

## **SCOPE OF WORK**

### **3.1 INTRODUCTION**

The Nama Water Services (hereinafter referred to as “**the Employer**”) intends to appoint a qualified and experienced Contractor to carry out rehabilitation works on water mains and distribution pipelines throughout Wilayat Bousher Muscat Governorate where Nama Water Services owns and operates its water systems (hereinafter referred to as “the Works”) as specified elsewhere in the Tender Documents including the Specification hereof.

The Successful Tenderer (hereinafter referred to as “**the Contractor**”) will possess sufficient expertise in the construction, operation and maintenance of water network systems of similar nature to those owned by the Employer. The contract will be for a duration of three years (36 months) and can be extended for one year.

### **3.2 SCOPE OF SERVICES**

#### **3.2.1 Project Area**

The water mains and distribution pipelines rehabilitation works shall be carried out throughout the Wilayat Bousher Muscat Governorate where Nama Water Services owns and operates its water system.

#### **3.2.2 General Description of the Services**

The purpose of this project is to carry out rehabilitation works on water mains and distribution pipelines including all accessories located along the pipe line (if required). This includes replacement of main pipeline and service connections with minimum disturbance to the existing network and the associated customers.

The Contractor shall provide management and expertise, staff, tools and equipment and any other requirements needed to carry out works. The Contractor shall apply its best efforts to thoroughly and completely provide the Services described herein.

The contractor should study and survey carefully the area in order to identify all requirements / resources. Subsequently the Contractor shall submit a full program showing procedures, resources and duration of each activity for Employer’s approval. The duration of works must be in compliance with the Rehabilitation Efficiency mentioned under Schedule B hereunder.

Upon approval from the Employer, the Contractor will withdraw the material from Nama Water Services approved store and deliver it to site. Alternatively, the Contractor will be requested to deliver the material in line with the Schedule of Unit Rates mentioned under Schedule B.

The Contractor is responsible for obtaining all permits and clearance from the concerned authorities before execution of the Work.

The Contractor should lay the new pipe lines inside trench of the old pipe which should be totally exposed to check its condition and to identify all exiting tapping points and other connections. During the shutdown, the contractor shall disconnect the old pipes and connect the new pipes with existing network. All service connections in the old pipe should be connected to new pipe during the same shutdown with new tapping.

The new pipelines should also be connected to existing old main gate valves (in chambers) and fire hydrants - if required. All old main pipes should be removed totally from the site and return back to Nama Water Services stores. In general, the old main pipes and service connections with fittings and accessories up to the meter should be removed and change by new pipe. In case that the pipe of service connection (32 mm) is new, The Employer will decide on site to keep it or replace depending in the conditions of the pipe. Contractor should return all interlock, asphalt, and concrete to some original conditions before excavations.

During execution of the project, the Nama Water Services Engineer might approve changes in the alignment of the new pipes, if required or if there are any obstacles at site

It is extremely important that the Contractor avoids any effect on existing customers including water shortages or disruptions. Any complains or issues at site should be reported in written to the Employer.

All works (civil and piping) on site should as per updated standards and specifications of NWS. Contractor should buy new version from concerned authorities.

Contractor shall render the following Services to the Employer (but not limited to): -

1. The Contractor should start works once the Employer has issued the respective work instruction.
2. The contractor should assign a representative (civil or mechanical Engineer) with experience in pipelines laying to be directly in contact with Nama Water Services Engineers during the execution of the project. The representative should be familiar with all Nama Water Services standards, specification and water work procedures.
3. Survey of site and identification of the best technically feasible option as per Nama Water Services standards.
4. Contractor will prepare a Rehabilitation resource plan including staff, equipment, material and all other requirements to fulfill each of the projects in compliance with the Rehabilitation Efficiencies included under Schedule B. This Plan will be the basis for the project duration and will be used for monitoring Contractor's performance.
5. The contractor should be responsible for clearance from concerned authorities, e.g.: Omantel, Oredoo, Municipality, Electricity Companies, Royal Oman Police (ROP), NWS and any other authority related to the work.
6. Mobilization and demobilization of plant, equipment and manpower to the respective areas.
7. Upon approval from the Employer the Contractor will identify the required materials, withdraw them from the approved store and deliver them to site.
8. All material must be in compliance with the latest Nama Water Services specifications & standards.

9. All works carried out by the Contractor shall comply with the Nama Water Services standard and specification under the supervision of the Nama Water Services representative.
10. The Contractor should be responsible for adhering the specification of the Employer for all works done and for following rules and strictly following regulations of the Sultanate of Oman in force at that time.
11. The Contractor will carry out excavation in all types of soil including rock, etc. and trench of suitable width including refill, compact, cart away surplus excavated materials, thrust boring, asphalt cutting, interlock, provide bedding in trench.
12. Excavations depth, bedding and cover shall be in compliance with Nama Water Services standards.
13. The Contractor is responsible for tapping to the existing network as per the instruction of Nama Water Services Engineer and laying the new pipeline.
14. Laying detectable warning tape along with pipe trench at all cases. The width of warning tape is 30 cm and the depth will be 30 cm from finished ground level and final layer should be backfilled with well mix soil, water and compacted with plate compacter.
15. Carry out disinfection of water connection as per Nama Water Services standards.
16. The contractor is responsible for removal and reinstatement to the original condition of asphalts/interlock/ concrete / bituminous surface, etc.
17. Interlock tiles must be fixed by skilled persons and damaged tiles must be replaced with new ones.
18. Materials required for reinstatement of road cutting, curbstone, paved surfaces or interlock tiles should be supplied by the Contractor as stated under Schedule A.
19. The Contractor is responsible to transport all unused materials as well as materials removed (old pipes, valves, fitting, etc.) to the Employer stores.
20. The inspectors and engineer have the right to ask Contractors to open, excavate and expose any number of ferules and pipes at any time.
21. The Contractor should be responsible for following HSE requirement.
22. The Contractor should be responsible for his staff and equipment and should follow all the required safety precautions related to the nature of work.
23. The Contractor should provide safety appliances for residences including wakening bridge at each house entrance or wakening road and his staff at all times.
24. Whenever deep excavation is required, the work area should be cordoned off with suitable working boards and precautions taken to prevent earth collapse.
25. Contractor is responsible for traffic management if required.
26. The contractor should take extra precaution while excavating near private properties and will be held responsible to compensate for any damages done to government or private properties during the execution of the work.
27. The Contractor shall not assign the works to any sub-contractor without prior written approval from the Employer.
28. Contractor is responsible for two year warranty after completion of the connection work and a written submission signed by the Employer.
29. The contractor is responsible to prepare and submit the final as built drawing for each replaced pipeline in AutoCAD format and as per Nama Water Services GIS requirements.

### **3.2.3 Personnel**

The Contractor shall provide as a part of the Services to be rendered under the Contract, permanent and fully dedicated staff for the provision of the services. The Contractor is fully responsible to assess his needs in order to provide the sufficient resources for the efficient delivery of the services mentioned under this section.

The Contractor shall employ and provide his staff in accordance with the Laws of the Sultanate of Oman.

The Contractor shall be totally responsible for the supervision, management and performance of his staff and for ensuring that his staff live and work in accordance with the Laws of the Sultanate of Oman.

The Contractor shall be responsible to arrange for the accommodation, food and all subsistence aspects of the team at the respective locations where they are deployed and the costs of all such aspects are deemed included in the price quoted by the Contractor.

Preference shall be given to Omani nationals and the Contractor might obtain foreign labour for all positions not set aside for Omani workers in accordance with the Immigration and Labour Laws of the Sultanate of Oman.

In general, the Contractor will provide enough resources to work in different locations at the same time in accordance with the requirements mentioned in this document.

The Contractor's dedicated team/(s) must be fully experienced regarding skills on specific tasks required by the Employer on drinking water network maintenance works. The Contractor's personnel shall moreover be fully trained on Health & Safety practices following the Omani laws and regulations.

The Contractor shall provide teams **comprising of competent and experience staff in line with the job positions and recommended qualifications / experience mentioned herein:**

Staff	Qualifications	Years of experience in Water Sector	Required Skills
Project Manager	Bachelor Degree in Mechanical Engineering or Civil Engineering	10	Managing Rehabilitation of Water Systems & Water Pipeline
Project Engineers	Bachelor Degree in Mechanical Engineering or Civil Engineering	5	Rehabilitation of Water Systems & Water Pipeline Project
Safety Officer	Bachelor / Diploma in HSE or related	5	Water Utilities

Foremans	Bachelor Degree in Mechanical Engineering or Civil Engineering	8	Managing Rehabilitation Water Systems & Water Pipe line Project
Technicians	Diploma in electrical / mechanical division	3	Water systems
Pipe Fitter / Welders	Industrial /Technical Certificate in Mechanical Division	3	Rehabilitation of Water Systems / Plumber
Administrative / PRO	Diploma	5	Experience in Administration matters, reporting and dealing with Companies and Government Institutions
Drivers	Basic Education	3	Physically fit & in possession of a valid Omani Driving License to drive in work vehicles provided by the Contractor

The selected staff shall not be changed during the contract without an official Employer's approval.

The Contractor shall be responsible to provide Personal Protective Equipment to their staff.

The Contractor's staff working on the Sites shall wear uniform coveralls having two (2) logos or names as approved by the Employer: the Contractor's logo or name and the Employer's logo or name.

### **3.2.4 Office Requirements**

The Contractor must study the needs during the Contract Period and must indicate the numbers / locations of offices in the deployment plan which will be submitted as part of his submittal.

The Contractor shall set up offices for the duration of the Contract as deem required throughout the service area. Each office should essentially have the required office furniture, lighting and air conditioning facility and other relevant office equipment like computers, printers, telephone and email services etc. as required to carry out the performance of the Services.

### **3.2.5 Vehicle Requirements**

The Contractor shall provide all vehicles and drivers required for the transportation of its staff and the performance of the Scope of Services.

### **3.2.6 Plant and Equipment Requirement**

The Contractor shall provide all plant and equipment required for the performance of the Scope of Services. The minimum equipment required may include but not be limited to the following plant and equipment:

- Machinery required for the Services as deemed required by the Contractor like Compacting machine, Dewatering Pumps of different sizes and capacity, Generator and special lighting for night works, Asphalt cutters, any health and safety equipment, special tools, asphaltting machine, asphaltting roller, any machines for performing asphaltting and any other machinery to perform the scope of service.
- Generator, cables and accessories
- Concrete mixer
- Mobile Chlorination Units (Hypochlorite)
- Excavator + Equipment for Transport
- Mini - Excavator + Equipment for Transport
- Back hoe, JCB
- Wheel loader
- Tipper Truck
- Mini-loader
- Crane
- Any safety equipment required for the delivery of the services.
- And all other equipment deemed necessary

The Contractor is responsible to ensure that the required equipment is available and in full working condition, so that the services can be performed as and when the instructions are issued to the Contractor.

The Contractor's equipment shall follow the Omani Regulation to perform work on drinking water networks. The Contractor will ensure the equipment is provided with the associated professional personnel to operate the same.

Whenever the Employer requires to fast track the rehabilitation process, additional equipment and machinery shall be mobilised by the Contractor upon approval from the Employer's representative or based on an approved resource plan.

Additional Equipment and Machinery will be paid based on the actual number of days utilized subject to the daily rates included on the Schedule B Provision of Equipment and Machinery. Contractor shall provide proof of equipment utilization along with the invoice in order for the Employer to pay for the relevant invoice.

### **3.2.7 Tools, Consumables and Materials to be provided by the Contractor**

It is the full responsibility of the Contractor to provide and maintain all tools, material and consumables required for the performance of the Services in accordance with the terms and conditions hereunder.

The Contractor shall provide the tools, materials and consumables required for the performance of the Services, including but not limited to:

- **All tools essential for the services** like all cutting, grinding tools, blades, steel / HDPE wire cutters, drills and tool bits, hand and power tools, spanner sets of required sizes, pipe wrenches, die set, pipe cutter, grips pliers of required sizes, shovels, crowbars, pick axes, hammers and related miscellaneous tools.

- **Welding and Testing Consumables** - All types of welding rods, machines, soldering and brazing materials, welding and cutting appliances, welding accessories like shields, holders, wire leads, wire brush, dye penetrates, developers, etc.
- HDPE welding machine, accessories and consumables, electrofusion and hot tapping machine.
- **Cleaning Agents** - Cotton rags, rust removers, soap detergents, disinfectants, thinners, etc.
- **Sealant, grease, glues and rebuild materials** - Jointing compounds repair and re-build Materials.
- **Gaskets, Gland Packing** - All fabricated gaskets, all gasket sheets like compressed asbestos, rubber, Teflon, neoprene, cork sheets, etc. but excluding metallic gaskets. All kinds of gland packing.
- **Nuts, Bolts and Hardware** - All kinds of nuts, bolts washers, nails, pins, binding wires, screws and commonly available hardware.
- **Tapes** - All kinds of insulation tapes, masking tapes, scotch tapes, fiberglass tapes and any other insulation tapes. Warning and detectable tape as per Nama Water Services standards.
- **Chemicals.** Sodium / calcium hypochlorite for disinfections of water lines
- **Civil Materials.** All civil materials including cement, sand, aggregate, steel rebar and other material required for the delivery of the services.
- **Fire and Safety.** All safety equipment and consumables like fire extinguisher chemicals, safety appliances, hand gloves, face shields, gum boots, special aprons, hoses and fittings. Fire hoses needing replacements.
- **Thermal Insulation** - Material required for thermal insulation like thermocouple, fiberglass matting, glass wools G-1, cladding sheets, etc.
- **Diesel, petrol, lubricants, oils and greases** –Diesel and petrol for vehicles, equipment and machinery and all kinds of lubricants, oils and greases as required for the delivery of the services.
- **Fabrication Materials** - Structural steel like angles, channels, beams, checker plates, GI roof sheets, etc. required for the regular in-house shop fabrication and maintenance of Assets. Raw Materials required for machine shop.

Additionally, upon Employer's approval the Contractor will provide any material quoted under Schedule A of this Contract. The material provided will be paid in line with the schedule of unit rates included under Schedule A.

### **3.2.8 Materials provided by the Employer**

The Employer will provide to the Contractor the materials required for the performance of the Contractor's Services as per Nama Water Services Standards including but not limited to:

- Pipes and fittings - All types of pipes and ancillaries of any material required for all the works within the scope of this contract.
- Ferrule and saddles
- Strainers and any type of valves required for the delivery of the services.
- Customer water meters of any size.

As and when the instructions are provided by the Employer, it is the responsibility of the Contractor to collect from the respective stores of the Employer (The Central Stores in Mabellah or the nearest regional store of the Employer where each team is stationed) and to transport all such materials to the respective sites in sufficient quantities as a buffer stock and properly stacked and maintained it accordingly.

The Contractor shall be responsible to transfer back the unused materials and the removed materials from site (scraped pipes/ valves etc.) back to the storage yards and properly stack and store them in accordance with the best practices in the industry so that the Materials are preserved.

The Contractor shall properly document the receipts and consumption of these materials, in a format approved by the Employer along with each invoice.

### **3.3 Time Schedule**

Considering the nature of this framework contract, the Contractor shall take necessary action to deploy sufficient staff to complete the assigned works according to the type of task and within the specified period.

After Employer issue work order to the contractor, a maximum of 2 weeks should be taken by the contractor for Mobilization and demobilization. The completion work period will decide by Nama Water Services site engineer.

### **3.4 Invoicing**

The Contractor shall invoice the Employer in a quarterly basis. It is mandatory that the Contractor will produce along with the quarterly invoices, a copy of the corresponding materials withdrawn from Nama Water Services approved store, the as built drawings in the format specified by Nama Water Services (soft and hard copy) and the corresponding GIS update form duly completed. In addition, any additional manpower, equipment or material approved by the Employer in line with Schedule A and B.

### **3.5 Project Execution**

Considering the nature of this contract, the Contractor shall take necessary action to deploy sufficient staff to complete the assigned works according to the type of task and within the specified period.

After Employer places a request for services, the Contractor shall carry out a comprehensive survey of the project alignment to ensure a successful delivery of the project.

The Contractor shall have a maximum of 15 days to provide a detailed programme schedule detailing all activities to be carried out along with drawings, material required and a resource and implementation plan. The latter plan will be based on the Contractor's Rehabilitation efficiencies included under Schedule B4 hereunder.



- The Contractor shall provide teams at the respective site/(s) depending on Nama Water Services request. For each project (it could be possible that there are more than one work instruction from the Employer to be attended at different locations), the Contractor will be informed about the area and on the type of works. The Contractor's team must be stationed at centre locations and available to mobilize across the service area.
- The Contractor shall provide a detailed contact list to the Employer.
- The notices as mentioned in the sub-clause above will be the sole basis for informing the Contractor of the task and of the area. It ensures the tasks required by the Employer are the same and in the same order as mentioned in the Assignment Form.
- The Contractor's team will be supervised and monitored by the Employer. The latter will assess the works realized by the Contractor.
- The Contractor will report worked hours to the Employer on a daily and on a weekly basis for further validation by the Employer.

### 3.6 Reporting

The Contractor shall provide to the Employer a Monthly Report by the 5th of the following month in electronic format and paper format. Such reports shall describe the activities during the month and shall include at least the following information:

- The number, nature and type of tasks completed and in progress every month per team with the composition of each time, the time taken, materials and equipment used and consumed to attend each task. This shall be in a table format which reveals all the information mentioned herein (the format shall be approved from the Employer on commencement of the Contract).
- A summary of the Materials received from the Employer every month, the opening stock and the closing stock.
- Detailed staff & equipment deployment (team-wise- location-wise)
- Other information as mentioned in Clause 2.12 of the Conditions of Contract

### 3.7 Key Performance Indicators

There will be KPIs for monitoring the service of the Contractor, which will be linked with Quarterly invoices. The KPIs will be as follow:

1. Response time against plan work
2. Quality of work as per Nama Water Services standards
3. Leaks found in associated works during the first year from the installation
4. Customer satisfaction (reinstatement, other complaints)
5. HSE standards

If the contractor fails to comply with Nama Water Services standards and specifications and violated Nama Water Services Engineer instructions, the company will be officially notified. In case reoccurrence in non compliance with any of the KPIs the Contractor might be in default as per the terms and conditions of this contract.

Description	Warning	Default	Contract Termination
	Nos.	Nos.	Nos.

Non compliance with SLA (Contractor's responsibility)	2	1	1
Customer complaints	2	1	1
HSE related findings	1	1	1
Non compliance with Nama Water Services standards	1	1	1

If the Contractor fails to provide the necessary services in accordance with the Agreement, the Employer reserves the right to appoint another contractor to cover the Contractor's shortfall. If the short fall is proven, then the cost involved by the Employer shall be deducted from the Contractor's quarterly payment. The Employer shall, however, inform the Contractor about the short fall officially and the Contractor will have opportunity to correct the situation.