

**GUJARAT WATER SUPPLY AND SEWERAGE BOARD**

**Name of work :- Construction of RCC ESR and 110mm PVC 6kg/cm2 Pipeline Work at Chavda Village under 15th Finance Commission.**

**SCHEDULE - " B "**

Qty.	Unit	Item	Rate	Per	Amount
		<b>Item No. 1</b>			
<p>Designing structurally and aesthetically, proof-checking, construction, testing and commissioning of Reinforced Cement Concrete (RCC) Elevated Service Reservoir (ESR) on turnkey basis, complying with the provisions of relevant latest Indian Standards, and constructing RCC Elevated Service Reservoir (ESR) of the specified capacity and staging height, based on the latest approved Soil Investigation Report of the proposed site, applicable Seismic Zone, Wind Speed Zone, exposure conditions, groundwater table, and other relevant design parameters, including the following:</p> <p>(1) Container of approved suitable shape/type such as cylindrical, conical, Intze, spherical dome, or any other technically suitable and economical configuration, considering structural safety, durability, seismic performance, hydraulic efficiency, and ease of maintenance. (or as specified in tender document). (2) Staging system consisting of RCC column-brace trestle / shaft / combination of column-brace trestle and shaft, as appropriate and approved, designed with ductile detailing as per relevant latest codes. The staging shall be analysed for gravity loads, wind loads, seismic forces, water mass effects, sloshing effects, and all applicable load combinations. (3) Suitable foundation system such as isolated footing, raft foundation, pile foundation, annular footing, or any other approved system based on geotechnical investigation and structural design. The scope shall include excavation in all types of strata including hard rock, shoring/dewatering if required, disposal of surplus excavated material at all leads and lifts, backfilling with approved selected material in layers with proper compaction, and providing minimum 100 mm thick PCC levelling course in M-10 or higher-grade concrete. Foundation shall also be checked for bearing capacity, uplift, settlement, and differential settlement. (4) Internal waterproofing treatment of the container including walls, floor slab, bottom dome/slab, top slab/dome soffit, and all water-retaining faces by providing smooth cement mortar/plaster in CM 1:3 or approved polymer-modified mortar with integral waterproofing compound, finished true and even. Additional approved crystalline / food-grade waterproof coating system shall be applied wherever specified. All materials in contact with potable water shall be non-toxic and approved. Crack control and watertightness requirements shall conform to relevant IS codes. (5) Providing all labour, materials, machinery, lowering, laying, erecting, hoisting, fixing, jointing, testing, and commissioning of complete pipe assemblies for inlet, outlet, overflow, washout, bypass, scour, and interconnection arrangements as per approved hydraulic design, including specials, supports, anchor blocks, flexible joints, puddle collars, valves, and all accessories complete. (6) Providing and fixing all specified accessories including CI/DI/FRP/approved manhole frames and covers, digital / float type water level indicator, lightning arrestor with earthing system, hot dip galvanized / stainless steel railings around walkway, roof level, gallery, staircase, and landings, ventilators of cowl / lantern type with stainless steel insect-proof mesh, access ladders, locking arrangements, and safety fittings complete. (7) Scope of work shall include RCC staircase / RCC spiral staircase with adequate tie beams, landing platforms, staircase foundations, handrails, valve chambers, ventilating shaft, ventilators, access doors, internal ladders where required, and stainless-steel grating/screens to outlet pipe openings inside the container for safety and debris prevention. Non-slip finish shall be provided to all stair treads and landings. (8) External finishing of the complete structure including approved primer and minimum three coats of exterior grade weatherproof acrylic paint / elastomeric coating or equivalent approved system. Internal non-water-contact surfaces shall also be suitably finished. Colour scheme, branding, and lettering shall be as directed by the Engineer-in-Charge or tender document.</p>					
<p>(9) The scope shall include satisfactory hydrostatic water tightness testing of the container as per relevant IS Codes, including staged filling, observation period, leakage checks, and rectification of defects if any. The contractor shall also paint/display the name of scheme, ESR capacity, year of construction, and any identification details on the tank as directed by the Engineer-in-Charge. General Specifications: (1) The Min. concrete grade for RCC shall be M :30. Proportion of concrete ingredients shall be as per Mix design using weigh batching. specification. (2)HYSD ( Fe 415)or higher grade reinforcing bars confirming to IS 1786/1139 or CRS /TMT bars shall be used as per detailed specification. (3) In case of column —brace trestle type staging having more than 6 columns internal horizontal “bracing is is obligatory. One bracing shall be at foundation level in case of Individual footings .(4) Min, size/ thickness of various components shall be provided as per design criteria/specifications/IS Code ( or as per std. practice) Capacity of the ESR shall be considered excluding free board. (5) Minimum dimensions 'specified for various components in tender data I specifications should be provided.(6) The Safe bearing capacity (SBC) Jallowable pressure on soil shall be referred from latest SBC test report or tender datasheet During execution If poor soil strata or ground water table is encountered, the SBC shall have to be re ascertained and the design should be revised accordingly. (7) Maximum spacing between horizontal bracings shall be 5 m (storey height) (8) The BB Masonry cabin with MS door shall be constructed when spiral staircase is outside the staging. (9) RCC Staircase/ MS Staircase shall be provided and fixed for access to roof when height of roof from G.L. is up to 10 m. For ESR having more than 10 m height proper RCC staircase or suitable RCC spiral staircase shall be constructed. Railing should be provided through out the staircase and around the top ring beam. (10) For ESR-having staging height more than 15 m the spiral staircase shall be provided inside the staging with effective tie beams in more than one direction. (11) Water level indictor shall be provided and fixed float type /electronic (as specified ) (12) The rate shall include providing and fixing pipes, "specials, and valves required for inlet, outlet , wash out, over flow and bye pass arrangement. The scope of work includes constructing supporting RC_ pillars, erecting, laying ,fixing and joining pipes and specials etc up to 5m length from face of staging (outer most column). (13) DI pipes &amp; pecials shall only be used (14) The rate shall include cost of dewatering during execution making all arrangement with any 'dewatering technique. (18) The structure shall be designed properly for uplift due to Ground water table specified in data or GWT encountered during execution. No extra payment shall be paid for the same (16) Effective curing shall be carried out up to required period as per specifications (17) Agency shall engage qualified (at least graduate)consulting engineer for designing the structure and he/she shall visit the site for guidance of work at all levels (i.e. below foundation, up to GL, above GL for all lifts up to container) 18) Payment for container concrete, reinforcement, waterproofing/plastering items may be restricted up to 75% until satisfactory hydrostatic water tightness test is completed, or as per tender conditions. Until successful testing and rectification, work shall be treated as incomplete. 19) All concrete shall be subject to quality control including slump tests, cube tests, reinforcement checks, cover checks, and records as per specifications. 20) All exposed MS items, if used, shall be hot dip galvanized or epoxy coated. Preference shall be given to stainless steel / corrosion resistant materials. 21) Lightning protection system with earthing, safety signage, and name board indicating scheme name, capacity, and year of construction shall be provided. 22) Internal surfaces in contact with potable water shall use approved non-toxic materials only. 23) ESR shall be designed for wind load, seismic load, empty tank/full tank/partially full tank conditions, and all applicable load combinations. 24) The above general specifications from Sr. No. 1 to 23 shall form part and parcel of the tender/contract.</p>					
1.00	No.	50,000 LITER AND 12 MT.HEIGHT	1578447.72	No.	1578447.72
		Seismic Zone IV			

Qty.	Unit	Item	Rate	Per	Amount
<b>Item No. 2</b>					
100.00	Rmt	Providing and supplying in standard length ISI mark high density Polyethylene PVC pipes suitable for potable water as per IS specification no. 4985/1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the dept. stores etc. comp. Note (1) One coupler / Ring Shall be provided with each full length pipe cost of which is included in rates(2) 3 % discounted Rate to be considered for coupler joint pipe(3) Rate for PVC resin as Rs.91739/MT(Price without GST)	199.00	Rmt	19900.00
<b>Item No.3</b>					
		Excavation for pipe line trenches incl. all safety provisions using site rails and stacking excavated stuff up to a lead of 90 mts. cleaning the site etc. complete for lifts and strata as specified.Up to 1.50 M depth.			
18.00	Cu.M	(a) In all sorts of soil and soft murrum	89.00	Cu.M	1602.00
48.00	Cu.M	(b). In hard murrum, boulders including macadam road.	135.00	Cu.M	6480.00
<b>Item No.4</b>					
		Lowering, laying and jointing PVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works including cost of labour, material, except cement solvent, giving satisfactory hydraulic testing as per ISI code			
100.00	Rmt.	110mm PVC 6 Kg	19.00	Rmt.	1900.00
<b>Item No.5</b>					
65.36	Cu.M	Refilling the pipeline trenches incl. ramming, watering, consolidating disposal of surplus stuff as directed within a radius of 3 km.	22.00	Cu.M	1437.92
<b>Item No.6</b>					
1.00	No	Providing and supplying ISI mark CI D/F Sluice Valves as per IS:14846 (Latest Edition) of following class and diameter including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading. conveyance to departmental stores, stacking etc. complete	5848.00	No	5848.00
		150 mm			
<b>Item No.7</b>					
42.11	Sqmt	Finishing wall with water proofing cement paint of on wall surfaces (Two coats) to give an approved brand and manufacture and of required shape even shade after thoroughly brushing the surface to remove all dirt and remains of loose powered materials.	62.2463	Sqmt	2621.49
<b>Item No.8</b>					
39.49	Sqmt	Wall painting (two coats) with plastic emulsion paint of approved brand and manufacture on undecorated wall surface to give an even shade including throughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.	86.3752	Sqmt	3411.37

Qty.	Unit	Item	Rate	Per	Amount
<b>Item No.9</b>					
9.00	Sqmt	P & L 24" X 24" vitrified 8mm thick tile flooring over 20 mm (Average) Base of cement mortar 1:6 (1 - Cement : 6 - Coarse sand) on new surface or fixing on existing flooring by adhesive material including dismantling of existing flooring and jointed with colour cement slurry including finished with flush pointing and cleaning the surface etc. complete for light shade	1511.6872	Sqmt	13605.18
<b>Item No.10</b>					
2.24	Cu.M	Providing and casting in situ C.C. in grade M-15 (approx. corresp. to prop. 1.2.4) (proportions as per mix design or as per Table 9 of IS 456:2000 in masses by weigh batching ) using granite, quartzite trap metal of size 6 mm to 20 mm for RCC work, including scaffolding centering, form work, needle vibrated consolidation, curing comp. up to 6 meter depth or height (excluding cost of reinforcement) with centering and shuttering/ deshuttering etc. comp. for structure for other than water retaining structure.	4732.00	Cu.M	10602.05
			<b>Total</b>	<b>Rs.</b>	<b>1645855.74</b>

I/We am/are willing to carry out the work at \_\_\_\_\_ above/below \_\_\_\_\_

ESTIMATED AMOUNT PUT TO TENDER

Rs.

Deduct Rs. % Below

Net Rs.

In Words

Dated :-

Deputy Executive Engineer  
P H S Sub Division  
Jamnagar

ESTIMATED AMOUNT PUT TO TENDER

Rs.

Rs. % above

Net Rs.

In Words

Sign of Contractor

**EXECUTIVE ENGINEER**

**P. H. WORKS Dn. No 1**

**JAMNAGAR**