacuum Station to Hijrah Pump Station

Part - 5: Balance Works for

a) Workshop
b) Store

Part - 6: Miscellaneous

a) General and Preliminaries.
b) Provisional sums
c) Day works schedule.

Purpose of above works summarized in Parts 1 to 6 is to achieve complete functional performance of Sewage Network, Lifting Stations, Pumping Stations, Vacuum Networks, Vacuum Stations, pumping mains and putting them into operations as described in other parts of Tender Documents.

Since the project was partially constructed through the previous contract which was terminated; upcoming successful bidder shall be responsible under this contract to study the Tender Drawings, Specifications and all relevant documents provided in the Tender Documents and study the actual work done at site and shall validate any required design of the Sewage Network, Lifting Stations, Pumping Stations, Vacuum Networks, Vacuum Stations, Pumping Mains in all aspects and submit detailed construction drawings for the balance works for approval by Engineer.

The Sewerage Network and Vacuum Networks of the Project involves the following general activities, all as described in the contract documents:

1. Supply and Installation of the gravity sewer pipelines and vacuum network system
2. Construction/Installation of the manholes and vacuum chambers
3. Supply, installation, testing and commissioning of force mains.

4. Construction of valve chambers, Thrust Blocks, supports, etc.
5. Reinstatement of roads and areas affected by the Project works in accordance to Road design manuals and specification.
6. Construction of remaining sewage network and Lift / Pump Stations and Vacuum Stations including civil, mechanical and electrical works for the following components (as per applicable scope and BOQ in the tender documents):
    i. Inlet Chambers.
    ii. Wet well/dry well and Valve chambers.
    iii. Control rooms.
    iv. Installation of Transformer, Generator and Odour control systems.
    v. Compound walls.
    vi. Access road and protection works (stone pitching).
7. Testing and commissioning of Sewage Network, Lifting Stations, Pumping Stations, Vacuum Networks, Vacuum Stations, Pumping mains.
8. Record Drawings and Operation and Maintenance Manuals for the project.
9. Provide training for Employer's staff during commissioning stage.
10. One-year Operation for Vacuum Stations and Vacuum Networks only, considering the maintenance including in Defects Liability Period.

2.3 All Materials shall be Supplied by Contractor (Option 01):

The Contractor shall not consider Existing Materials as Credit ie. Credit of Materials Value shall be considered equal to **R.O Zero** (All required Materials shall be supplied by Contractor)

2.4 Reconciled Balance Material Available at Site (Option 02):

Since the project was partially constructed through the previous Contract, which was terminated, there are materials previously procured by the Contractor and available in Sohar City (within Project Area).

These materials are reconciled and a summarized list including description and quantities of the available items is attached with Bill of Quantities (Bill No. 30 A- Credit for Existing Material).

Preference shall be given to utilize those materials and equipment in the project permanent works. If the quality and integrity of the material is proved after technical assessment by technical specialist, it shall be utilized within the Project works. In particular, tailored items such as Manholes or similar are compulsory to be incorporated in the Project Works.

Conduct investigation/technical assessment and submit comprehensive report for Reconciled Balance Material Available at Site.

Any test required by third party as per Engineer instruction will be paid under Provisional Sum.

The procedures to be followed for these materials and equipment are as follows:

1. The process of Handing over of materials shall be agreed between the Employer and the

Contractor immediately after Project Commencement Date.

2. The Contractor shall visit the Employer's storage area/s during the tendering stage jointly with the Engineer/Employer and shall investigate the stored material/equipment properly and shall price it in Bill No. 30 A (Credit for Existing Material).

3. During Mobilization Period, the Contractor shall verify the quantity and inspect/asses the quality of materials for compliance with the Tender documents through Technical Specialist (materials testing laboratories approved by Authorities in Oman for material testing and assessment). The material assessment specialist shall examine the suitability of the material/equipment for use in the Project. Any testing required for proper assessment of the material/equipment shall be undertaken by the Contractor.

   All testing to prove the material/equipment integrity and suitability to use will be carried out by the Contractor at the location advised by the third party.

4. The Contractor shall in coordination with the third party, submit a written report of the assessment findings to the Engineer/Employer at the earliest (in any case, not later than 14 days after mobilization period). The report shall include the following:

a) Detailed List of the material/ equipment ready to be used without rectification.

b) Detailed List of the material/ equipment to be used upon reconditioning indicating the required rectification/reconditioning works.

c) Detailed List of deteriorated materials that are not suitable for use in the Project and should be excluded, stating the reasons.

5. The Engineer shall review the assessment report and shall issue his decision regarding the Report within 14 days from receiving the report.

6. Upon Engineer's instructions, handing over of the material shall be as follows:

- Material included in item 4-a and 4-b above shall be handed over to the Contractor within 10 days after the end of mobilization period. Shifting the material from the storage areas to the work site and/or to the location of testing and rectification (if required) shall be the Contractor's responsibility.

- Material included in item 4-b above shall be rectified by the Contractor following the manufacturer recommendations within two months from his handing over of the material. The repair methodology shall be submitted for the Engineer's approval. The duration required for repairing needs to be allowed for within the Programme; no claims will be accepted for any delay in carrying out such repair activities.

- After carrying out repair works, the Contractor in coordination with the third party shall submit a report to the Engineer indicating the repair work done for each item with recommendations by third party confirming the functionality, adequacy and suitability of the material for use in the Project. Manufacturer involvement will be helpful in this stage.

- It's necessary to obtain/validate the warranties/certificates from the manufactures for material/equipment to be incorporated in the Project works even for the repaired material, however, if the Contractor could not get valid warranties/certificates for the repaired

material due to any reason, the Employer may decide to incorporate those material/equipment in the Project works based on the third party recommendation.

- The Contractor will be paid for assessment, testing, reconditioning works and validating the warranties (if any) as indicated in item 18 of Standard Pricing Preambles and B.O.Q items No. 31.7.6, 31.7.7, 31.7.8 & 31.7.9.

- Material included in item 4-C (Not suitable for use), the Contractor shall shift to designated area within Sohar as per Engineer instruction.

7. The location of use for the use of existing material/equipment shall be selected jointly by the Contractor and the Engineer and shall be identified on shop drawings/quality records.

8. Employer's materials are to be separately identified and distinguishable from newly procured materials in the Contractor's stores. A record is to be kept of the locations where Employer's materials are installed within the Works.

9. The repaired material shall be used in definite areas in the Project (not to be randomly used and mixed with new material as maximum as applicable).

10. In case failure occurred in any of the Project elements due to the use of the old material (not due to workmanship), this will be OWWSC responsibility (in terms of cost and time). The cost implication due to replacing/rework for the defective elements shall be paid to the Contractor under a provisional sum item as indicated in item 18 of Standard Pricing Preambles and B.O.Q item No. 31.7.10.

11. GRP Pipes and Fittings:

    Precedence shall be given to utilize the existing material balance from the terminated Contract (including GRP Pipes) subject that the material found suitable for use as recommended by material assessment specialist. However, if the GRP Pipes and fittings found defective and unsuitable for use, the Contractor shall supply HDPE pipes with suitable characteristics fit to the purpose instead of GRP pipes and fittings even the project element/ pipeline was partially completed using GRP Pipes.

2.5 Documentation:

At the completion of the project, the successful bidder shall provide all documentation for complete project like As Built Drawing, O&M Manuel, Guarantees/Warranties etc. as specified in project documents.