



**BHARAT HEAVY ELECTRICALS LIMITED
CENTRALISED STAMPING UNIT
Jagdishpur**

**Tender for Construction of Manufacturing Block and
Associated Works including architectural works at
Jagdishpur**

Tender Enquiry No: BHE/CSU/CVL/02

SECTION IV

BILL OF QUANTITIES AND PRICE SCHEDULE

**BHARAT HEAVY ELECTRICALS LIMITED
(A GOVERNMENT OF INDIA UNDERTAKING)
CENTRALISED STAMPING UNIT
Industrial Area
Jagdishpur (UP) 227817**



Centralised Stamping Unit, Jagdishpur

BILL OF QUANTITIES AND PRICE SCHEDULE (Manufacturing Block and Other Works)

SL NO.	DESCRIPTION OF ITEMS FOR CIVIL & ARCHITECTURAL WORKS OF MANUFACTURING BLOCK AND OTHER WORKS	UNIT	QTY.	RATE		AMOUNT(Rs)
				In Figures ,Rs	In Words, Rs	
1	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
1.1	Layout of building including making of reference pillars etc. complete.	Sq.M.	8,140			
1.2	Earth work in excavation in foundation trenches in ordinary soil including all lead and lift and disposal of surplus earth as directed.	Cu.M.	7,901			
1.3	Anti-termite treatment by injecting chemical emulsion and creating a chemical barrier under foundations and floors, junction of wall and floor, along the external perimeter of expansion joints, as per IS 6313 (part-II 1981) at the rate as specified.	Sq.M.	7,116			
1.4	Filling of Earth in foundation trenches etc. with ordinary soil with 1.5m lift and 50m lead including dressing, and ramming.	Cu.M.	6,012			
1.5	Sand filling in plinth under floors including watering, ramming, consolidating and dressing complete including supply of all material, labour and T&P required for proper completion of work. completion of work	Cu.M.	1,500			
1.6	Supply and filling of good earth as per specifications including filling in layers, watering, compacting, consolidating as per specifications upto required OMC/MDD and levelling, dressing complete . Work to include supply of material, labour, T &Ps required for successful completion of work as directed by engineer	Cu.M.	5,000			



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2	PROVIDING AND PLACING CONCRETE WORK INCLUDING COST OF LABOUR, MATERIALS AND EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PLACING, VIBRATING AND CURING, (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) COMPLETE AT ALL ELEVATIONS AS PER DRAWING, SPECIFICATIONS UNLESS SPECIFIED OTHERWISE AND AS DIRECTED BY ENGINEER AND INCLUDING COST OF MIX DESIGN AND APPROVED ADMIXURES FOR THE FOLLOWING:					
2.1	Providing and laying cement concrete in 1:4:8, cement, coarse sand and 40mm gauge stone aggregates under foundation, floors & Grade Beams and curing complete excluding cost of form work and including cost of all materials and T&P required for proper completion of work.	Cu.M.	1,047			
2.2	R.C.C.[M20] works in Footings & Column pedestal with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and shuttering and including cost of all materials and T&P required for proper completion of work.	Cu.M.	1,008			
2.3	R.C.C.[M20] works in Column with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and shuttering and including cost of all materials and T&P required for proper completion of work.	Cu.M.	12			
2.4	R.C.C.[M20] works in Beams with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and necessary shuttering cantering etc. and including cost of all materials and T&P required for proper completion of work.	Cu.M.	298			
2.5	R.C.C.[M20] works in Lintels, Sun-shades Fins etc with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and necessary shuttering cantering etc. and including cost of all materials and T&P required for proper completion of work.	Cu.M.	50			



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2.6	R.C.C. [M20] works in Slabs with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone agreeegates in the proportion to produce M-20 concrete excluding cost of reinforcement and necessary shuttering centering etc. and including cost of all materials and T&P required for proper completion of work.	Cu.M.	23			
2.7	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in foundations , under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete.	Cu.M.	840			
2.8	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size in superstructure at all heights from finished floor level at any level, shape, position or thickness complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete.	Cu.M.	370			



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2.9	Breaking existing concrete work including dismantling or demolishing at any level including cutting reinforcements , removing the rubbish within a lead of 2Km.inside or outside plant area as directed , including making good the broken edges/surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/supporting at any level, all complete and as directed by Engineer.	Cu.M.	85			
2.10	Dismantling and Demolishing all types of brick work including stacking of serviceable material and disposal of unserviceable material within 1 Km lead from the dismantled structure.	Cu.M.	100			
2.11	Boring, Providing and installing cast in situ single under reamed piles of specified diametre and length below pile cap in M35 cement concrete, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and the length of the pile to be embedded in pile cap including all material, labour, T &P, IMTEs and as directed by engineer. Also including cost of concrete but excluding cost of reinforcement which shall be measured in item 4 of this BOQ (Length of pile for payment shall be measured upto the bottom of pile cap)					
2.11(a)	450mm dia. piles	Metre	200			
2.11(b)	550mm dia. piles	Metre	100			
2.12	Extra over item no.2.11 for boring ,providing and installing cast in situ double under reamed piles, instead of single under ream of specified diameter and length. (Only the quantity of extra bulbs are to be paid)	1 bulb	50			



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2.13	Conducting Vertical load test (initial and routine test)of piles above 50 tonnes and upto 100 tonne capacity pile in accordance with IS 2911 (Part-IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer -in-charge and including all material, labour, T &P, IMTEs etc.	Each test	3			
2.14	Conducting Cyclic vertical load testing of pile in accordance with IS code of practice IS: 2911 (part IV) including preparation of pile head etc for single pile upto 50 tonne capacity including all material, labour, T &P, IMTEs and as directed by engineer	Each test	3			
2.15	Conducting Lateral load testing of single pile in accordance with IS code of practice IS: 2911 (Part IV) for determining safe allowable lateral load on pile above 50 tonne and upto 100 tonne Capacity piles including all material, labour, T &P, IMTEs and as directed by engineer	Each test	3			
3.0	FORMWORK					
	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATION INCLUDING ALL LABOUR, MATERIAL, SCAFFOLDING COMPLETE INCLUDING POCKETS ETC. AND INCLUDING PROPPING, SCAFFOLDINGS ,SHUTTERING OIL ETC AS PER SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
3.1	Ordinary form work below finished ground floor level for foundations, footings, bases of columns, walls, columns pilasters, beams, mass concrete, trenches etc.	Sq.M.	695			
3.2	Fairface form work above finished ground floor level with plyboard or equivalent shuttering for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc for all heights.	Sq.M.	4,184			
3.3	Extra over item no.3.1 & 3.2 for curved form work for beams, walls, trenches etc as per specification.	Sq.M.	100			



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4	REINFORCEMENTS					
4.1	Providing, straightening, cutting, bending, placing in position at any level, binding in position of mild steel reinforcements confirming to grade-1 of IS:432 (part-I) including cost of binding wire, labour, transportation ,loading, unloading complete all as per specifications, drawings and as directed by Engineer. Authorised laps shall be measured .	MT	5			
4.2	Providing, straightening, cutting, bending, placing in position at any level, binding in position of tor steel reinforcements confirming of grade Fe-415 confirming to IS:1786 including cost of binding wire, labour, transportation, loading, unloading complete all as per specifications, drawings and as directed by Engineer. Authorised lapping shall be measured	MT	265			



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5	WATER PROOFING AS PER SPECIFICATIONS , DRAWINGS AND SPECIALISED MANUFACTURER'S RECOMMENDATIONS.					
5.1	Providing and mixing approved water proofing compound in concrete or cement mortar for works wherever specified or directed as per specification/ manufacturer's instructions, testing of samples for water proofing etc complete. (8Kg/cum consumption is the average consumption considered)	KG	300			
5.2	Supplying and laying one layer of TAR felt or any other equivalent approved material at the junction of wall and roof as per direction, including necessary overlap, giving coat of approved mastic paint below the Tar felt and including supply of all material, labour and T&P required for proper completion of work.	Sq. M.	5			



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5.3	Providing and laying Brick Koba Water Proofing treatment with 10 years of performance guarentee to vertical and horizontal surfaces of depressed portions of WC, Kitchen, Roof Terracing etc., consisting of -	Sq. M.	320			
	1st course of applying cement slurry @4.4kg/sqm. Mixed with water proofing compound 'Impermo' of Snowcem or equivalent conforming to IS 2645 in recommended proportions.					
	2nd course of laying Cement Concrete using broken bricks/ brick bats 25mm to 100mm size with 50% of cement mortar 1:5 (1 cement: 5 Course sand) admixed with properitory water proofing compound conforming to IS: 2645 over 20mm thick layer of cement mortar of mix 1:5 (1 cement: 5 course sand) admixed with properitory water proofing compound confirming to IS: 2645 to required slope and treating simillarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.					
	After two days of proper curing applying a second coat of cement slurry admixed with properitory water proofing compound confirming to IS: 2645					
	3rd course of finishing the surface with 20mm thick jointless cement mortar plaster of mix 1:3 (1cement : 3 coarse sand) admixed with properitory water proofing compound mixed as per manufacturers specification and finally finishing the surface with trowel with neat cement slurry and making of 300x300mm square.					
	The whole terrace so finished shall be flodded with water for a minimum period of two weeks for curing and for final leak test and after the surface is dried up then apply					
	4th course of blown or residual bitumen applied hot at 1.7kg per sqm on area.					



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	5th course of 400micron thick PVC sheet. (Overlaps at joints of PVC sheet shall not be less than 100mm wide and pasted to each other with hot blown bitumen @ 1.7kg/sqm)					
	The average thickness of above treatment shall be 120mm and minimum thickness at khurras as 65 mm and the work shall be carried out under strict supervision of approved specialised agency for proprietary items and as directed by engineer.					
5.4	Providing and laying protective wearing course of average thickness 25 mm thick PCC (1:2:4) with 6 mm down aggregate laid in 1200 square mm panels alternatively cast reinforced with 0.56 mm dia galvanised chicken wire mesh with a gap of 6 mm between two adjacent panels gaps shall be filled with silicon sealant for expansion and contraction all complete with labour, material, equipment and as per specification/drawing and to the satisfaction of engineer .	Sq.M.	320			



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5.5	Making Khurras 45x45 Cm with average minimum thickness of 5 Cm cement concrete 1:2:4 (1 cement:2 course sand: 4 graded stone aggregate of 20 mm nominal size) over PVC sheet 1m x 1m x 400 microns, finished with 12 mm cement plaster 1:3 (1 cement: 3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete.	Each	8			
5.6	Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness to maintain the required grade complete.	Cu.M.	40			
5.7	Applying 3 coats of bitumen of approved make on foundations before backfilling including supply of material,workmen and tools and plants required for application and as directed and approved by engineer.	Sq.M.	695			
6	SUPPLYING & INSTALLATION OF PREMOULDED JOINT FILLER OF APPROVED MAKE IN BETWEEN EQUIPMENT FOUNDATIONS, MAT FOUNDATIONS, PILE CAPS, WALLS, BASEMENT SLABS ETC. COMPLETE INCLUDING LABOUR, EQUIPMENT AND MATERIALS, SEALING OF JOINTS INCLUDING COST OF SEALING COMPOUND (POLYSULFIDE BASE SEALANT AS PER IS:12118) ETC. COMPLETE AS PER SPECIFICATIONS AND DRAWINGS OR AS DIRECTED BY ENGINEER FOR THE FOLLOWING:					
6.1	12mm thick joints.	Sq.M.	20			
6.2	20mm thick joints.	Sq.M.	30			
6.3	25mm thick joints.	Sq.M.	65			



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7	M.S. EMBEDMENTS					
7.1	Supply, fabricating and fixing of embedments, MS inserts , pipe sleeves, guide rails, angle pieces, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting complete as per specifications, drawings and as directed by Engineer.	Kgs	7,800			
7.2	Supply, fabrication, transportation, delivery at site and erection, installation and alignment of MS Foundation bolts (Grade- 1 of IS: 432 & IS: 2062) assembly in concrete along with nuts, locknuts (IS: 1363, IS: 1364 & IS: 3138), washers, anchor plates, stiffener plates, protective tapes etc. upto & inclusive of 50mm diameter and upto 2000mm long, for columns including pipe sleeves, templates wherever necessary etc. all complete as per specifications and directed by the Engineer.	Kgs	2,000			
8	GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:					
8.1	Providing and grouting of pocket holes , pipe sleeves of any shape and size under base plates after erection of necessary structural steel work, machinery with mix 1:1:2 (one part Cement : 1part Sand : 2 parts of 6mm down graded stone chips) at any elevation including roughening surface, cleaning, ramming, curing etc complete (non-shrink hand grout using approved admixture) as per specification and as directed by the Engineer.	Cu.M.	60.00			
9	DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTITIONS ETC. COMPLETE INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					



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9.1	Providing and fixing 40mm thick solid core flush door shutters (single or double) with commercial faces and hard board edges. Core of solid core doors shall be of block board or wood particle board of approved make including all fixtures, Godrej make Mortice lock with 3 no keys and 2No master keys for each building with handle on both sides, shop painting/polishing as per specification all complete including test certificates.Flush door shutters to be of decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3ply veneering with vertical grains or cross bands and face veneers on both faces of shutters including ISI marked Stainless Steel butt hinges with necessary screws, including cost of all materials and T&P required for proper completion of work.	Sq.M.	12			



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9.2	Providing and fixing anodized extruded aluminium windows and ventilators (single or double shutter) powder coated with approved colour including aluminium frame conforming to IS:1948, IS:1949 fabricated from extruded sections of INDAL , JINDAL or approved equivalent having minimum 2 mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. Glazing shall be clear float glass of 5.0mm thickness of approved make e.g SaintGobain, Modifloat Etc including snap fit type beading, concealed screws, fixtures with handle on both sides etc complete.Rates to include cost of floor springs . Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required.	Sq.M.	149			
9.3	Providing and fixing anodized extruded aluminium doors (single or double shutter) part pannelled and part glazed with prelaminated flat pressed particle board (NOVAPAN, ECOBOARD etc) of approved colour and make. Aluminium sections shall be powder coated with approved colour with aluminium frame conforming to IS:1948, IS:1949 fabricated from extruded sections of INDAL , JINDAL or approved equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. Glazing shall be clear float glass of 6.0mm thickness of approved make e.g SaintGobain, Modifloat Etc including snap fit type beading, concealed screws, fixtures, Godrej make Mortice lock Godrej make Mortice lock with 3 no keys for each door and 2 master keys for each building with handle on both sides etc complete. Aluminium section shall be smooth, free of stains,rust free, straight, mitred & jointed mechanically wherever required. Prelaminated board shall be 12mm thickness with all fixtures. Rates to include cost of floor springs of approved make.	Sq.M.	12			



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9.4	Providing and fixing aluminium glazed partition part pannelled and part glazed with prelaminated flat pressed particle board (NOVAPAN, ECOBOARD etc)boards of approved colour and make.Aluminium sections shall be powder coated with approved colour and of extruded sections of INDAL, JINDAL or approved equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and electro color coating/ powder coated of minimum 15 microns thickness. Glazing shall be clear float glass of 5.5mm thickness of approved make e.g SaintGobain, Modifloat Etc including snap fit type beading, concealed screws, hold fast, fixtures (like tower bolts, handles, door stoppers with rubber shoes, "L" drops, stays, floor springs, hydrolic door closers etc),C.P. brass/ stainless steel screws, providing and fixing hinges/pivots, and making provisions for fixing of fittings where ever required including the cost of PVC/neoprene gas fits all complete, Godrej make Mortice lock with 3 no keys for each door and 2 master keys for each building with handle on both sides,	SQM	5			
	necessary fillingup of gaps at the junctions,at top, bottom and sides, etc complete. Rates to include cost of floorsprings of approved make. Aluminium section shall be smooth, rust free, straight, mitred & jointed mechanically wherever required.					



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9.5	Providing and fixing of over head hydraulic door closers of "Yale" make or approved equivalent & quality as directed by Engineer.	NOS	2			
9.6	Supply and fixing ceiling fan Hook Box made of 18 gauge M.S. sheet and 16mmØ rod	Nos	16			
10	BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, SCAFFOLDING ETC. COMPLETE AS PER SPECIFICATIONS, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-		0			
10.1	Providing Brick work of thickness between 230mm and 254mm of class 150 in 1:4 cement and fine sand (F.M. 1.25) mortar in foundation & plinth , including supply of all materials, labour and T&P required for proper completion of work as directed by engineer but excluding plastering and painting, using bricks of class designation 75 or best locally available quality of nominal dimensions as per specification including supply of all material, labour and T & P required for proper completion of work.	Cu.M.	126			
10.2	Providing brick work of thickness between 230mm and 254mm in class 150 in cement mortar 1:4 (1cement : 4 coarse sand) in walls, chambers etc. at all heights, places and position above plinth including raking out joints, curing, scaffolding, complete but excluding plastering and painting, using bricks of class designation 75 or best locally available quality of nominal dimensions as per specification including supply of all material, labour and T & P required for proper completion of work	Cu.M.	494			



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10.3	Providing brick work of thickness between 115mm and 127mm in cement mortar 1:3 (1 cement : 3 coarse sand) in partition walls, chambers etc. at all heights, places and position above or below plinth/graded level including providing 2 nos. 6mm dia. MS bars at every third layer, raking out joints, curing, scaffolding etc. all complete using bricks of class designation 75 or best locally available quality of nominal dimensions excluding plastering and painting as per specification. Cost of providing reinforcement shall be measured seperately under item 4.1	Sq.M.	152			
10.4	Making openings in existing finished brick wall or partition wall including making good the broken edges/surface with cement mortar, fixing concrete section as lintel (concrete section to be paid seperately), painting, finishing to match with existing finishing, scaffolding/ staging works, gas cutting of reinforcement/structural work, cleaning and removing of all debris within 1Km lead etc. all complete and as directed by Engineer.	Sq.M.	105			



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11	DAMP PROOF COURSE INCLUDING ALL MATERIALS, LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS OR AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
11.1	Damp Proof Course 25mm thick 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied before & after the DPC as per specification.	Sq.M.	170			
12	CEMENT MORTAR PLASTER INCLUDING MAKING GROOVES WHEREVER REQUIRED, ALL MATERIALS, SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
12.1	10mm thick plastering in 1:4 cement and fine sand (FM 1.25) mortar over brick work and RCC work including rounding, chamfering, etc. finished smooth including cost of all material labour and T&P required for proper completion of work.	Sq.M.	6,061			
12.2	15mm thick plastering in 1:4 cement and fine sand (FM 1.25) mortar over wall or half brick wall and RCC including rounding, chamfer, etc. finished smooth including cost of all material labour and T&P required for proper completion of work.	Sq.M.	460			
12.3	10mm thick plastering in 1:3 cement and coarse sand (FM 2.2) mortar in ceiling including rounding, chamfer, etc. finished smooth including cost of all material labour and T&P required for proper completion of work.	Sq.M.	451			
12.4	Providing 15mm thick neat plaster in drains/culverts as per specification.	Sq.M.	80			



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13	FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
13.1	Two or more coats of white washing with lime to give an even shade on ceiling including a priming coat complete.	Sq.M.	440			
13.2	Two or more coats of colour wash as per IS 627 of approved brand and manufacture to give an even shade on walls including a priming coat as per specifications.	Sq.M.	500			
13.3	Two or more coats of water proofing cement paint of approved brand and manufacture & of required shade to give an even shade on walls complete.	Sq.M.	3,440			
13.4	Two or more coats of distempering with oil bound washable distemper as per IS:428 of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete over P.O.P.	Sq.M.	200			
13.5	Painting walls with two coats of Plastic Emulsion paint of approved brand and manufacturer of required shade over new surface including one priming coat of water proof oil bound approved primer and finished with BIRALA or equivalent Putty after thoroughly brushing the surface to give an even shade including cost of all material, labour and T&P required for proper completion of work.	Sq.M.	3,212			
13.6	Painting walls with two coats of Acrylic Smooth exterior paint "Trump/Apex paint" or equivalent of required shade over new work (two or more coats applied @3.28ltr/10sqm) over and including base coat of water proofing cement paint "Snowcem Plus" or equivalent applied @2.20kg/10sq. including curing, cost of all material, labour and T&P required for proper completion of work.	Sq.M.	452			



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BILL OF QUANTITIES AND PRICE SCHEDULE (Manufacturing Block and Other Works)

SL NO.	DESCRIPTION OF ITEMS FOR CIVIL & ARCHITECTURAL WORKS OF MANUFACTURING BLOCK AND OTHER WORKS	UNIT	QTY.	RATE		AMOUNT(Rs)
				In Figures ,Rs	In Words, Rs	
13.7	Painting two coats with high gloss super synthetic enamel paint such as Luxol3, or equivalent approved brand or manufacturer over one coat of red oxide paint on steel and other metal surfaces after cleaning and brushing the surface free of dirt, dust, rust etc. to give an even shade including cost of all material, labour and T&P required for proper completion of work.	Sq.M.	1,500			
14	FLOORING AND SKIRTING INCLUDING BASE LAYER AND ALL MATERIALS, LABOUR, CURING, POLISHING ETC. COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS, DESCRIBED IN SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
14.1	Providing and laying granite stone slab of 20mm thickness single piece for wash basin slab of black or approved colour with cutting and opening complete.	Sq.M.	30			
14.2	Providing and laying Heavy Duty dust pressed Ceramic Tiles of size 300x300 (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 13755 of NITCO, ORIENT, SOMAY KAJARIA, SPARTECH or equivalent make in colours such as white, Ivory, Grey, Fume Red Brown, laid on 20mm thick cement mortar 1:3 (1cement : 3 coarse sand) including pointing the joints with white cement and matching pigment etc., complete including cost of all materials and T&P required for proper completion of work thick of reputed manufacturer of approved finish shade and colour.	Sq.M.	25			
14.3	Providing and fixing White glazed tiles of size 150x150mm, 5.5mm to 6mm thk in dado , projecting 6mm uniformly from adjacent plaster or wall finish. The mix for underbed plaster shall consist of 1part cement and 3 parts coarse sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry, including pigments, curing etc all complete.	Sq.M.	60			



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				In Figures ,Rs	In Words, Rs	
14.4	Providing and laying screed concrete 1:1.5:3 by volume laid in slope (with 6 to 10mm nominal size stone chips) including all labour, materials, scaffolding etc. complete for all lifts, all leads and of 50 mm average thickness:-	Sq.M.	300			
14.5	Providing and laying 50 mm thick heavy duty I.P.S flooring in specified panels with glass strips with metallic hardener pigmented topping using 12 mm thick uniform graded treated iron particles in flooring. Under layer of 70mm thick cement concrete mix 1:2:4 (1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded).	Sq.M.	6,626			
14.6	Providing and laying 50 mm thick heavy duty cement concrete with metallic hardener pigmented topping using 12 mm thick uniform graded treated iron particles in skirting and dado. Under layer of 38mm thick cement concrete mix 1:2:4 (1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded) and top layer of 12mm thick metallic concrete complete.	Sq.M.	220			



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				In Figures ,Rs	In Words, Rs	
15	PROVIDING AND FIXING RAIN WATER DOWN TAKE PIPES INCLUDING ALL SPECIALS AND ACCESSORIES ETC. COMPLETE AS PER SPECIFICATION.					
15.1	Supplying and fixing of 110mm dia. PPR Down Pipes of approved colour fixed properly to wall or column with M.S. stays and clamps along with bend/head and shoe required for proper completion of work including supply of all bends, clamps, Tees and specials and as directed by enginner..	RM	90			
15.2	Providing and fixing rain water 150mm including two coats of approved paint over a primary coat, including all specials, bends, shoe, heads and accessories etc complete as per specifications and as directed by engineer	RM	416			



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				In Figures ,Rs	In Words, Rs	
16	MISCELLANEOUS ITEMS					
16.1	Providing and fixing in position 25mm wide and 25mm thick blown bitumen in expansion joints as per specification.	RM	55			
16.2	Clearing the area including chemical treatment antiweeding from approved specialised manufacturer/ agency with 5 years performance guarentee for antiweeding treatment , uprooting of trunks, vegetation, grass bushes etc. including removing of rubbish and its disposal upto 2 km inside or outside plant area as directed and dressing and levelling the ground at existing grade and work to be executed as approved by engineer. rates to include cost of all supplied materials, labours and T & Ps for successful execution of the item	Sq.M.	45,000			
16.3	Providing and fixing bitumen impregnated fibre joint filling board of 25 mm thickness , fillers along with PVC water bar etc for expansion joint in water retaining structures all complete as per specifications, drawing and as directed by Engineer.	RM	55			
16.4	Providing and laying 50 mm thick interlocking machine made clay brick paver flooring over 150 mm thick bed of lean concrete 1:5:10 (1 cement: 5 coarse sand: 10 graded stone aggregate)	Sq.M.	100			
16.5	Supplying and laying of rounded gravels 40mm thick in transformer yards, switch yard floors etc, as directed by Engineer.	Cu.M.	25			
16.6	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75 mm. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing confirming to IS 298 at top of chain link fencing shall be provided with 4 stands of height of 600 mm including all accesories as per specification all complete.Excavation, Concrete ,reinforcement and backfilling quantities as per drawing for erecting chain link fencing shall be measured in relevant items of this BOQ	Sq.M.	70			



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				In Figures ,Rs	In Words, Rs	
16.7	Providing and fixing fire proof steel door shutters (single or double shutter) conforming to IS:3614(part-1 & part-2). Shutters shall be minimum 60mm thick flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers with mineral wool insulation, primer and epoxy based painting including door frame, all fittings complete as per specification. and shall be TAC approved with minimum 2 hrs. fire rating.	Sq.M.	12			
16.8	Providing and encasing of structural steel member with masonry work around flanges, webs etc and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc complete as per specification.	Cu.M.	10			



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				In Figures ,Rs	In Words, Rs	
17	M.S. GATES.					
17.1	Supply, fabrication, erection of galvanised M.S gates as per drawing and specifications complete with all fixures .Excavation, Concrete ,reinforcement and backfilling quantities as per drawing for erecting gate shall be measured in relevant items of this BOQ .	Kgs.	300			
18	SANITARY					
	SUPPLY AND FIXING SANITARY ITEMS AS PER ITEM DESCRIPTION INCLUDING ALL ACESSORIES, SPECIALS, BENDS ETC. AND INCLUDING ALL MATERIAL, LABOUR, T&Ps ACCORDING TO MANUFACTURER'S SPECIFICATION , DRAWINGS AND AS APPROVED AND DIRECTED BY ENGINEER					
18.1	Providing & fixing White Vitreous China water closet Squatting Pan Orissa Pattern W.C. Pan (PARRYWARE, HINDUSTAN or approved equivalent make)of size 580x440 with integral type Foot Rest, Flush Pipe & Over flow arrangement with 100 mm sand cast Dron- P or S Traps 10 ltr. Low level P.V.C. flushing Cistern (of approved make) with fittings, CI/MS brackets 32mm dia. Flush Pile with fittings and clamps.	Each	15			
18.2	Providing & fixing White Vitreous China Flat back or wall corner type, lipped front Urinal Basin (PARRYWARE, HINDUSTAN or approved equivalent make)of size 460x26x350 size with 5ltrs white PVC two way electronic controlled automatic flushing cistern with standard flush pipe and C.P. brass spreaders with fitting and CS/MS brakets	Each	18			
18.3	Providing & fixing White Vitreous China Squatting Plate (PARRYWARE, HINDUSTAN or approved equivalent make)with an integral longitudinal flushing pipe, white PVC automatic flushing cistern, Perryware/Hindware /Seabrid/Orient (coral) with fitting standard size G.I. flush pipe for back and front flush with standard	Each	6			



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18.4	White Vitreous China Wash Basin (PARRYWARE, HINDUSTAN or approved equivalent make) of size 630x450 with CS/MS brackets, 15mm C.P. brass Waste of standard pattern, including painting of fittings and brackets, with single 15m C.P. Brass Pillar Cock.	Each	18			
18.5	Providing & fixing PVC Flexible waste Pipe, of 40mm dia. for sink or wash basin coupling etc. complete	Each	36			
18.6	Providing & fixing Stainless Steel Jali (Grating) with or without hole for waste pipe for N. Trap. Weight not less than 70 grms.	Each	57			
18.7	Providing & fixing Mirror of superior size with bevelled edge with 6mm thick had board back fixed to wall with wooden cleats and C.P. brass screws & washers complete.	Each	18			
18.8	Providing & fixing Mirror of superior quality of Rectangular shape 1500x450mm with plastic moulded frame of approved make and shade with 6mm thick had board back complete.	Each	2			
18.9	Providing & fixing PPR, Water or Vent pipe 110 mm internal dia.	RM	203			
18.10	Providing & fixing PPR, Water or vent pipe 75 mm internal dia.	Each	138			



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				In Figures ,Rs	In Words, Rs	
18.11	Providing & fixing 100mm dia. Inlet & 75mm dia outlet, Sand cast Iron Nahani Trap of self cleaning design with sand cast iron screwed down or hinged grating with or without vent arm complete.	Each	53			
18.12	Providing & fixing Cutting chases in brick masonry or R.C.C. for 100/75mm dia sand cast iron pipes and making good the same with cement concrete 1:3:6 cement, coarse sand and 12.5mm nominal size grit and plastering the surface with 1:4 mortar..	Each	39			
18.13	Providing and laying non-pressure NP2 class (light duty) RCC pipes with collors jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc. complete 300 mm dia.	RM.	167			
19.00	<u>WATER SUPPLY</u>					
	SUPPLY AND FIXING WATER SUPPLY AS PER ITEM DESCRIPTION INCLUDING ALL ACESSORIES, SPECIALS, BENDS ETC. AND INCLUDING ALL MATERIAL, LABOUR, T&Ps ACCORDING TO MANUFACTURER'S SPECIFICATION , DRAWINGS AND AS APPROVED AND DIRECTED BY ENGINEER					
19.1	Providing & fixing Concealed G.I. pipe fitting of 15mm dia. Nominal bore including G.I. fittings as required including painting with anti-corrosive bitumenastic paint and making good the chase.	RM	207			
19.2	Providing and fixing Open G.I. pipe fitting of 20mm dia. Nominal bore including G.I. fittings as required including trenching and refilling including trenching and refilling	RM	270			
19.3	Providing & fixing Open G.I. pipe fitting of 32mm dia. Nominal bore including G.I. fittings as required including trenching and refilling	RM	90			
19.4	Making connection of G.I. distribution branch with G.I./PVC mains of size 50 to 80mm nominal bore including clamps etc. complete.	Each	3			



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				In Figures ,Rs	In Words, Rs	
19.5	Providing and fixing 32mm dia. bore gun metal Gate Valve with C.I. wheel of approved quality.	Each	3			
19.6	Providing and fixing 20mm dia. Nominal bore Brass Ball Valve	Each	6			
19.7	Providing and fixing 15mm dia. Nominal bore Plasticized P.V.C. connection pipe with brass union 45 cms. Length.	Each	57			
19.8	Providing and fixing 150mm dia. C.P. Brass Shower Rose with 15mm dia inlet.	Each	6			
19.9	Providing and fixing 15mm dia. Nominal bore C.P. Brass long body Bib Cock of approved quality confirming to IS:8931 weighing not less than 690 gms.	Each	21			
19.10	Providing and fixing 15mm dia. Nominal bore C.P. Brass Stop Cock (concealed) of approved quality confirming to IS:8931.	Each	6			



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19.11	Providing and fixing 15mm dia. Nominal bore C.P. Brass Angle Valve of approved quality confirming to IS:8931	Each	57			
19.12	Providing and placing on terrace 1000ltrs. Capacity high density polyethelene water storage tank of approved brand and manufacturer e.g Sintex or equivalent with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes and the base support for tanks and including float ball valve of standard quality.	Each	6			
19.13	Supply and fixing 100mm internal dia S.W. Pipe over a concrete bed laid in 1:4:8 Cement, fine sand (F.M. 1.25) and 40mm gauge stone aggregate including jointing of pipes with Jute and 1:1 cement and fine sand.	RM	108			
19.14	Supply and fixing 150x100mm size square mouth S.W. Gully Trap P type, with C.I. grating, brick masonry chamber, and water tight C.I. cover frame 300x300mm size inside The wt. of cover & frame to be not less than 7.2 kg.	Each	12			
19.15	Constructing brick masonry Man holes in 1:4 cement mortar of inside size 900x800 and 450mm, with circular C.I. cover & frame(Heavy Duty) of size 560 internal diameter along with inside plaster 15mm thick with 1:3 cement mortar along with providing galvanised rungs as per drawing with a floating coat of neat cement and making channels in cement conc. 1:2:4 mix and finishing smooth including curing and testing	Each	6			
19.16	Providing & fixing "POLYPROPYLENE RANDOM TYPE 3" pipe for Main Water supply 110 mm internal dia. including embedding the pipes 450mm below ground level, laid over soft sand bed including all bends, Tees , specials, clamps etc. including complete supply as per manufacturer's specifications including cost of all material, labour and T & P required for proper completion of work.	RM	460			
						GRAND TOTAL=