

CONTRACT NO.

**GUJARAT WATER INFRASTRUCTURE LIMITED  
GANDHINAGAR**



**Bid documents for**

**Providing, supplying, lowering, laying, jointing, hydro-testing, and commissioning of Mild Steel (MS) pipeline, including all associated and allied works, for the onshore laying and offshore installation of the NC-9 bulk water pipeline including piling and encasing works in creek along the Surajbari Bridge, including all necessary crossings and structural supports at Maliya, Taluka Maliya, District Morbi.**

**VOLUME – II**

**VOLUME – IIA EXTENT OF WORK**

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Chief General Manager (Project)  
Gujarat Water Infrastructure Limited  
1st floor Block – 1, Jivraj Mehta Bhavan, Sector-10 Gandhinagar,  
Gujarat – 382015

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**VOLUME – IIA  
EXTENT OF WORK**

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Gujarat Water Infrastructure Limited  
1st floor Block – 1, Jivraj Mehta Bhavan, Sector-10 Gandhinagar,  
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## **EXTENT OF WORKS**

### **1.0 GENERAL**

This is a single point responsibility contract comprising the works of ***“Providing, supplying, lowering, laying, jointing, hydro-testing, and commissioning of Mild Steel (MS) pipeline, including all associated and allied works, for the onshore laying and offshore installation of the NC-9 bulk water pipeline including piling and encasing works in creek along the Surajbari Bridge, including all necessary crossings and structural supports at Maliya, Taluka Maliya, District Morbi.”***

- a. The Scope of Work under this Contract includes the Design, Engineering, Manufacture, Supply, Inspection and testing at works, Packing, and forwarding, Delivery to site, Unloading, Handling, Safe Storage, Insurance, Erection, Installation, Testing, Trial Run, Commissioning and Demonstration of Performance Guarantee Parameters, handing over, Training of Owner's personnel, preparing “As Built drawings” of various sections of the project, as specified in different sections of this specification. The scope broadly comprises the work specified in different sections of this Tender Specifications.
- b. The successful bidder shall have to undertake site surveys, Bathymetric survey, route surveys for ascertaining the terrain for planning and designing of the schemes in consultation with Engineer In-Charge, carry out geotechnical investigations for designing various structures. The bidders shall prepare the engineering design documents for the project components, based on actual site conditions and shall submit the same to Employer.
- c. Civil, Mechanical, Electrical, and instrumentation works shall include design, manufacture, performance testing at manufacturer's works, painting, supply, delivery at site, storage at site, installation / erection, testing and commissioning at site, final painting and handing over of all the facilities of the project.
- d. The scope of work shall also include supporting the department in obtaining necessary statutory approvals for the components as required. Statutory approvals shall include but not limited to Load Sanction from GEB/Load Increase as per requirement of Demand/Load Release from GEB/ No Objection Certificates from GEB/ Electrical Inspector / relevant government agencies / any other statutory authority as applicable. The same shall be in the scope of contractor.
- e. Contractor will be responsible for getting all other statutory permissions and clearances from the concerned central / state or local statutory authorities. The contractor should also have to manage the day-to-day co-ordination and follow up activities based on these clearances on site.
- f. Before starting the actual work, the contractor must provide and fix necessary display boards at all works site as per design, details, including writing with paints, necessary details as directed by Engineer In-charge at Contractor's own cost. No extra payment shall be made for this work. These shall be property of GWIL / Client after completion of the works.
- g. The successful bidder shall visit the site to study the existing terrain, riverbed conditions, tidal patterns, and the alignment of the existing pipeline system, to plan and design the proposed MS pipeline river-bed crossing scheme in consultation with the Engineer In-Charge. The bidder shall prepare and submit to GWIL / Consultant all engineering design documents—including survey reports, geotechnical findings, trench profiles, pipeline installation methodology, anchoring design, welding plans, temporary works strategy, and tie-in connection drawings—based on actual site conditions and in full compliance with the project specifications and directions of the Engineering In-charge.

## 2.0 SCOPE OF WORK (OVERALL PROJECT VIEW)

- Execute the SITC of the 1829 mm OD MS pipeline by constructing the complete below-riverbed alignment as per the approved route, Tentative route shown in the tender drawings. The scope includes all activities such as welding, lowering, bedding, anchoring/ballasting, and backfilling, followed by hydrotesting and pre-commissioning of the newly laid pipeline section. After readiness, a single short shutdown shall be taken to cut the existing line, install the required specials/transition fittings, complete the tie-in connection to the new MS pipeline, and resume water supply.
- Post-commissioning, dismantling / demolition and safe removal of the existing steel truss and MS pipeline at the Surajbari Bridge section shall be carried out by the Contractor. This shall include dismantling and removal of all associated specials, valves, fittings, flanges, jointing materials and related components. The dismantling shall be executed strictly in accordance with tender specifications and approved methodology, ensuring safety and with minimal hindrance to traffic movement on the bridge. The recovered materials shall be accounted for as buy-back items, and the Contractor shall pay back to the Employer (GWIL) as per the Price Bid.
- Broad Scope of Work of this project is as under:
  - Execution of SITC works for MS pipeline along the defined route, including onshore laying and offshore installation, strictly as per tender documents, approved route, and trench profile.
  - Establishment of pipe storage yards, handling systems, fabrication areas, and all temporary works, including arrangements required for safe and efficient execution of works in river/creek conditions near Surajbari Bridge.
  - Encasing for the MS pipeline shall be carried out at the Surajbari Bridge portion, and the encased pipeline shall be securely embedded and supported with pile supports to ensure stability and resistance against imposed loads and movements.
  - Execution of trenching/excavation in creek/riverbed, including handling of soft silt, clay, loose strata, and any variable subsoil conditions, dewatering (if required), and disposal of excavated material as per direction of Engineering In-charge.
  - Provide bedding, lowering, aligning, anchoring/ballasting, and protection of pipeline within trench to ensure stability against all forces, and long-term service conditions.
  - Design and Construction of Piling works, RCC encasing, RCC blocks, supports, and structural protection works at creek portion and other locations as per approved drawings.
  - Completion of backfilling, riverbed/creek restoration, slope protection, bank protection, and stabilization works to reinstate original profiles.
  - Execution of all necessary crossings, including road crossings, utility crossings, and structural supports along the alignment.
  - Carrying out hydrotesting, flushing, cleaning, and pre-commissioning activities for the Proposed MS pipeline system as per relevant standards
  - After completion and readiness, obtaining approvals and executing planned single shutdown for cutting into existing pipeline, providing, and installing transition pieces, specials, and fittings, and completing tie-in connections to the new pipeline.
  - Commissioning of the newly laid MS pipeline and ensuring restoration of water supply in accordance with operational requirements
  - Contractor shall design and submit all documents and drawings for all detailed structural design including Pile design, Encasing design and detailed construction drawings and obtaining approval of the same from GWIL and Consultant
  - Contractor shall design and submit design report with all Electro-Mechanical and Instrumentation components with all necessary drawings for approval from GWIL and Consultant.
  - Post-commissioning, the Contractor shall dismantle and safely remove the existing steel truss and MS pipeline at the Surajbari Bridge, including all associated components. Work

shall follow approved methods with minimal traffic disruption. Recovered materials shall be treated as buy-back items, and their value shall be payable to GWIL as per the Price Bid.

- During removal of the pipeline and steel truss at the bridge section, the contractor shall plan and execute the work in such a manner that minimum hindrance is caused to the traffic. Adequate traffic management, safety precautions, warning signage, barricading, and necessary diversion signage shall be provided and maintained during the period in accordance with applicable standards and as directed by the Engineer In-Charge.
- Compliance with all safety, environmental, and quality control requirements during execution.
- Job connection work of proposed pipeline to existing pipelines, shall be in scope of work of this contract. No extra payment shall be given for any other connection works required for the completion of the work.
- All required permissions and NOC for Demolition Works from NHAI.
- Defect Liability Period of 3 [Three] years from the date of successful commissioning.

### 3.0 PROJECT COMPONENTS

Following are components of the Projects.

- (1) Riverbed trenching, excavation, and temporary works including bunds, tidal management, dewatering etc. as and when required.
- (2) Providing, supplying, handling, storage, and protection of MS pipeline, specials, and fittings.
- (3) Construction of RCC valve chambers.
- (4) Encasing of MS pipeline sections shall be carried out as per approved design.
- (5) Jointing of pipeline with Pile supports at Surajbari bridge section.
- (6) Design system considering the uplift movement.
- (7) Bedding, padding, backfilling, compaction, and restoration of river/creek bed and slopes.
- (8) Hydrostatic testing, flushing, air-release, and commissioning activities.
- (9) Shutdown pre-planning, cutting of existing pipeline, and tie-in connections with specials, valves, and fittings.
- (10) Temporary facilities including access, working platforms, fabrication yard, storage, and dewatering arrangements.
- (11) Preparation and submission of detailed structural, piling, encasing designs and construction drawings with approval from GWIL and Consultant.
- (12) Preparation and submission of as-built drawings, test certificates, jointing records, trench profiles, and completion documents.
- (13) Post-commissioning, the Contractor shall dismantle and safely remove the existing steel truss and MS pipeline at the Surajbari Bridge, including all associated components. Work shall follow approved methods with minimal traffic disruption. Recovered materials shall be treated as buy-back items, and their value shall be payable to GWIL as per the Price Bid
- (14) All required permissions and NOC for Demolition Works from NHAI
- (15) Defect Liability Period of 3 [Three] years.

#### **Note:**

- (i) The bidder shall design & construct the system considering requirement as above. However, the contractor shall provide minimum capacities of equipment and material as per price bid. Refer BOQ for detailed understanding of work.
- (ii) Notwithstanding any limits that may be implied by the wording of the individual items and /or explanation provided in the Scope of Work & Specifications, it is to be clearly understood by the contractor that the rates and sums that are worked out as per the Bills of Quantities shall be for the work completed in every respect including all miscellaneous/allied works, within Head works premises.

- (iii) The bidder shall be deemed to have taken full account of all requirements and obligations whether expressed or implied, covered by all parts of this Contract and to have priced the items herein accordingly. The rates and sum shall therefore be included for all incidental and contingent expenses and risks of every kind necessary to construct, complete and maintain the whole of works in accordance with the Contract. No additional claim whatsoever shall be entertained by GWIL.

#### **4.0 MISCELLANEOUS CIVIL WORKS:**

➤ **General:**

- The general arrangements given in the specification is indicative, the contractor to develop detailed drawings to suit process level requirements, capacity specified in specification and available plot area.

#### **5.0 SAFETY CODE:**

- Necessary safety sign board shall be fix on site.
- Taking all precautionary measure to safeguard against any accident for the contractors employees, public, supervisory staff of GWIL and Consultant by providing necessary safety equipment, helmets and MS sheet barricading etc. at work site. The site must be kept clean all the time of all debris, rubbish, and dirt & surplus/waste material.
- All workers should be provided with safety helmets, safety shoes, safety gloves and safety belts etc.
- Every working platform and every gangway shall be closely boarded unless other adequate measures are taken to ensure safety.
- Every working platform and every gangway shall have adequate width, and every working platform, gangway, working place and stairway shall be suitably fenced.
- Every opening in the floor of a building or in a working platform shall except for the time and to the extent required to allow the access of person or the transport or shifting of materials be provided with suitable means to prevent the fall of persons or material.
- When persons are employed on a for where there is danger of falling from a height exceeding 3-meter, suitable precaution shall be taken to safeguard the persons or material.
- Suitable precautions shall be taken to prevent persons being struck by articles which might fall from scaffolds or other working places.
- Safe means of access shall be provided to all working platforms and other working places.
- The contractor shall comply with the following regulations as regards the hoisting appliances to be used by him.
- Hoisting machines and tackle including their attachments, anchorages and support shall be of good mechanical construction, sound material and adequate strength and free from patent defect, and
- Be kept in good repair and in good working order.
- Every rope used in hoisting or lowering materials or as a means of suspension shall be of suitable quality and adequate strength and free from patent defect.
- Hoisting machines and tackles shall be examined and adequately tested after erection on the site and before use and be re-examined in position at intervals to be prescribed by Engineer-in-charge.
- Every chain, ring, hook, shackle, swivel, and pulley block used in hoisting or lowering materials or as a means of suspension shall be periodically examined.
- Every crane driver or hoisting-appliance operator shall be properly qualified.
- In the case of every hoisting machine and of every chain, ring hook, shackle, swivel and pulley block used in hoisting or lowering or as a means of suspension, the safe working load shall be ascertained by adequate means.

- Every hoisting machine and all gears referred to in preceding regulation shall be plainly marked with the safe working load.
- In the case of hoisting machine having a variable safe working load, each safe working load and conditions under which it is applicable shall be clearly indicated.
- No part of any hoisting machine or gear referred to in regulation 'g' above shall be loaded beyond the safe working load except for the purpose of testing.
- Motors, gears, transmissions, electric wiring, and other dangerous parts of hoisting appliances shall be provided with sufficient safeguards.

#### 6.0 SPECIAL ATTENTION:

- The Contractor must manage following Registers and Record in each project site.
- All Register will be maintained properly by contractor with signature of engineer in charge.
- Any additional register as per instruction of Engineer in charge, shall be maintained by Contractor.

Sr. No.	Name of Register
1	Concrete Pour Card
2	Cube & Slump Testing Register
3	Material Testing Register [Steel, Cement, Coarse & Fine Aggregate, etc.]
4	Cement Consumption Register
5	Daily Progress Register
6	Site Visit Register
7	Pipeline Laying Register
8	Drawing Register
9	Hydraulic Testing Pipeline
10	E&M item inventory register
11	Pipeline Excavation & Sand bedding Register
12	PAUT Test Reports/Register
13	Weld Destructive Test Reports/Register
14	HSS Coating Reports/Register
15	Inside Joint Coating Reports/Register
16	Register for Backfilling/ Report
17	Pipeline BOQ items Inventory register
18	Pumping machinery and other BOQ items Inventory register

#### 7.0 Project/Site office:

- The contractor shall provide temporary site office, if required. The location shall be needed to be approved from Engineer-in-charge. During construction period, the contractor shall arrange the Water, electricity etc. with consultation with Engineer-in-charge and cost shall be borne by the contractor.
- Office Specification for the site office shall be portable type. Nothing extra for the construction of site office & furniture etc. shall be payable. Site offices shall be maintained till all the services are handed over to the statutory body.
- The above site office shall be used by GWIL Official Staff and Consultant staff also.