

TENDER

(NIT NO. TA/TCL/**31**/20-21)

FOR

**MISCELLANEOUS CIVIL ENGINEERING
WORKS IN BHEL TOWNSHIP, 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, previous work order, 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 : Miscellaneous civil engineering works in BHEL Township, Bhopal.						
S.No	It. Code	Description of items	Qty.	Unit	Rate	Amount
1		Carriage of material by mechanical transport including loading, unloading, stacking etc. complete				
(a)		upto 1 km.				
(i)	1.1.1	Lime, moorum, bldg. rubbish	50.00	cum	66.23	3,311.50
(ii)	1.1.2	Earth	50.00	cum	82.78	4,139.00
(b)		upto 4 km.				
(i)	1.1.3	Manure or sludge	10.00	cum	100.52	1,005.20
2		Earth Work in Surface Excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm. on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed:				
	2.1.1	All kinds of soil.	150.00	100sqm	3,786.95	5,680.43
3		Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m; disposed earth to be levelled and neatly dressed.				
	2.6.1	All kinds of soil	50.00	Cum	129.35	6,467.50
4		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.	60.00	Cum	130.80	7,848.00
5		Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).				
	2.16.1	Depth not exceeding 1.5 m	15.00	Sqm	101.85	1,527.75
6	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	20.00	Cum	83.80	1,676.00

7		Surface dressing of the ground including removing vegetation and inequalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m:				
	2.28.1	All kinds of soil.	1,500.00	100sqm	935.25	14,028.75
8		Excavating holes more than 0.10 cum & upto 0.5 cum including getting out the excavated soil, then returning the soil as required in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc., disposing of surplus excavated soil; as directed within a lead of 50 m and lift upto 1.5 m:				
	2.30.1	All kinds of soil	200.00	each	41.60	8,320.00
9	2.31	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared.	2,100.00	100sqm	482.00	10,122.00
10	2.32	Clearing grass and removal of the rubbish upto a distance of 50 m outside the periphery of the area cleared.	5,000.00	100 sqm	247.00	12,350.00
11		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).	100.00	cum	2,576.38	2,57,638.00
b)	4.1.6 RA	1 : 3 : 6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size).	10.00	cum	2,533.34	25,333.40
c)	4.1.10 RA	1 : 5 : 10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size).	100.00	cum	2,525.19	2,52,519.00
12		Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc. up to floor five level, excluding the cost of centering, shuttering and finishing :				
	4.2.3 RA	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	10.00	cum	3,334.74	33,347.40
13	4.17 RA	Making plinth protection 50 mm thick of cement concrete 1 : 3 : 6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75 mm thick bed of stone aggregate 40 mm nominal size well rammed	250.00	sqm	263.83	65,957.50

14		Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				
	5.1.2 RA	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	10.00	cum	2,696.15	26,961.50
15		Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts, etc. upto floor five level excluding cost of centring, shuttering, finishing and reinforcement.				
a)	5.2.2 RA	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	20.00	cum	3,337.06	66,741.20
b)	5.2.3 RA	1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	10.00	cum	3,407.17	34,071.70
16	5.3 RA	Reinforced cement concrete work in beams, suspended floors, roofs having slope upto 15 ⁰ 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).	5.00	cum	3,556.89	17,784.45
17		Centring and shuttering including strutting, propping, etc. and removal of form for:				
(a)	5.9.1 RA	Foundations, footings, bases of columns, etc. for mass concrete.	60.00	sqm	155.49	9,329.40
(b)	5.9.3 RA	Suspended floors, roofs, landings, balconies and access platform.	10.00	sqm	301.28	3,012.80
(c)	5.9.5 RA	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	15.00	sqm	251.23	3,768.45
(d)	5.9.6 RA	Columns, pillars, piers, abutments, posts and struts.	15.00	sqm	349.52	5,242.80
18	5.12 CS RA	Providing, hoisting and fixing upto floor five level precast Reinforced cement concrete work in string courses, bands, copings, bed plates, anchor blocks, plain window sills and the like, including the cost of required centering, shuttering, but excluding cost of reinforcement with 1 : 2 : 4 (1 cement : 2 coarse sand : 4 grades stone aggregate 20 mm nominal size).	5.00	cum	3,361.12	16,805.60
19	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)	1,000.00	kg	7.40	7,400.00

20		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).	30.00	cum	2,754.46	82,633.80
21		Coursed rubble masonry (second sort) in foundation & plinth with deptt. Stone with				
	(RA) 7.7.1	Cement mortar 1:6 (1 cement : 6 coarse sand). - (excluding the cost of stone)	20.00	cum	1,847.95	36,959.00
22		Coursed rubble masonry with hard stone (first or second sort) in superstructure above plinth level and upto floor five level.				
	7.8.2 CS RA	Masonry work (second sort) in cement mortar 1:6 (1 cement : 6 coarse sand).	30.00	cum	3,303.35	99,100.50
23		Extra for coursed rubble masonry with hard stone (first or second sort) in :				
	7.10.1	Square or rectangular pillars	5.00	cum	289.90	1,449.50
24		Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels.				
		Granite of any colour and shade				
	8.2.2.2 RA	Area of slab over 0.5 Sqm	20.00	sqm	2,609.09	52,181.80
25	8.3.2	Providing edge moulding to 18 mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc., complete as per design approved by Engineer-in-Charge. Granite work.	10.00	mtr	178.75	1,787.50
26	8.6	Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete	10.00	sqm	163.10	1,631.00
27		Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (part - I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
	9.21.2 RA	30 mm thick including ISI marked stainless steel butt hinges with necessary screws.	10.00	SQM	1,216.00	12,160.00
28		Providing and fixing M.S. grills of required pattern in frames of windows, etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete:				
	9.48.2 RA	Fixed to openings/wooden frames with rawl plugs screws, etc.	150.00	kg	89.43	13,414.50

29	9.84 RA	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564 embossed on the body, door weight upto 36 kg. to 80 kg. and door width from 701 mm to 1000 mm) with double speed adjustment with necessary accessories and screws, etc. complete.	5.00	each	836.01	4,180.05
30		Providing and fixing ISI marked aluminium butt hinges anodised (anodic coating not less than Grade AC 10 as per IS:1868) transparent or dyed to required colour or shade with				
a)	9.95.1 RA	125 x 75 x 4 mm	5.00	each	84.80	424.00
b)	9.95.3 RA	100 x 75 x 4 mm.	5.00	each	72.06	360.30
c)	9.95.6 RA	75 x 63 x 4 mm.	5.00	each	63.35	316.75
		Note :- Aluminum hinges shall not be used in wooden shutters, stainless steel hinges shall be preferred.				
31	9.96.2 RA	Providing and fixing aluminium sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS:1868) transparent or dyed to required colour or	10.00	each	145.86	1,458.60
32		Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS:1868) transparent or dyed to required colour or shade with necessary screws, etc. complete:				
a)	9.97.3 RA	200 x 10 mm	10.00	each	60.89	608.90
b)	9.97.4 RA	150 x 10 mm.	10.00	each	50.47	504.70
c)	9.97.5 RA	100 x 10 mm.	10.00	each	39.65	396.50
33		Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC 10 as per IS:1868) transparent or dyed to required colour and shade with				
a)	9.100.1 RA	125 mm.	10.00	each	53.31	533.10
b)	9.100.2 RA	100 mm	10.00	each	42.33	423.30
34		Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS:1868) transparent or dyed to required				
a)	9.101.1 RA	Single rubber stopper.	10.00	each	24.43	244.30
b)	9.101.2 RA	Twin rubber stopper.	5.00	each	60.81	304.05
35	9.103 RA	Providing and fixing bright finished brass 100 mm mortice latch and lock ISI marked with six levers and a pair of anodised (anodic coating not less than grade AC 10 as per IS : 1868) aluminium lever handles of approved quality with necessary screws, etc. complete.	10.00	each	608.12	6,081.20

36	9.119 RA	Providing and fixing factory made P.V.C. door frame of size 50x47mm with a wall thickness of 5mm, made out of extruded 5mm rigid PVC foam sheet mitred at corners and joined with 2 Nos. of 150mm long brackets of 15x15mm M.S. square tube, the vertical door frame profiles to be reinforced with 19x19mm M.S. square tube of 19 gauge, EPDM rubber gasket weather seal to be provided through out the frame. The door frame to be fixed to the wall using M.S. screws of 65/100mm size complete as per manufacturers specification and direction of Engineer-in-Charge.	10.00	mtr	345.79	3,457.90
37		Providing and fixing factory made panel PVC door shutter consisting of frame made out of M.S. tubes of 19 gauge thickness and size of 19 mm x 19 mm for styles and 15x15 mm for top & bottom rails. M.S. frame shall have a coat of steel primers of approved make and manufacture . M.S. frame covered with 5 mm thick heat moulded PVC 'C' channel of size 30 mm thickness, 70 mm width out of which 50 mm shall be flat and 20 mm shall be tapered in 45 degree angle on both side forming styles and 5 mm thick, 95 mm wide PVC sheet out of which 75 mm shall be flat and 20 mm shall be tapered in 45 degree on the inner side to form top and bottom rail and 115 mm wide PVC sheet out of which 75 mm shall be flat and 20 mm shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided both side of the panel. 10 mm (5 mm x 2) thick, 20 mm wide cross PVC sheet be provided as gap insert for top rail & bottom rail,				
		paneling of 5 mm thick both side PVC sheet to be fitted in the M.S. frame welded/ sealed to the styles & rails with 7 mm (5 mm+2 mm) thick x 15 mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive. An additional 5mm thick PVC strip of 20mm width is to be stuck on the interior side of the "C" Channel using PVC solvent adhesive etc. complete as per direction of Engineer-in-Charge, manufacturer's specification & Drawing.				
	9.120.1 RA	30 mm thick plain PVC door shutter	10.00	sqm	2,133.99	21,339.90
38	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 (excluding the cost of steel).	300.00	kg	8.04	2,412.00

39	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(excluding the cost of steel)	700.00	kg	13.09	9,163.00
40		Providing and fixing factory made ISI marked steel glazed doors, windows, and ventilators side / top/ centre hung with beading and all members such as F 7 D, F 4 B, K 11 B and K 12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design (sectional weight of only steel member shall be measured for payment).				
	10.11.1 CS RA	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete blocks 15x10x10 cm of C.C. 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	150.00	kg	87.00	13,050.00
41		Steel work welded in built up sections/framed work including cutting hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
	10.25.2 RA	In gratings, frames, guard bar, ladders, railings, brackets, gates and similar works.	250.00	kg	69.38	17,345.00
42	11.3.1 RA	Cement concrete flooring 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate). Finished with a floating coat of neat cement including cement slurry but excluding the cost of nosing of steps, etc. complete:				
		40mm thick with 20mm nominal size stone aggregate.	150.00	sqm	178.15	26,722.50
43		Providing and fixing glass strips in joints of terrazo/cement concrete floors:				
	11.13.1 RA	40 mm wide and 4 mm thick.	20.00	mtr	27.65	553.00
44	11.26.1 RA	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1:4 (1 cement : 4 coarse sand): 25 mm thick.	5.00	sqm	834.41	4,172.05
45	11.27 RA	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1 : 3 (1 cement : 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	5.00	sqm	850.12	4,250.60

46	11.29.1 RA1	40 mm thick undressed stone flooring over 20 mm (average) thick base of morum mortar including pointing with cementmortar 1 : 2 (1 cement : 2 stone dust) with an admixture of pigment to match the shade of stone with red sand stone.				
		Red sand stone.	5.00	sqm	473.03	2,365.15
47	RA 11.29.1	40 mm thick undressed stone flooring over 20 mm (average) thick base of morum mortar including pointing with cementmortar 1 : 2 (1 cement : 2 stone dust) with an admixture of pigment to match the shade of stone with red sand stone. (excluding the cost of red sand stone)	150.00	sqm	258.67	38,800.50
48	11.36 RA	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS:15622 (thickness to be specified by the manufacture) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of Cement Mortar 1:3 (1 Cement :3 Coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete. <u>Note:- Approved make of tile-</u> NITCO:-Magnum series glossy finish tile size 375x250mm, Kajaria:-Plain/printed series glossy finish tile, size-200x300mm, Johnson:- Screen print series glossy finish tile size 200x300mm, Orient Bell Group B-III digital (OD Series)/ Non digital tile size 200x300 mm & Orient Bell Group B-III SD series tile size 300x450 mm size.	15.00	sqm	588.98	8,834.70
49	11.37 RA	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours, such as White, Ivory, Grey, Fume, Red Brown, laid on 20mm thick Cement Mortar 1:4 (1 cement : 4 Coarse sand) including pointing the joints with white cement and matching pigment etc., complete. <u>Note:- Approved make of tile-</u> NITCO:-Crust series matt finish tile size 300x300 mm, Kajaria:-Premium series matt finish tile, size-300x300mm, Johnson:- Classical series matt finish tile size 300x300mm, joint free Lenox series matt finish tile size 300x300mm, Orient Bell Group B-II matt finish & rustic finish tile size 300x300 mm.	50.00	sqm	600.89	30,044.50

50		Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.				
	11.41.2 RA	Size of Tile 600x600 mm	30.00	Sqm	1,105.38	33,161.40
	Note:-	The make of vitrified tiles for above, will be : Nitco Double Charge or Kajaria Double Charge or Johnson mabonite Double Charge.				
51	11.42 RA	Deduct for not using 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) bedding in laying of floor tiles.	30.00	Sqm	-286.45	-8,593.50
52	11.43 RA	Fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477 , in average 3mm thickness.	30.00	Sqm	322.51	9,675.30
53	12.8 (RA)	Providing non-asbestos high impact Polypropylene reinforced cement 6 mm thick corrugated sheets (as per IS : 14871) roofing up to any pitch and fixing with Polymer coated J or L hooks, bolts and nuts 8 mm dia G.I. Plain and bitumen washers or with self drilling fastner and EPDM washers etc. complete (excluding the cost of purlins, rafters and trusses), including cutting sheets to size and shape wherever required (excluding the cost of Non-Asbestos fibre cement corrugated sheet)	20.00	sqm	52.32	1,046.40
54	12.8 RA	Providing non-asbestos high impact Polypropylene reinforced cement 6 mm thick corrugated sheets (as per IS: 14871) roofing up to any pitch and fixing with polymer coated J, or L hooks, bolts and nuts 8 mm dia. G.I. plain and bitumen washers or with self drilling fastener and EPDM washers etc. complete (excluding the cost of purlins, rafters and trusses), including cutting sheets to size and shape wherever required.	20.00	sqm	322.92	6,458.40
55	12.21.1 RA	Providing gola 75x75 mm in cement concrete 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 10 mm and down guage) including finishing with cement mortar 1 : 3 (1 cement : 3 fine sand) as per standard design:				
		In 75 x 75 mm deep chase	20.00	mtr	88.20	1,764.00
56	12.24.1.1 RA	Providing and fixing insulating board ceiling of approved quality with necessary nails etc. complete (frame work to be paid separately) :				
		Natural colour insulating board				
		12 mm thick	5.00	sqm	455.26	2,276.30

57		Providing and fixing on wall face unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10 mm gap for thermal expansion. (i) Single socketed pipes				
a)	12.41.1 RA	75 mm dia.	25.00	Mtr	112.50	2,812.50
b)	12.41.2 RA	110 mm dia.	40.00	Mtr	183.33	7,333.20
58		Providing and fixing on wall face unplasticised-PVC moulded fittings/accessories for unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion:				
a)		Single tee with door.				
(i)	12.42.3.1 RA	75x75x75 mm	10.00	Each	178.88	1,788.80
(ii)	12.42.3.2 RA	110x110x110 mm.	10.00	Each	259.29	2,592.90
b)		Bend 87.5 degree				
(i)	12.42.5.1 RA	75 mm bend	10.00	Each	88.06	880.60
(ii)	12.42.5.2 RA	110 mm bend	10.00	Each	130.25	1,302.50
c)		Shoe (Plain).				
(i)	12.42.6.1 RA	75 mm Shoe.	8.00	Each	134.85	1,078.80
(ii)	12.42.6.2 RA	110 mm Shoe.	8.00	Each	233.05	1,864.40
59		Providing and fixing unplasticised-PVC pipe clips of approved design to unplasticised-PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length including cutting brick work and fixing in cement mortar 1 : 4 (1 cement : 4 coarse sand) and making good the wall etc. complete:				
a)	12.43.1 RA	75 mm.	8.00	Each	120.40	963.20
b)	12.43.2 RA	110 mm.	8.00	Each	135.15	1,081.20
60		12 mm cement plaster of mix:				
a)	13.4.1 RA	1 : 4 (1 cement : 4 coarse sand) .	25.00	sqm	99.38	2,484.50
b)	13.4.2 RA	1 : 6 (1 cement : 6 coarse sand).	45.00	sqm	99.21	4,464.45
61		15 mm cement plaster on the rough side of single or half brick wall of mix:				
	13.5.2 RA	1 : 6 (1 cement : 6 coarse sand).	100.00	sqm	114.32	11,432.00
62		20 mm cement plaster of mix:				
	13.6.2 RA	1 : 6 (1 cement : 6 coarse sand).	50.00	sqm	135.50	6,775.00
63	13.16.1 RA	6 mm cement plaster of mix:				
		1 : 3 (1 cement : 3 fine sand).	25.00	sqm	79.42	1,985.50

64	13.18 RA	Neat cement punning.	160.00	sqm	18.34	2,934.40
65	13.28.3 RA	12 mm thick plain cement mortar bands in cement mortar 1 : 4 (1 cement : 4 fine sand): Raised band	75.00	cm per mtr	2.54	190.50
66	13.33.2 RA	Pointing on stone work with cement mortar 1 : 3 (1 cement : 3 fine sand): Raised and cut pointing.	50.00	sqm	190.45	9,522.50
67		Colour washing such as green, blue or buff to give an even shade :				
	13.39.1 RA	New work (two or more coats) with a base coat of white washing with lime	10.00	sqm	16.08	160.80
68		Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sqm and under including cutting the patch in proper shape raking out joints and preparing and plastering the surface of the walls complete including disposal of rubbish to the dumping ground within 50 meters lead				
	14.1.1 RA	With cement mortar 1 : 4 (1 cement : 4 fine sand).	100.00	sqm	145.34	14,534.00
69		Fixing chowkhats in existing opening including embedding chowkhats in floors or walls cutting masonry for holdfasts embedding hold fasts in cement concrete blocks of size 15x10x10 cm with cement concrete 1 : 3 : 6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) painting two coats of approved wood preservative to sides of chowkhats and making good the damages to walls and floors as required complete including disposal of rubbish to the dumping ground within 50 metres lead:				
a)	14.2.1 RA	Door chowkhats.	20.00	each	544.38	10,887.60
b)	14.2.2 RA	Windows chowkhats.	20.00	each	330.88	6,617.60
70	14.4.1 RA	Making the opening in brick masonry including dismantling in floor or walls by cutting masonry and making good the damages to walls, flooring and jambs complete to match existing surface i/c disposal of mulba/ rubbish to the nearest municipal dumping ground. For Door/ Window/ Clerestroy Window	5.00	sqm	358.79	1,793.95
71		Renewing glass panes, with putty and nails wherever necessary including raking out the old putty :				
	14.5.1 RA	Float glass panes of thickness 4 mm	20.00	sqm	519.48	10,389.60
72	14.6.1 RA	Renewing glass panes, with wooden fillets wherever necessary: Float glass panes of thickness 4 mm	10.00	sqm	657.52	6,575.20
73	14.7.1 RA	Renewing glass panes and refixing existing wooden fillets: Float glass panes of thickness 4 mm	10.00	sqm	550.02	5,500.20

74	14.10 RA	Refixing old glass panes with putty and nails	15.00	sqm	219.49	3,292.35
75	14.11 RA	Fixing old glass panes with wooden fillets (excluding cost of fillets)	7.50	sqm	190.40	1,428.00
76	14.12 RA	Providing and fixing 16 mm M.S. Fan clamps of standard shape and size in existing R.C.C. slab, including cutting chase, anchoring clamp to reinforcement bar, including cleaning, refilling, making good the chase with matching concrete, plastering and painting the exposed portion of the clamps complete.	10.00	each	185.53	1,855.30
77	14.23	Pumping out water caused by springs, tidal or river seepage, broken water mains or drains and the like.	50.00	kilo litre	72.55	3,627.50
78		White washing with lime to give an even shade :				
	14.42.1 RA	Old work (two or more coats)	10.00	Sqm	6.99	69.90
79	14.43 CS	Removing white or colour wash by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	10.00	Sqm	5.75	57.50
80		Finishing walls with Acrylic Smooth exterior paint of required shade: (Excluding cost of exterior paint)				
	14.66.1 RA	Old work (Two or more coats applied @ 1.67 ltr/ 10 sqm) on existing cement paint surface	10.00	Sqm	23.10	231.00
81		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	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix).	10.00	cum	671.05	6,710.50
b)	15.2.2	Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix).	10.00	cum	413.65	4,136.50
82	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.	5.00	cum	978.95	4,894.75
83	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.	15.00	cum	566.60	8,499.00
84	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.	10.00	cum	676.05	6,760.50

85		Dismantling doors, windows and clerestory windows (steel or wood) shutter including chokhats, architrave, holdfasts, etc. complete and stacking within 50 metres lead:				
	15.12.1	Of area 3 sqm and below.	35.00	each	101.70	3,559.50
86		Dismantling steel work in single sections including dismembering and stacking within 50 metres lead in:				
a)	15.17.1	R.S. Joists	175.00	kg	0.95	166.25
b)	15.17.2	Channels, angles, tees and flats	190.00	kg	0.65	123.50
87	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 50 metres lead.	190.00	kg	1.55	294.50
88	15.19	Dismantling steel work manually/by mechanical means in built up sections without dismembering and stacking within 50 metres lead as per direction of Engineer Incharge.	75.00	kg	1.05	78.75
89		Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead:				
	15.23.1	For thickness of tiles 10 mm to 25 mm.	15.00	sqm	20.30	304.50
90	15.25	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	120.00	sqm	73.70	8,844.00
91	15.28.2	Dismantling roofing including ridges, hips valleys and gutters, etc., and stacking the material within 50 metres lead of:				
		Asbestos sheet	10.00	sqm	21.60	216.00
92		Dismantling and stacking within 50 metres lead, fencing posts or struts including all earth work and dismantling of concrete etc. in basis of:				
	15.34.1	'T' or 'L' iron or pipe	35.00	each	76.00	2,660.00
93	15.36	Dismantling barbed wire or flexible wire rope in fencing including making rolls and stacking within 50 metres lead.	80.00	kg	10.15	812.00
94		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.				
a)	15.43.1	a) Water bound macadam road	5.00	sqm	61.70	308.50
b)	15.43.2	b) Bituminous road	10.00	sqm	119.95	1,199.50
95	15.56	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 m lead.	70.00	sqm	15.00	1,050.00

96	15.60	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	30.00	cum	101.75	3,052.50
97		Stacking of the material including supply at site as per instruction of Engineer-in-charge :-				
	16.3.1 RA	90 mm to 45 mm size stone aggregate.	20.00	cum	967.90	19,358.00
	16.3.2 RA	Stone Aggregate : 40 mm nominal size	20.00	cum	1,161.48	23,229.60
	16.3.6 RA	Stone Aggregate : 12.5 mm nominal size	20.00	cum	1,263.25	25,265.00
	16.3.7 RA	Stone Aggregate : 6 mm nominal size	20.00	cum	1,318.56	26,371.20
	16.3.8 RA	Coarse sand	200.00	cum	1,340.68	2,68,136.00
	16.3.10 RA1	Moorum	20.00	cum	599.53	11,990.60
	16.3.10 RA2	Stone dust	20.00	cum	1,124.98	22,499.60
98	16.15.1 RA	Supplying at site R.C.C. Standards post/struts/rails/ pales of mix 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 12.5 mm nominal size) with wooden plugs or 6mm bar ribs wherever required as per direction of Engineer-in-charge (cost of earth works in excavation, concrete works in foundation to be paid separately) including cost of cement.	2.00	cum	12,176.37	24,352.74
99		Fencing with R.C.C./Angle iron posts placed at required distance, embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post one side only, provided with horizontal lines and two diagonals of barbed wire 9.38 kg per 100 metres (min) between the two posts fitted and fixed with G.I. staples on wooden plugs or G.I. binding wire tied to 6 mm bar ribs fixed while casting the post (cost of R.C.C. posts, struts, earth work and concrete to be paid for separately) :- Payment to be made per metre cost of total length of barbed wire used.				
	16.17.1 RA	With G.I. barbed wire	120.00	mtr	6.74	808.80
100		Fencing with R.C.C./Angle iron posts placed at required distance, embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post one side only, provided with horizontal lines and two diagonals of barbed wire 9.38 kg per 100 metres (min) between the two posts fitted and fixed with G.I. staples on wooden plugs or G.I. binding wire tied to 6 mm bar ribs fixed while casting the post (cost of R.C.C. posts, struts, earth work and concrete to be paid for separately):-Payment to be made per metre cost of total length of barbed wire used.				
	16.17.1 (RA)	With G.I. Barbed wire. (excluding cost of Barbed wire)	2,000.00	mtr	2.01	4,020.00

101	16.20 RA	Welded steel wire fabric fencing with posts of specified material and of standard design placed and embedded in cement concrete blocks of 45 x 45 x 60 cm of mix 1 : 5 : 10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) every 15th post, last but one end post and corner post shall be struted on both sides and end post on one side only and struts embedded in cement concrete blocks 70 x 45 x 50 cm of the same mix, provided with welded steel wire fabric fixed between the posts fitted and fixed with G.I. staples on wooden plugs or tied to 6 mm bar ribs with G.I. binding wire (cost of posts, welded steel wire fabric, painting, earth work in excavation and concrete to be paid for separately).	150.00	sqm	20.65	3,097.50
102	16.68 RA	Providing and laying 60 mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	50.00	sqm	475.11	23,755.50
103		Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50X50 mm including strengthening with 2mm dia Wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.				
	16.70.1 RA	Made of G.I. wire of dia 4mm.	50.00	sqm	437.95	21,897.50
104		Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern,including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required:				
	17.1.1 RA	White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests.	15.00	each	2,521.13	37,816.95
105	17.1.1 RA	Providing and fixing water closet squatting pan (Indian type W.C. pan / European type) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : (Excluding the cost of W.C. pan, strap, flushing cistern & plastic seat and lid)				
		White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests / W.C. pan with ISI marked black solid plastic seat and lid.	30.00	each	962.82	28,884.60

106		Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required				
a)	17.2.1 RA	W.C. pan with ISI marked white solid plastic seat and lid	10.00	each	2,523.62	25,236.20
b)	17.2.2 RA	W.C. pan with ISI marked black solid plastic seat and lid	10.00	each	2,506.89	25,068.90
107		Providing and fixing white vitreous china water closet squatting pan (Indian type) :				
	17.13.2 RA	Orissa pattern W.C. pan of size 580x440 mm	30.00	each	1,038.59	31,157.70
108		Providing and fixing white vitreous china water closet squatting pan (Indian type) :(excluding W.C. Pan)				
	17.13.2 RA	Orissa pattern W.C. pan of size 580x440 mm	20.00	each	350.29	7,005.80
109		Providing and fixing P.V.C. low level flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete.				
	17.18.1 RA	10 litre capacity - White	20.00	each	675.92	13,518.40
110	18.77 RA	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.	5.00	each	140.08	700.40
111		Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
(a)	19.6.4 RA	300 mm dia. R.C.C. pipe	10.00	mtr	366.47	3,664.70
(b)	19.6.7 RA	600 mm dia. R.C.C. pipe	5.00	mtr	927.27	4,636.35
(c)	19.6.11 RA	1000 mm dia. R.C.C. pipe	5.00	mtr	1,807.56	9,037.80

112		Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
a)		For fixed portion				
	21.1.1.1 RA	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	40.00	kg	294.19	11,767.60
b)		For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
	21.1.2.1 RA	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	80.00	kg	338.31	27,064.80
113	21.2.2 RA	Providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.				
		Pre-laminated particle board with decorative lamination on both sides.	20.00	sqm	785.68	15,713.60
114	21.3.2 RA	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber/ neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item)				
		With float glass panes of 5.50 mm thickness	20.00	sqm	790.82	15,816.40

115		Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315 having brand logo embossed on the body/plate with double spring mechanism and door weight upto 125 kg. for doors including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.				
	21.4.1 RA	With stainless steel cover plate minimum 1.25 mm thickness	5.00	each	1,677.43	8,387.15
116	21.5 RA	Providing and fixing powder coated aluminium work (minimum thickness of powder coating 50 micron) consisting of tee/ angle sections, of approved make conforming to IS : 733 in frames of false ceiling including aluminium angle cleats with necessary C.P. brass/ stainless steel sunk screws, aluminium perimeter angles fixed to wall with stainless steel rawl plugs @ 450 mm centre to centre and fixing the frame work to G.I. level adjusting hangers 6 mm dia. with necessary cadmium plated machine screws all complete as per approved architectural drawings and direction of the Engineer-in-charge (level adjusting hangers, ceiling cleats and expansion hold fasteners to be paid for separately).	30.00	kg	390.36	11,710.80
117	21.6 RA	Providing and fixing 6 mm dia. G.I. level adjusting hangers (upto 1200mm length) fixed to roof slabs by means of ceiling cleats made out of G.I. flat 40x3mm size 60mm long and stainless steel expandable dash fasteners 12.5 mm dia. 50mm long complete as per direction of Engineer -incharge.	5.00	each	86.65	433.25
118	Non DSR (6.1.2 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).	20.00	Cum	5,232.17	1,04,643.40
119	Non DSR (6.4.2 RA)	Brick work with Ghol bricks having compressive strength not less than 50 Kg/cm ² in super structure above plinth level upto floor V level in all shapes and sizes in cement mortar 1:6 (1cement:6 Coarse sand) .	15.00	Cum	5,791.75	86,876.25
120	Non DSR (6.13.2 RA)	Half brick masonry with Ghol bricks having compressive strength not less than 50 Kg/cm ² in superstructure above plinth level up to floor V level. Cement mortar 1:4 (1 cement :4 coarse sand) .	30.00	Sqm	675.71	20,271.30

[illegible]

SCHEDULE – “B”							
Name of work : Miscellaneous civil engineering works in BHEL Township, Bhopal.							
Issued free of cost at Gadia Store/ sub-division							
1	Cement						
2	Reinforcement Steel						
3	Non AC sheet (Against Item at Sr. No. 53)						
4	WC Pan (Indian type), s-trap, flushing cistern, plastic seat & lid (Against Item at Sr. No. 105)						
5	WC Pan (Indian type) (Against Items at Sr. No. 108)						
6	Stone for CR Masonary (Against Item at Sr. No. 21)						
7	Structural Steel (Against Items at Sr. Nos. 38 & 39)						
8	Red Sand Stone (Against Item at Sr. No. 47)						
9	Barbed Wire (Against Item at Sr. No. 100)						
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”							
1. Electricity charges at Rs. 66.00/- per M.T. of fabrication of structural steel							
Signature of Contractor							