

CONTRACT NO.

**GUJARAT WATER INFRASTRUCTURE LIMITED  
GANDHINAGAR**



**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 – IIC  
TECHNICAL DATA SHEETS**

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# Contents

PREAMBLE TO DATA SHEET .....

SECTION – 1: BRIEF DESCRIPTION OF WORK .....

SECTION – 2: CIVIL WORKS.....

SECTION – 3: MECHANICAL WORKS.....

3

4

7

11

## **Bid Documents for Supply, Design and Build Contract for NC-9 MS Pipeline Works at Surajbari Bridge**

### **PREAMBLE TO DATA SHEET**

1. The Levels given in the tender document and drawings are as per the data available with GWIL. As the Working survey along with soil investigation is included in scope of the work of contractor, agency shall carry out working survey along the route.
2. The agency shall have to confirm both the levels and layout of the Pipeline as per the requirement of the design accordingly. No Extra payment shall be made by the department to the agency for the extra excavation or for the raised pipeline above ground level.
3. The levels given in the documents are tentative as per the selected site presently surveyed. In case of shifting of the Pipeline is to be necessary due to any reason, the Agency shall be bound to carry out all the works as per the new route and the design is to be carried out accordingly without any extra claims.
4. For Construction of Civil structures all the data are to be obtained by the agency and accordingly the structural design shall be prepared & to be got approved by GWIL. Soil Improvement Techniques to be considered as per soil investigation Report for all Civil Works.
5. Pipe Pile support at the Creek/River area shall be provided considering the site conditions and functional requirements and shall be executed strictly in accordance with the approval of the Engineer In-Charge.
6. Any other approved methodology required for execution of the work in underwater conditions, including all related works, safety measures, and arrangements, shall be in the scope of the Contractor, and no additional payment shall be made by GWIL for the same.

**Signature of Bidder**

## SECTION — 1: BRIEF DESCRIPTION OF WORK

**The main scope of works/ services to be done/ provided by the contractor under this bid shall be as under.**

### **A PROCUREMENT, SUPPLY, LAYING / INSTALLATION OF MATERIAL ISSUED BY DEPARTMENT: Nil**

### **B-1 PROCUREMENT, SUPPLY & LAYING OF PIPELINE**

Procurement, supplying, laying, testing, and commissioning of following pipelines with valves, fixtures, fastening, appurtenances, accessories etc:

<b>Dia.</b>	<b>Thickness</b>	<b>Material Type</b>	<b>Approximate Length</b>
1829 mm (OD)	14.2 mm Minimum	Mild Steel (MS)	3050 RMT
1300 mm (OD)	12.5 mm Minimum	Mild Steel (MS)	50 RMT

### **B-2 DESIGN AND CONTRUCTION OF CIVIL STRUCTURES**

Designing and construction of following items as per Contractor's own design complete. The designs shall be as per design criteria given in tender & as per GWIL and Irrigation department norms and required to be approved by GWIL/Consultant prior to construction:

<b>Sr. No.</b>	<b>Description</b>	<b>Quantity</b>
1.	Thrust Block Works	2445 Cum approx.
2.	Pipe Encasing Works	1863 Cum approx.
3.	Valve Chambers (Size as per Price Bid)	5 No.
4.	Pile works to support pipeline	110 No.

### **B-3 JOB WORKS AND INTERCONNECTION WORKS**

The Contractor shall carry out survey, design, and execution of interconnection of existing MS pipelines with new MS pipelines, including cutting, alignment, welding and/or flanged jointing, and supply and installation of all necessary MS specials, flanges, bolts, nuts, gaskets, and accessories to ensure a leak-proof connection, as per directions of the Engineer-in-Charge. The work includes dewatering (if required), epoxy painting, testing and commissioning, safety measures, coordination with authorities, and all allied civil and mechanical works. The scope covers connection of existing 1829 mm dia pipeline with new 1829 mm dia pipeline at upstream and connection of 2 nos. 1300 mm dia pipelines with new 1829 mm dia pipeline at downstream. Upon completion, the area shall be restored to original/better condition, complete in all respects, and no additional payment shall be made for completion of the work as directed by the Engineering In-charge.

<b>Sr. No.</b>	<b>Activity</b>	<b>Description of Work</b>
1.	Site Survey & Investigation	Carry out detailed site survey, collect data of existing 1829 mm & 1300 mm MS pipelines, identify alignment, levels, utilities, and constraints; coordinate with authorities and obtain necessary approvals.

Sr. No.	Activity	Description of Work
2.	Design & Planning	Prepare design, method statements, interconnection scheme, and temporary works including cofferdam, pile works, and execution sequencing; obtain approval from Engineer In-Charge.
3.	Supply of MS Pipeline	Supply, transport, handle, and stack MS pipeline materials, valves, specials, and accessories at site as per specifications and approved drawings.
4.	Cofferdam Construction	Provide and maintain cofferdam with impervious core using filled gunny bags. Ensuring stability against current/pressure; maintain minimum 6 m working width for handling pipeline, encasing, and pile works; include excavation, protection, safety, dewatering or another suitable approved construction method complete in all respect.
5.	Excavation & Dewatering	Execute excavation for lowering and laying of MS pipelines, encasing works and pile works, including continuous dewatering for safe execution of work.
6.	Lowering, Laying & Alignment	Lower, laying, aligning, and position MS pipeline in trench as per approved alignment and levels.
7.	Pile Works & Supports	Construct cast-in-situ bored piles with liner and pile caps; ensure the pipeline and encasing is securely connected and supported at pile locations through pile caps to withstand differential settlement, lateral movement, and uplift forces.
8.	Encasing of Pipeline	Carry out RCC encasing on MS pipeline as per approved design, including proper integration at pile support locations.
9.	Pipeline Cutting & Preparation	After lowering and laying of proposed MS pipeline till the designated tie-in points locations the interconnection with existing MS pipelines to be executed in short shutdown time by removing sections as required, prepare ends for welding/flanged connections as per the requirements.
10.	Pipeline Interconnection	Interconnect existing 1829 mm pipeline with new 1829 mm pipeline at upstream and 2 nos. 1300 mm pipelines with new 1829 mm pipeline at downstream through welding and/or flanged joints as approved by Engineering In-charge.
11.	Existing Steel Truss and MS Pipeline Dismantling Works	After Commission of New 1829 OD Pipeline, Dismantling, cutting and safe removal of existing steel truss and MS pipelines on Surajbari Bridge, including all associated fittings, supports and appurtenances; complete with handling, stacking, loading, transportation, disposal and site clearance as directed by Engineer-in-Charge.
<b>Note –</b> The Bidder shall carry out dismantling works with Consultation of NHAI and getting all permissions from NHAI. The Bidder shall have to provide NOC from NHAI after the demolition works.		

**B-4 MAINTENANCE WORKS**

<b>Sr. No.</b>	<b>Particular</b>	<b>Months</b>
1	Project to be covered for trial run	02
2	Defect liability period	36

## **SECTION – 2: CIVIL WORKS**

## Thrust Block

Sr. No.	Particulars	Parameters
1	Type	RCC block
2	Minimum Grade of Concrete	M-20 grade (Design Mix)
3	PCC	Minimum in M-10 (approx. corresp. to prop. 1:3:6) 100 mm thick
4	Reinforcement Steel	Minimum CRS Fe-500 for all diameters
5	Height	Minimum OD+(2x300) mm or as per design whichever is higher
6	Width	Minimum OD+(2x300) mm or as per design whichever is higher
7	Design Criteria	As per CPHEEO manual
8	Min. steel	Minimum 40 kg/cum steel

## Pipe Encasing Work

Sr. No.	Particulars	Parameters
1	Type	RCC block
2	Minimum Grade of Concrete	M-15 grade (Design Mix)
3	PCC	Minimum in M-10 (approx. corresp. to prop. 1:3:6) 100 mm thick
4	Reinforcement Steel	Minimum CRS Fe-500 for all diameters
5	Height	Minimum OD + (2 x 100) mm
6	Width	Minimum OD + (2 x 100) mm
7	Design Criteria	As per CPHEEO manual
8	Min. steel	Minimum 20 kg/cum or as per design based on actual site condition considering codal provision.



## Valve chamber

Data Sheet for Valve Chamber		
Sr. No.	Particulars	Parameters
1	Type	RCC valve chamber
2	Minimum Grade of Concrete	M-20 Grade (Design Mix)
3	Reinforcement Steel	Minimum Corrosion Resistant Steel (CRS) Fe-500 for all diameters
4	Height	0.5 mt. from Ground Level or Maximum Flood level which is higher shall be consider
5	Bottom slab thickness	Minimum 200 mm or as per design whichever is higher.
6	Wall thickness	Minimum 200 mm or as per design whichever is higher.
7	PCC	M:10 Minimum 100mm thick
8	Ground Level	Maximum flood level or Road level or internal road level whichever is higher and as per site condition
9	Design Criteria	As per IS standard
10	Precast Slab	Minimum 150 mm
11	Plastering and painting	20 mm thick in C.M. 1:2 using water proofing compound of approved quality including finishing etc. including painting on above ground level with distemper painting of 2 coats with priming coat
12	Cast Iron rungs	As per engineer-In-charge

## Pile Support

Data Sheet for Pile support		
Sr. No.	Particulars	Parameters
1	Type	RCC Pile
2	Minimum Grade of Concrete	M-30 Grade (Design Mix)
3	Reinforcement Steel	Minimum Corrosion Resistant Steel (CRS) Fe-500 for all diameters
4	Pile diameter	Minimum 500 mm or as per design whichever is higher
5	Pile cap thickness	Minimum 500 mm or as per design whichever is higher
6	Pile depth	Minimum 16 m below pile cap bottom level or as per approved design whichever is higher
7	PCC	M:15 Minimum 100mm thick
8	Design Criteria	As per IS standard
9	Steel Liner	Temporary or permanent steel liner of Minimum 6 mm thick
10	Other details	All piles shall be provided at maximum 12 m interval. Each pile support shall be securely embedded and connected to the encased MS pipeline through properly designed pile caps, ensuring structural stability and enabling the system to withstand differential settlement, lateral movements, uplift forces, and other external loads.

## **SECTION – 3: MECHANICAL WORKS**

**MANUAL OPERATED SLUICE VALVES / SCOUR VALVES DATA SHEET**

<b>Sr. No</b>	<b>Component</b>	<b>PN-20 (For Pipeline BOQ &amp; Pipeline BFV Bypass Valve)</b>	<b>PN-20 (For Pumping Station)</b>
1	Body	DI IS1865 Gr500/7	ASTM A216 Gr. WCB
2	Bonnet	DI IS1865 Gr500/7	ASTM A216 Gr. WCB
3	Wedge	DI IS1865 Gr500/7	ASTM A216 Gr. WCB
4	Gland	DI IS1865 Gr500/7	ASTM A216 Gr. WCB
5	Stem	SS 410	SS 410
6	Body Ring / Wedge Ring	IS 318 Gr LTB-2	IS 318 Gr LTB-2
7	Packing	EPDM	Graphoil Filler
8	Nut Bolts	Carbon steel	Stainless steel
9	Wedge Nut and Stem Nut	IS 318 Gr LTB-2	IS 318 Gr LTB-2
10	Hand Wheel	Ductile Iron	Cast Steel
11	Flange End	IS 1538	ISO-7005-1

I/We are bound to supply the above Item of stated manufacture having rated capacity, material of construction and other requirements mentioned in the data sheet.

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Sign. of Contractor

## MANUAL OPERATED BUTTERFLY VALVES DATA SHEET

Sr. No.	Component	PN-20
1	Body	ASTM A216 Gr. WCB
2	Disc	ASTM A216 Gr. WCB
3	Shaft	SS 410
4	Body Seat Ring	SS 304
5	Clamping Ring	SS 304
6	Disc Seal Ring	EPDM
7	Disc pin	SS 304
8	Nut Bolts	SS 304
9	Bush	Stainless steel Backed PTFE
10	Flange End	ISO-7005-1
11	Bypass arrangement	Required including bypass Sluice valve of relevant pressure rating and MOC & size as per price bid

I/We are bound to supply the above Item of stated manufacture having rated capacity, material of construction and other requirements mentioned in the data sheet.

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Sign. of Contractor

**TEMPER PROOF AIR VALVE DATA SHEET:**

<b>Sr. No.</b>	<b>Component</b>	<b>PN-20 (For Pipeline BOQ)</b>	<b>PN-20 (For E&amp;M BOQs)</b>
1	Body	DI IS1865 Gr500/7	ASTM A216 Gr. WCB
2	Cover	DI IS1865 Gr500/7	ASTM A216 Gr. WCB
3	Float	SS 304	SS 304
4	Seat	EPDM	EPDM
5	Float Guide	SS 304	SS 304
6	Orifice	SS 304	SS 304
7	Gasket	EPDM	EPDM
8	Nut Bolt	Carbon steel	Stainless Steel
9	Flange End	IS 1538	ISO-7005-1

I/We are bound to supply the above Item of stated manufacture having rated capacity, material of construction and other requirements mentioned in the data sheet.

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Sign. of Contractor

**EXPANSION BELLOWS DATA SHEET:**

<b>Sr. No</b>	<b>Component</b>	<b>PN 20</b>
1	Bellows	SA 240 Gr. 304
2	Internal Sleeve	SA 240 Gr. 304
3	Weld ends	IS 2062 Gr. B
4	Lugs	IS 2062 Gr. B
5	Limit Rods and Nuts	CS - IS 1367
6	Flange End	ISO-7005-1

I/We are bound to supply the above Item of stated manufacture having rated capacity, material of construction and other requirements mentioned in the data sheet.

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Sign. of Contractor

**AIR CUSHION VALVE:**

Sr. No	Component	PN-20
1	Body	MS
2	Float	SS 410
3	Stem	SS 304
4	Spring	SS 304
5	Plug	MS
6	Adjustable Screw	SS 304
7	Mounting Flange	MS
8	Flange end	ISO 7005-1

I/We are bound to supply the above Item of stated manufacture having rated capacity, material of construction and other requirements mentioned in the data sheet.

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Sign. of Contractor