

**CONTRACT NO.**

**GUJARAT WATER SUPPLY & SEWERAGE BOARD  
GANDHINAGAR**

**(GOVERNMENT OF GUJARAT UNDERTAKING)**



**“Working Survey, Design & Construction of Intake Well with Approach Bridge, Providing, Supplying, Lowering, Laying and Jointing various dia. of DI-K9/MS Rising Main Pipelines, RCC Sump, Pump House, Staff Quarter, Compound Wall, Supplying and erecting Pumping Machinery Including all Electro-Mechanical-Instrumentation and SCADA Works at Various HWs to SHWs under Water Supply Scheme Based on Bhadbhut Barrage (RHS) for Industries (GIDC) and Rural Areas of Bharuch and Vadodara Districts with 10 Years of Comprehensive O&M of entire scope of work. Dist.: Bharuch**

**Estimated Cost: Rs. ₹ 8,28,08,62,369.00**

**VOLUME- IIA**

**EXTENT OF WORK**

Chief Engineer

Gujarat Water Supply & Sewerage Board

Zone-6, Surat

---

## Content

- Extent of Work
- Details of Proposed Scheme
- Special Attention

## **EXTENT OF WORKS**

### **1.0 GENERAL:**

This is a single point responsibility contract comprising **“Working Survey, Design & Construction of Intake Well with Approach Bridge, Providing, Supplying, Lowering, Laying and Jointing various dia. of DI-K9/MS Rising Main Pipelines, RCC Sump, Pump House, Staff Quarter, Compound Wall, Supplying and erecting Pumping Machinery Including all Electro-Mechanical-Instrumentation and SCADA Works at Various HWs to SHWs under Water Supply Scheme Based on Bhadbhut Barrage (RHS) for Industries (GIDC) and Rural Areas of Bharuch and Vadodara Districts with 10 Years of Comprehensive O&M of entire scope of work. Dist.: Bharuch”**

The scope of work also includes post implementation operation and maintenance of the constructed facilities under the package for a period of 10 (Ten) years.

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 “Operation & Maintenance Manual” and “As Built drawings” as specified in different sections of this specification. The scope broadly comprises the work specified in different sections of this Tender Specifications.

Any item of work, for erection of material / equipment which have not been specifically mentioned in the specification but are necessary for safe and trouble-free operation and guaranteed performance of the entire system, plant and equipment offered shall be deemed to be included within scope of these specifications and shall be provided by the bidder without any extra price and time implication to the employer.

The successful bidder shall have to undertake site surveys, route surveys for ascertaining the terrain for planning and designing of the schemes in consultation with Engineer-in-charge, as Structure as to conduct geotechnical investigations for designing of foundation system of various structures. The bidders shall submit actual path of laying of transmission network based on actual site condition and shall submit hydraulic design of transmission network to Employer/Consultant for review/approval and thereafter as per approved hydraulic design pipelines should be laid.

Civil, Mechanical, electrical & 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 followed by Operation and maintenance for 10 years.

The scope of work shall also include obtaining necessary statutory approvals for the components as required. The statutory approvals shall include but not limited to Load Sanction from GEB/Load Release from GEB/ No Objection Certificates from Gujarat Electricity Board (GEB) / Electrical Inspector / relevant government agencies / any other statutory authority as applicable. The same shall be in the scope of contractor.

The contractor will be responsible to get all other statutory permissions and clearances from the concerned central / state or local statutory authorities. However, the GWSSB shall facilitated in correspondence with other statutory authorities.

In the work of construction of structures, if the following condition like ground situation, SBC reports, type of strata encountered in foundation, natural rainfall drain patterns, Ground water table of locations, etc. occurs and the engineer in charge feels the necessity of consideration of ground water table, the structural design shall be incorporate necessary water uplift pressure. The decision of engineer-in-charge shall be binding to the bidder. Bidders are advised to quote the rate keeping in view this point as no extra payment shall be given for this. In case of any ambiguity, the decision of Superintending Engineer shall be final and binding to the bidder.

Before starting the actual work, the contractor has to 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 GWSSB / Client after completion of works.

## **2.0 DETAILS OF PROPOSED SCHEME**

### **2.1 SCOPE:**

The scope of this package starts from:

#### **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.

- Valve Chambers
- Anchorage/Thrust Blocks/Culvert/Nalla/Drain/River Crossing

##### **Valve chambers:**

Contractor shall carry out the construction of valves chambers in consultation with the engineer in charge.

---

**Anchor/Thrust Block**

Anchor/thrust blocks shall be provided wherever necessary in consultation with engineer in charge. Contractor shall carry out the design and submit the same for review and approval before execution.

**Civil Works for Transmission Piping:**

**The schematic diagram for pipeline is as shown in the bid drawings. This is only for reference and the selected bidder have to prepare the route map after carrying out necessary survey and fix the alignment in consultation with the Engineer in Charge.**

The scope of works comprises the following:

- Hydraulic design shall be prepared and submitted to GWSSB for approval.
- Constructing pedestals/column support/saddles/ steel bridge, Raising the pipe
- Transportation materials to fabrication/erections including loading and unloading.
- Contractor shall plan and accordingly phase the supply of items according to his requirement to best utilize the available storage space at site.
- Providing coating/ lining/painting as specified in this tender specification.
- Providing and fixing sluice valves, Scour valves, as specified in relevant data sheets, detailed technical specifications, particular technical specifications
- Providing tapings as required.
- Providing and fixing electro-magnetic flow meter on Existing and New pipelines at specified locations.
- Construction of RCC Sluice / ZVV / Butterfly/ Flow meter Valve Chambers as per design and drawing.
- Preparation of as-built drawings.

**DESIGN AND CONTRUCTION OF CIVIL STRUCTURES:**

- Soil Investigation and Designing of Structures for their stability for all Civil Structures.
- Submission and Approval of All drawings in minimum 6 copies original for all civil Structures.
- Detailed sub-soil investigations to assess the safe bearing capacity.
- Developing designs, structural design (including reinforcement) and detailed Construction drawings and obtaining approval for the same from the proof consultant and the client.
- 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.

**Pump Houses:**

- The Scope includes detailed design, civil general arrangement drawings, structural drawings (including reinforcement) / construction drawing so fall civil works for Pumping Stations, building services, water supply, storm water drainage, sewerage, and waste water system and detailed design and drawings of all mechanical, electrical and instrumentation system and equipment on the basis of the approved design, layout and general arrangement.
- The pump house shall be design so that pumps be easily install and maintenance can be done easily.

### **RCC SUMP / ESR / GSR**

Water will be conveyed to the RCC SUMP / GSR / ESR through a pipeline. RCC sump to be provided as indicated. The Sump reservoir will have two compartments (for 20 LL or above capacity as per mentioned in BOQ) of equal capacity so that any of these compartments can be taken out for repair/ maintenance purpose. The treated water inlet to the tank shall be able to feed these two compartments separately. As and where required, for smooth running and operation of the sump, necessary provision for common suction pit for these compartments will be in the scope of contract for which no extra payment will be made and this will be a part and parcel of the job. The tank shall be provided with arrangement for access and dewatering facilities.

### **2.2 Overall work to be executed under project is as listed below.**

<b>SR. No</b>	<b>Item</b>	<b>Quantity</b>
<b>1</b>	<b>Intake Well Structure with Approach bridge</b>	As per BOQ
<b>2</b>	<b>Pro. Sump</b>	13.0 ML
<b>3</b>	<b>Rising main</b>	
	500 mm DI-K9	9545.0 mt
	600 mm DI-K9	107.0 mt
	700 mm DI-K9	372.0 mt
	813 mm MS	107.0 mt
	1067 mm MS	637.0 mt
	1219 mm MS	23798.0 mt
	1422 mm MS	25007.0 mt
	2641.6 mm MS	26863.0 mt
<b>4</b>	<b>Construction of Pump House</b>	As per BOQ
<b>5</b>	<b>Road, Railway, Canal, Gas Pipeline and Bund Crossings</b>	As per BOQ
<b>6</b>	<b>Canal, Nallah and River Pipeline Crossings by RCC and Steel Bridge Structures</b>	As per BOQ
<b>7</b>	<b>Compound Wall</b>	As per BOQ
<b>8</b>	<b>Road Restoration</b>	As per BOQ

9	RCC - Approach Road	As per BOQ
10	Staff Quarter	As per BOQ
11	Security Cabin	As per BOQ
12	Panel Room	As per BOQ
13	Electro-mechanical works at SHW/HW	As per BOQ
C	O & M of civil and Electro-mechanical works for 10 years proposed network /structures.	Job

**MECHANICAL WORKS:**

The scope includes design, engineering, supply, installation, testing and commissioning of Suitable Pumping machinery as specified in the price-bid with required electrical & mechanical accessories, including comprehensive operation & maintenance at various pumping stations of clear water included in the scope of the tender.

- SITC of Suitable Pumping Machinery as specified in price-bid for four head works for raw water transmission.
- The contractor must complete & furnish pump/ model study, Sump/ Intake Structure model study and CFD Analysis before submission of drawings & documents.
- Design & supply associated piping, Valves, instrumentation & accessories as specified in price bid.
- Installation, testing & commissioning of the above equipment & accessories.
- Submission of data sheets, QAP, GA drawing, cross section drawing, layout drawings of all equipment and to get approval of same.
- Operating Units For effective running of pumping machinery, operating staff is required to stay at HW site; hence provision is made for operating units at

**Summary of pumping machinery:**

Sr.No	Description	Type	Working + Stand By	Capacity in HP	Capacity in KW	Pumping Hours	Discharge m <sup>3</sup> /h	Demand in MLD (intermediate)	Pump Head in Meter
1	Bharuch Intake Well To Rahiyad GIDC	VT	8+4	952	710	22	3719	654.48	48
2	Bharuch GWSSB Intake Well To Palej WTP	VT	4+2	750	560	22	1700	144.07	85
3	Pro. Sump At Palej To Pro. Palej WTP	VT	2+2	75	55	22	781	33.89	16

**Note: Above Pumping Machinery are for reference base and the selected bidder have to prepare and submit all the QAP, Machinery Drawing and CDR as per HIS.**

**ELECTRICAL AND INSTRUMENTATION WORKS:**

Scope of Work includes the Design, detailed engineering, preparation of construction drawings, manufacture, acceptance testing and inspection at places of manufacturer, painting, supply, packing, forwarding, delivery to site including transit insurance, storage at site, installation/erection, final painting, testing and commissioning of the electrical & instrumentation equipment's adhering to the standards, regulatory requirements & best engineering practices.

**ROU, CROP COMPENSATION AND LAND COMPENSATION WORKS**

- Contractor needs to acquire ROU for 25 mt width along the proposed pipeline route alignment.
- Contractor needs to calculate the amount of crop compensation as per the actual survey of the crops along the proposed route alignment.
- Contractor also needs to pay the amount of land compensation to the respective owner as per the actual survey conducted along the proposed route alignment. Payment of the same shall be done by GWSSB based on the submission of all required documents and due verifications of the same by GWSSB.

**1.0 Special Attention**

- The Contractor has to manage following register and Record in each project site.
- All Register will be maintained properly by the contractor with signature of engineer In-charge.
- Any additional register as per desire by Engineer In-charge shall be maintained by the Contractor.

Sr. No.	Name of Register
1.	Concrete Pour Card
2.	Cube Testing Register
3.	Steel Testing Register
4.	Cement Consumption Register
5.	Daily Progress Register
6.	Site Visit Register
7.	Pipeline Laying Register
8.	Drawing Register
9.	Hydraulic Testing Pipeline, Sump, ESR
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

## 2.0 PROJECT/SITE OFFICE

- The contractor shall construct/provide site office at the one location, consisting of 3 rooms (Each sitting capacity with 5 persons) & 1 common toilet block. The location and plan shall be approved by the Engineer In-charge.
- 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 contractor will provide air-conditioned office space with office-table, chairs, cupboards in each room, and other required furniture for use of site office.
- After the completion of the work, site office/conference hall including furniture shall be taken back by the agency on 'As is where basis'.
- The above-site office shall be used by GWSSB Official Staff and Consultant staff also.

**Scope of work also includes regular entry of water supply in ERP portal and biometric attendance. It will be responsibility of agency to get necessary id password from GWSSB timely and ensure regular entry on ERP software.**