

TENDER

(NIT NO. TA/TCL/**31**/21-22)

FOR

**MAINTENANCE AND REPAIR OF WATER
SUPPLY LINES IN TOWNSHIP OF BHEL
BHOPAL.**

PRICE BID

SECTION - VI



**TOWNSHIP CIVIL MAINTENANCE
BHARAT HEAVY ELECTRICALS LIMITED**

**(A Government of India Undertaking)
BHOPAL - 462 022 (M.P)**

PREAMBLE OF PRICE BID

1.0. This Price Bid consists of three Schedules:

1.1 Schedule A

Schedule A consists of single Annexure:

1) Annexure-I includes items based on GST Compliant DSR-2012, Rate Analysis, Budgetary offer.

Bidders are requested to quote their rate in Percentage above/below/at Par for Annexure-I.

1.2 Schedule B

Schedule B gives the details of free issue materials given by BHEL.

1.3 Schedule C

Schedule C gives the details of Tools & Tackles provided by BHEL on Chargeable Basis.

2.0 The work to be carried out under the contract shall, except as otherwise provided in tender conditions, include all labour, materials, tools, plant, equipment, and transport which may be required in preparation of and for full & entire execution and completion of the Works. The descriptions given in the Schedule of Quantities shall, unless otherwise stated, be held to include waste on materials, carriage and cartage, carrying in return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion as aforesaid in accordance with good practice and recognized principles as laid down in Technical Specification & elsewhere in Tender Specification.

3.0 The price bid should not contain any condition. Conditional price Bids shall be summarily rejected.

4.0 The bidder should not leave any column blank in Price Schedules.

5.0 Price Quoted shall include all taxes, & duties except GST.

6.0 **Unless otherwise specified in the items involving cement or reinforcement steel, these items shall be issued free of cost by BHEL.**

**TOWNSHIP CIVIL MAINT. & CONST. DIVISION****SCHEDULE 'A'****Annexure: I****Name of work : Maintenance and repair of water supply lines in Township of BHEL Bhopal.**

S.No	It. Code	Description of items	Qty.	Unit	Rate	Amount
1		Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed within lead of 50 m.				
	2.8.1	All kinds of soil.	32.00	Cum	130.80	4185.60
2		Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m including getting out the excavated soil, and then returning the soil as required, inlayers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :				
		All kinds of soil				
(a)	2.10.1.1	Pipes, cables etc. not exceeding 80 mm dia.	8.00	Metre	101.40	811.20
(b)	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	320.00	Metre	165.60	52992.00
(c)	2.10.1.3	Pipes, cables etc. exceeding 300 mm dia. but not exceeding 600 mm dia	8.00	Metre	258.55	2068.40
3	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations, etc. in layers not exceeding 20 cm in depth : consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5m	0.80	Cum	83.80	67.04
4		Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level:				
a)	4.1.3 RA	1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	0.40	cum	2576.38	1030.55
b)	4.1.10 RA	1 : 5 : 10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size).	0.40	cum	2525.19	1010.08
5	5.3 RA	Reinforced cement concrete work in beams, suspended floors, roofs having slope upto 15 degree, landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases upto floor five level excluding the cost of centring, shuttering, finishing and reinforcement with 1:2:4 (1 - cement : 2- coarse sand : 4 - graded stone aggregate 20 mm nominal size).	0.40	cum	3556.89	1422.76

6		Centring and shuttering including strutting, propping, etc. and removal of form for:				
	5.9.3 RA	Suspended floors, roofs, landings, balconies and access platform.	0.40	sqm	301.28	120.51
7	RA 5.22.6/5.22.6A	Steel Reinforcement for RCC work i/c straightening, cutting, bending, placing in position and binding all complete upto/above plinth level :TMT bars (excluding cost of steel bars)	4.00	kg	7.40	29.60
8	6.2.2 RA	Brick work with Ghol bricks having compressive strength not less than 50 Kg/cm ² in foundation and plinth in : Cement mortar 1:6 (1 cement : 6 coarse sand).	0.40	cum	4946.64	1978.66
9		Coursed rubble masonry (second sort) with hard stone in foundation & plinth with :-				
	7.7.1 RA	Cement mortar 1:6 (1 cement : 6 coarse sand).	0.40	cum	2754.46	1101.78
10	7.7.1(RA)	Coursed rubble masonry (second sort) with hard stone in foundation & plinth with :-(with departmental stone issued by dept.)				
	7.7.1 Rate Analysis	Cement mortar 1:6 (1 cement : 6 coarse sand).	0.40	Cum	1847.95	739.18
11	10.1 RA	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	4.00	Kg	51.92	207.68
12	10.2 RA	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	4.00	Kg	58.31	233.24
13	11.29.1 (Rate analysis)	40 mm thick stone flooring over 20 mm (average) thick base of morum mortar including pointing with cement mortar 1:2 (1 cement : 2 stone dust) with an admixture pigment to match the shade of stone : Red sand stone (excluding the cost of red sand stone).	1.20	sqm	258.67	310.40
14	13.5.2 RA	15 mm cement plaster on the rough side of single or half brick wall of mix:				
		1 : 6 (1 cement : 6 coarse sand).	1.00	sqm	114.32	114.32
15	13.6.2 RA	20 mm cement plaster of mix:				
		1 : 6 (1 cement : 6 coarse sand).	1.00	sqm	135.50	135.50
16	13.33.2 RA	Pointing on stone work with cement mortar 1 : 3 (1 cement : 3 fine sand):				
		Raised and cut pointing.	1.00	sqm	190.45	190.45
17	14.23	Pumping out water caused by springs, tidal or river seepage, broken water mains or drains and the like.	4.00	Kilo Litre	72.55	290.20

18		Demolishing cement concrete manually/by mechanical means including disposal of material within 50 metres lead as per direction of Engineer Incharge.:				
a)	15.2.1	a) Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix).	1.00	cum	671.05	671.05
b)	15.2.2	b) Nominal concrete 1:4:8 or richer mix (i/c equivalent design mix).	1.00	cum	413.65	413.65
19	15.3	Demolishing RCC work manually/by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer Incharge.	0.40	cum	978.95	391.58
20	15.7.4	Demolishing brick work manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer Incharge.				
		In cement mortar.	0.40	cum	566.60	226.64
21	15.9.2	Demolishing stone rubble masonry manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge:				
		In cement mortar.	0.40	cum	676.05	270.42
22	15.17.2	Dismantling steel work in single sections including dismembering and stacking within 50 metres lead in: 15.17.2 Channels, angles, tees and flats	4.00	Kg	0.65	2.60
23	15.18	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50metres lead.	4.00	Kg	1.55	6.20
24	15.25	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	0.80	sqm	73.70	58.96
25		Dismantling manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer Incharge.				
	15.43.2	b) Bituminous road	0.80	sqm	119.95	95.96
26		Dismantling G.I. pipes (external work) including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means including stacking of pipes within 50 metres lead as per direction of Engineer-in-charge :				
a)	15.44.1	15 mm to 40 mm nominal bore	1200.00	Metre	44.10	52920.00
b)	15.44.2	Above 40 mm nominal bore	400.00	Metre	50.30	20120.00

27		Dismantling of C.I. sluice valve including stacking of useful materials within a lead of 50 metres				
a)	15.53.1	Up to 150 mm diameter	11.00	Each	95.10	1046.10
b)	15.53.2	Above 150 mm diameter	6.00	Each	331.85	1991.10
28	15.54	Dismantling of spindle fire hydrant including stacking of useful materials within 50 metres lead.	4.00	Each	198.90	795.60
29		Cutting road and making good the same including supply of extra quantities of materials i.e. aggregate, moorum screening, red bajri and labour required.				
	16.13.2 RA	Water bound macadam.	5.00	CuM	982.22	4911.10
30	(Rate analysis)	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, including cutting and making good the walls etc. (Only G.I. Pipe is to be issued free of cost from BHEL store)				
		Internal work - Exposed on wall				
(i)	18.10.1 RA	15 mm nominal dia.bore.	30.00	metre	53.11	1593.30
(ii)	18.10.2 RA	20 mm nominal dia.bore.	35.00	metre	58.16	2035.60
(iii)	18.10.3 RA	25 mm nominal dia.bore.	5.00	metre	63.75	318.75
(iv)	18.10.6 RA	50 mm nominal dia.bore.	5.00	metre	113.93	569.65
31	(Rate analysis)	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.				
		External work				
(i)	18.12.1 RA	15 mm nominal dia.bore.	3.00	metre	127.53	382.59
(ii)	18.12.2 RA	20 mm nominal dia.bore.	3.00	metre	143.61	430.83
(iii)	18.12.3 RA	25 mm nominal dia.bore.	3.00	metre	185.03	555.09
(iv)	18.12.6 RA	50 mm nominal dia.bore.	3.00	metre	309.80	929.41
(v)	18.12.8 RA	80 mm nominal dia.bore.	3.00	metre	495.94	1487.82
32	(Rate analysis)	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. (Only G.I. Pipe is to be issued free of cost from BHEL store)				
		External work				
(i)	18.12.1 RA	15 mm nominal dia.bore.	1000.00	metre	46.29	46290.00
(ii)	18.12.2 RA	20 mm nominal dia.bore.	320.00	metre	46.33	14825.60
(iii)	18.12.3 RA	25 mm nominal dia.bore.	140.00	metre	50.63	7088.20
(iv)	18.12.6 RA	50 mm nominal dia.bore.	140.00	metre	55.05	7707.00
(v)	18.12.8 RA	80 mm nominal dia.bore.	24.00	metre	68.68	1648.32
33		18.13 Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :				
	18.13.1 RA	25 to 40 mm nominal bore	2.00	each	268.43	536.86
	18.13.2 RA	50 to 80 mm nominal bore	2.00	each	578.83	1157.66
34		Providing and fixing brass stop cock of approved quality :				
	18.16.1 RA	15 mm nominal bore	2.00	each	176.19	352.38
35		Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
a)	18.17.1 RA	25 mm nominal bore	3.00	each	318.57	955.71
b)	18.17.4 RA	50 mm nominal bore	3.00	each	664.77	1994.31

36		Providing and fixing gun metal non- return valve of approved quality, (screwed end) :				
(i)	18.19.4.1 RA	50 mm nominal bore : horizontal	2.00	each	797.33	1594.66
(ii)	18.19.6.1 RA	80 mm nominal bore : horizontal	2.00	each	2031.16	4062.32
37		Providing and fixing brass ferrule with C.I. Mouth cover including boring and tapping the main:				
(i)	18.20.1 RA	15 mm nominal bore	4.00	Each	182.82	731.28
(ii)	18.20.2 RA	20 mm nominal bore	6.00	Each	224.24	1345.44
38	18.23	Laying in position centrifugally cast (spun) iron S&S or flanged pipes (excluding cost of pipe).	8.40	quintal	101.70	854.28
39	18.24	Laying in position S & S or flanged C.I. Special such as tees, bends, collars, tapers and caps, etc. excluding cost of specials.	2.00	Qtl.	186.10	372.20
40		Providing and laying S&S C.I. standard specials such as tees, bends, collars, tapers, caps etc. (Heavy class) :				
	18.25.1 RA	Up to 300 mm dia	0.20	Qtl.	3587.46	717.49
	18.25.2 RA	Over 300 mm dia	0.20	Qtl.	3685.79	737.16
41		Providing and laying flanged C.I. standard specials such as tees, bends, collars, tapers, caps etc., suitable for flanged jointing as per IS : 1538 :				
	18.26.1 RA	Up to 300 mm dia	0.16	Qtl.	5406.54	865.05
	18.26.2 RA	Over 300 mm dia	0.16	Qtl.	5701.52	912.24
42		Providing and laying S&S centrifugally cast (spun) iron pipes (Class LA) conforming to IS - 1536 :				
	18.27.1 RA	100 mm dia pipe	2.00	meter	838.49	1676.98
	18.27.3 RA	150 mm dia pipe	2.00	meter	1255.72	2511.44
43		Providing lead caulked joints to spun iron or C.I. Pipes and specials including testing of joints, but excluding the cost of pig lead:				
(i)	18.28.1 RA	100 mm diameter pipe.	4.00	Each	146.88	587.52
(ii)	18.28.3 RA	150 mm diameter pipe.	4.00	Each	220.46	881.84
(iii)	18.28.4 RA	200 mm diameter pipe.	3.00	Each	292.68	878.04
(iv)	18.28.6 RA	300 mm diameter pipe.	3.00	Each	439.43	1318.29
(v)	18.28.8 RA	400 mm diameter pipe.	1.00	Each	591.33	591.33
(vi)	18.28.9 RA	450 mm diameter pipe.	1.00	Each	662.51	662.51
44	18.29 RA	Supplying pig lead at site of work.	0.40	Quintal	8858.58	3543.43
45		Providing flanged joints to double flanged C.I./D.I. Pipes and specials including testing of joints:				
(i)	18.30.2 RA	100 mm diameter pipe	1.00	Each	138.51	138.51
(ii)	18.30.4 RA	150 mm diameter pipe	1.00	Each	171.26	171.26
(iii)	18.30.5 RA	200 mm diameter pipe	1.00	Each	176.17	176.17
(iv)	18.30.7 RA	300 mm diameter pipe	1.00	Each	269.41	269.41
46	(Rate analysis)	Providing and fixing C.I. Sluice valves (with cap) complete with bolts, nuts, rubber insertions, etc. (the tail pieces if required will be paid separately) :				
(i)	18.31.1.1 RA	100 mm diametre- (Class-I)	2.00	each	2624.99	5249.98
(ii)	18.31.3.1 RA	150 mm diametre-(Class-I)	1.00	each	3836.94	3836.94
(iii)	18.31.4.1 RA	200 mm diametre-(Class-I).	1.00	each	7029.97	7029.97
(iv)	18.31.6.1 RA	300 mm diametre-(Class-I).	1.00	each	14286.10	14286.10

47	(Rate analysis)	Providing and fixing C.I. Sluice valves (with cap) complete with bolts, nuts, rubber insertions, etc. (the tail pieces if required will be paid separately) : (Valve to be issued free of cost from BHEL store)				
(i)	18.31.1.1 RA	100 mm diameter- (Class-I)	6.00	each	363.44	2180.64
(ii)	18.31.3.1 RA	150 mm diameter-(Class-I)	6.00	each	483.96	2903.76
(iii)	18.31.4.1 RA	200 mm diameter-(Class-I).	5.00	each	589.49	2947.45
(iv)	18.31.6.1 RA	300 mm diameter-(Class-I).	2.00	each	1011.81	2023.62
48		Providing and fixing G.I. Union in existing G.I. Pipe line, cutting and threading the pipe and making long screws including excavation, refilling the earth or cutting of wall and making good the same complete wherever required:				
(i)	18.47.1 RA	15 mm nominal bore.	43.00	each	252.52	10858.36
(ii)	18.47.2 RA	20 mm nominal bore.	37.00	each	272.18	10070.66
(iii)	18.47.3 RA	25 mm nominal bore.	14.00	each	282.03	3948.42
(iv)	18.47.6 RA	50 mm nominal bore.	15.00	each	466.57	6998.55
(v)	18.47.8 RA	80 mm nominal bore.	6.00	each	761.55	4569.30
49		Providing and laying D.I. specials of class K-12 suitable for push-on jointing as per IS : 9523 :				
	18.68.1 RA	Up to 600 mm dia	0.08	quintal	11847.03	947.76
50		Providing push-on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and the cost of rubber gasket :				
	18.70.3 RA	200 mm dia pipes	1.00	Joint	110.58	110.58
51		Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 :				
	18.72.3 RA	200 mm dia Ductile Iron Class K-7 pipes (Excluding cost of Pipe)	4.00	metre	36.64	146.56
52	18.76.1 RA	Cutting holes up to 30x30 cm in walls including making good the same: With Ghole Brick.	4.00	each	178.05	712.20
53		Disinfecting C.I. water mains by flushing with water containing bleaching powder @ 0.5 gms per litre of water and cleaning the same with fresh water, operation to be repeated three times including getting the sample of water from the disinfected main tested in the municipal laboratory.				
(i)	18.80.2 RA	100 mm diameter C.I. pipe	40.00	Meter	6.859	274.34
(ii)	18.80.4 RA	150 mm diameter C.I. pipe	40.00	Meter	10.326	413.04
(iii)	18.80.5 RA	200 mm diameter C.I. pipe	40.00	Meter	13.837	553.48
(iv)	18.80.7 RA	300 mm diameter C.I. pipe	8.00	Meter	19.631	157.04
(v)	18.80.9 RA	400 mm diameter C.I. pipe	8.00	Meter	24.239	193.91
(vi)	18.80.10 RA	450 mm diameter C.I. pipe	8.00	Meter	26.682	213.46
54		Dismantling old C.I. Pipes including excavation and refilling trenches after taking out the pipes, breaking lead caulked joints, melting of lead and making into blocks including stacking of pipes at site lead upto 50 metre:				
(i)	18.82.2 RA	100 mm diameter C.I. Pipe.	8.00	meter	131.17	1049.36
(ii)	18.82.4 RA	150 mm diameter C.I. Pipe.	8.00	meter	140.62	1124.96

(iii)	18.82.5 RA	200 mm diameter C.I. Pipe.	8.00	meter	156.35	1250.80
(iv)	18.82.7 RA	300 mm diameter C.I. Pipe.	7.00	meter	185.22	1296.54
(v)	18.82.9 RA	400 mm diameter C.I. Pipe.	4.00	meter	209.31	837.24
(vi)	18.82.10 RA	450 mm diameter C.I. Pipe.	3.00	meter	221.14	663.42
55		Labour for cutting C.I. Pipe with steel saw:				
(i)	18.83.2	100 mm diameter C.I. Pipe.	5.00	each cut	55.65	278.25
(ii)	18.83.4	150 mm diameter C.I. Pipe.	3.00	each cut	104.70	314.10
(iii)	18.83.5	200 mm diameter C.I. Pipe.	2.00	each cut	139.65	279.30
(iv)	18.83.7	300 mm diameter C.I. Pipe.	2.00	each cut	208.05	416.10
(v)	18.83.9	400 mm diameter C.I. Pipe.	2.00	each cut	276.20	552.40
(vi)	18.83.10	450 mm diameter C.I. Pipe.	2.00	each cut	309.80	619.60
56		Servicing of various Sluice Valves:- Disassembly inspection of parts, repair of worn-out components (Check nuts, shutter etc.) greasing and re-assembly complete as per direction of Engineer Incharge.				
(a)	BO	100 mm dia valve	1.00	No	1200.00	1200.00
(b)	BO	150 mm dia valve	1.00	No	1762.50	1762.50
(c)	BO	200 mm dia valve	1.00	No	1972.50	1972.50
(d)	BO	250 mm dia valve	1.00	No	2475.00	2475.00
(e)	BO	300 mm dia valve	1.00	No	3231.75	3231.75
(f)	BO	400 mm dia valve	1.00	No	3637.50	3637.50
(g)	BO	450 mm dia valve	1.00	No	4350.00	4350.00
57		Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. (Only G.I. Pipe shall be issued free of cost from BHEL store) External work				
	BO	100mm nominal dia	19.20	Metre	71.25	1368.00
58		Providing and fixing M.S. clamp made from angle ISA 50X50X6 mm with nut bolt arrangement, bent to shape suitable with CI pipe during laying, including painting the exposed portion of loop, all as per direction of engineer incharge.				
(a)	BO	300 mm dia	1.00	No	787.50	787.50
(b)	BO	400 mm dia	1.00	No	1350.00	1350.00
(c)	BO	450 mm dia	1.00	No	1612.50	1612.50
59		Providing and fixing of GI plug to existing pipe line including trenching and refilling all complete as per direction of engineer in charge.				
(a)	BO	15 mm dia	4.00	No	18.75	75.00
(b)	BO	20 mm dia	4.00	No	26.25	105.00
(c)	BO	25 mm dia	4.00	No	30.00	120.00
(d)	BO	50 mm dia	4.00	No	33.75	135.00
60		Making threading in existing GI pipe complete as per direction of engineer incharge.				
(a)	BO	50 mm	4.00	No	45.00	180.00
(b)	BO	80 mm	4.00	No	78.75	315.00
(c)	BO	100 mm	4.00	No	90.00	360.00
61		Providing & fixing of GI fittings in pipe including cutting and threading the pipe and wherever required CI boring, tapping and making long screw etc. complete. As per direction of Engineer-in-charge.				
(a)	BO	GI Socket 15mm Nominal bore.	32.00	each	16.50	528.00
(b)	BO	GI Nipple 15 mm X 200 mm long	32.00	each	28.50	912.00
(c)	BO	GI Elbow 25 X 15 mm	32.00	each	19.50	624.00

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SCHEDULE – “B”							
Name of work : Maintenance and repair of water supply lines in Township of BHEL Bhopal.							
1. Cement.							
2. Reinforcement Steel.							
3. CI Sluice valve against item no. 47.							
4. CI Pipe against item no. 38.							
5. CI Pipe Specials against item no. 39.							
6. GI Pipe of all dia against item no. 30, item no. 32 & item no. 57.							
7. Dismantled Masonry Stone against item no. 10.							
8. Ductile iron (DI) pipe against item no. 51.							
9. Red sand stone against item no.13							
Issued free of cost at Gadia Store/ sub-division store							
Note: If the contractor fails to return to the department unconsumed portion of total quantities of respective free issue material after completion of work or as and when instructed by Engineer-incharge, recovery at twice the respective material cost of the item as procured/decided by BHEL shall be made from the contractor's bill(s).							
SCHEDULE – “C”							
-----NIL-----							
Signature of Contractor							