

**Bharat Heavy Electricals Limited**  
**High Pressure Boiler Plant**  
**Tiruchirappalli – 620 014. India**  
**Civil Engineering Department (Factory)**

**TENDER DOCUMENT (PRICE BID)**

**Name of work** : HDPE pipe line laying for water supply in BHEL, Tiruchy.

**Value of work** : Rs. 37.00 Lakh

**Tender Notice No.** : 08/10-11

**Tender Schedule No.** : 24/10-11

**Period of Contract** : 10 Months

**Issued to** :

**SCHEDULE 'A'**

**LIST OF WORKS AND PRICES**

**NAME OF WORK: HDPE pipe line laying for water supply in BHEL, Tiruchy.**

DETAILS & QUANTITIES of each item of work shown in the BILL OF QUANTITIES are only approximate. They are given as a guide for the purpose of tendering only and are liable to variation and alteration of the Competent Authority. The work under each item as executed shall be measured and priced at the corresponding rate quoted by the contractor in the BILL OF QUANTITIES

Sl.No.	Description of work / supplied	Total amount of work / supplies (in figures and words)		Period of contract
		Rs.	Ps.	
1.	<b>HDPE pipe line laying for water supply in BHEL, Tiruchy.</b>	<b>37,00,000/-</b>		<b>TEN (10) MONTHS</b>

**BILL OF QUANTITIES**

Sl. No.	Appx. Qty.	Description of work	TNBP No.	Rate (Both in Unit fig & Words)	Amount	
					Rs.	Ps.

AS PER SEPARATE SHEETS ATTACHED CONTAINING **12** PAGES

FROM SERIAL No. **3 to 14**

CONTRACTOR

2

ACCEPTING OFFICER

BHARAT HEAVY ELECTRICALS LIMITED  
TIRUCHIRAPPALLI - 14

BILL OF QUANTITIES

**NAME OF WORK: HDPE pipe line laying for water supply in BHEL, Tiruchy.**

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
1	12000.00	Clearing jungle including uprooting of rank vegetation, grass, brushwood, trees and saplings of girth upto 30 cm measured at a height of 1 metre above ground level and removal of rubbish upto a distance of 50 metre.		SQM	
2	100.00	Hire charges for engaging earth moving machinery (pockline) to attend to channeling works at river bed, pipe line burst works, cleaning the areas including uprooting thorny plants/heavy jungles/trees etc., of all heights and leveling the areas thereafter including all debris etc., all as per instructions of Engineer-in-charge. Rate includes hire, fuel, operation charges, to and fro charges for machinery, all labour and all other incidentals etc., complete.		HOUR	
3		Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. <u>Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc.</u>			

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Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
a)	6500.00	Hard / Dense soil		CUM	
b)	1000.00	Ordinary rock		CUM	
c)	250.00	Hard rock (requiring blasting)		CUM	
d)	250.00	Hard rock (blasting prohibited)		CUM	
4		Extra for every additional lift of 1.50metres or part there of			
a)	500.00	All kinds of soil excluding rock		CUM	
b)	100.00	Ordinary / hard rock		CUM	
5	200.00	Extra for every additional lead of 10 metre or part thereof over the initial lead for all kinds of soil.		CUM	

CONTRACTOR

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ACCEPTING OFFICER

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
6		Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the nearby low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge.			
a)	20.00	Brick work in cement mortar		CUM	
b)	25.00	Stone rubble masonry in cement mortar		CUM	
c)	5.00	Steel structures / steel works in built up sections including bolts, nuts, cutting rivets, welding, dismembering, preparation of DODL etc.		M.T	
d)	200.00	Kerb stone		R.M	
e)	50.00	Bituminous road.		CUM	

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ACCEPTING OFFICER

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
f)	50.00	W.B.M surface.		CUM	
g)	30.00	Plain Cement Concrete.		CUM	
h)	30.00	RCC works including stacking of steel bars		CUM	
7		Dismantling CI Pipes and specials like tees, bends, collars ,tapers etc., including breaking lead caulked joints, melting of lead and making in to blocks and carefully stacking the serviceable materials for reuse at site of work and / conveying and handing over the same to BHEL stores and disposal of unserviceable materials by transporting and dumping in the nearby low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Rate to be all inclusive but excluding cost of earth work excavation and refilling which will be paid under separate items. All as per standard specifications and instructions of Engineer-in-charge.			
a)	100.00	Above 150 and up to 300 mm dia.		R.M	

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Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
b)	30.00	Above 300 mm dia		R.M	
8	10.00	Dismantling CI Valves, including removal of flanged joints, bolts, rubber insertions etc., complete and carefully stacking the serviceable materials for reuse at site of work and / conveying and handing over the same to BHEL stores and disposal of unserviceable materials by transporting and dumping in the nearby low level areas within a lead of 100 metres. Rate to be all inclusive but excluding cost of earth work excavation and refilling which will be paid under separate items. All as per standard specifications and instructions of Engineer-in-charge. <b>Above 150mm dia.</b>		EACH	
9	6500.00	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50 m and lift up to 1.5 m etc. complete.		CUM	
10	1600.00	Supply and filling with river sand in foundation, plinth, under floor etc. including watering, ramming, consolidating and dressing complete.		CUM	

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ACCEPTING OFFICER

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
11	10.00	Providing and laying in position plain cement concrete of mix 1:4:8 with 40 mm nominal size hard broken granite stone jelly including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth / floor / ground level. Rate excludes cost of centring and shuttering.		CUM	
12		Providing and laying in position of reinforced cement concrete of specified grade including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement.			
a)	25.00	1:1.5:3 with 20 mm and down graded hard broken granite stone jelly - All works upto plinth / floor / ground level.		CUM	
b)	10.00	1:2:4 with 20 mm and down graded hard broken granite stone jelly- All works upto plinth level.		CUM	
13	5.00	Providing, hoisting and fixing upto floor five level precast reinforced cement concrete elements like slabs etc. of 25 to 150 mm thick in required sizes with mix 1:2:4 using 10 to 20 mm size hard broken granite stone jelly for cupboards, shelves etc. including setting in cement mortar 1:3, cost of centring, shuttering and finishing with neat cement punning on exposed surfaces but excluding the cost of reinforcement and fabrication charges.		CUM	

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Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
14	20.00	Random rubble masonry in foundation and basement in the mix given below including simultaneous flush pointing, all as per standard specifications in Cement mortar 1:5		Cu.m.	
15	50.00	Brick work with F.P.S bricks (second class ground moulded chamber bricks) of class designation 50 in foundation and plinth in Cement mortar 1:5.		CUM	
16	500.00	Plastering with cement mortar 1:5, 12mm thick as per standard specifications.		SQM	
17	5.00	Straightening, cutting, bending, placing in position of MS/CTD bars and binding with MS binding wires of 18/20 gauge etc. for reinforcement of RCC works. Rate includes cover blocks, cost of binding wire , conveyance of MS/ CTD bars from BHEL stores to site of work, labour etc. complete. MS/CTD bars will be supplied by BHEL at Stores at free of cost.		M.T	
18		Providing flanged joints to double flanged C.I pipes and specials including testing of joints, 3 mm thick rubber insertions, suitable bolts and nuts etc. complete. Supply and laying pipes and specials will be paid under separate items. All as per standard specifications and instructions of Engineer-in-charge.			

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Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
a)	10.00	100 / 125 mm dia pipe.		Each joint	
b)	20.00	150 / 200 mm dia pipe.		Each joint	
c)	70.00	250 / 300 mm dia pipe.		Each joint	
d)	10.00	350 / 400 mm dia pipe.		Each joint	
e)	10.00	450 / 500mm dia pipe.		Each joint	
19	50.00	Supply RCC pipes of 600mm dia. (NP4) class at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost.		RM	
20	1500.00	Conveyance of earth, sand, gravel, rough stone, broken stone, brick bats (debris) etc. by contractor's own lorry including loading, leading, unloading, stacking or spreading, all as per instructions of Engineer-in-charge. Payment for conveyance of earth will be made based on pit measurement and for other items based on stack measurements. <b>Beyond 1 km but up to 2.00km.</b>		CUM	

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ACCEPTING OFFICER

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
21		Providing lead caulked joints to C I pipes and specials including testing of joints, cost of spun yarn and pig lead etc. Supply and laying of pipes and specials will be paid under separate items. All as per standard specifications and instructions of Engineer-in-charge.			
a)	10	200mm dia. pipe.		Each joint	
b)	50	300 mm dia. pipe.		Each joint	
c)	10	450 mm dia. pipe.		Each joint	
22	25.00	Labour charges for laying C.I pipes (S&S or flanged pipes) in trenches to proper grade and alignment. Rate excludes cost of jointing which will be paid separately under respective item. The required CI pipes will be supplied by BHEL at free of cost from Stores or stock yard.		M.T	
23	15.00	Labour charges for laying C.I specials such as tees, bends, collars, tapers, caps, valves, etc. in trenches to proper alignment. Rate excludes cost of specials and jointing which will be paid separately under separate item. The required CI pipes will be supplied by BHEL at free of cost from Stores or stock yard.		M.T	

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ACCEPTING OFFICER

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
24	3300.00	Collecting, conveying from stock yard and laying of 355mm dia (OD) HDPE pipe and specials such as tees, bends, reducers, caps etc., wherever required and jointing by fusion butt welding using automatic superior quality butt fusion welding machines, other tools and plants for holding arrangements during welding, lowering in to trenches to correct line, level, alignment, etc., complete. The rate also includes hire charges for the fusion butt welding machine, tools and plants required for jointing. The pipe line shall be pressure tested as per standard norms. All as per technical specifications and instructions of Engineer-in-charge. <b>The rate quoted excludes cost of pipes and specials which will be supplied by BHEL at free of cost from stock yard. Earth work and refilling will be paid under separate items</b>		R.M	
25		Jointing HDPE Pipe line with existing CI / HDPE pipelines to match both the existing and new pipe lines with suitable specials such as flanges, tees, bends, tapers etc., complete. Rate to include labour charges, other incidental charges, etc., for fixing HDPE flanges, to match with CI Pipes and specials like tees, bends, tapers etc., jointing materials like bolts, nuts, rubber insertions jointing with fusion welding wherever required, but excluding cost of earth work excavation and refilling which will be under respective items. <b><u>This item is applicable for all joints at junctions, crossings, bends and change in diameters.</u></b>			

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
a)	50.00	355mm dia (OD). <b>Rate quoted shall exclude cost of HDPE flange which will be supplied by BHEL.</b>		EACH	
b)	5.00	200mm dia (OD). <b>Rate quoted shall include cost of HDPE flange.</b>		EACH	
26	2.00	Supplying and laying C.I specials such as tees, bends, collars, tapers, caps etc. in trenches to proper alignment. Rate includes cost of specials, labour charges, all other incidental charges, etc., complete.		M.T.	
27	5.00	Collection from BHEL stores and transporting the raw structural steel sections to the contractor's site fabrication shop, fabrication of steel work including all materials going into the process of fabrication and forming an integral part of the steel work together with all shop welding including using low hydrogen electrode wherever necessary, all as per drawings and standard specifications. Rate includes one coat of red oxide primer of standard specifications over the fabricated structural steel works and delivery of fabricated steel work at erection site ready for erection, including preparation and supply of drawing office despatch list (DODLs) for BHEL's approval, all charges for packing (wherever called for) handling, conveying, stacking and all other incidental charges both for raw materials and fabricated steel works. <b>Rate excludes raw structural steel sections which will be supplied by BHEL at stores at free of cost.</b>		M.T.	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Total Rs. P.
28	5.00	Carrying from stacks at erection site to erection positions and erection of fabricated steel work including all handling, conveying, assembling, hoisting, erecting in position and site welding and or bolting, alignment of structures, all as per drawings and standard specifications. Rate includes bolts and nuts, hire for welding tools and plants, labour etc., but excluding cost of fabricated components. If required, power will be given free of cost by BHEL. Weight of fasteners will not be accounted for payment.		M.T.	
29	5.00	Painting two coats (excluding priming coat) on structural steel works in roof structures, columns etc., with synthetic enamel paint of approved brand and shade, brushing to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, scaffolding charges etc., complete. All as per standard specifications.		M.T.	
<b>TOTAL .. ..</b>					

( RUPEES.....)