

VOLUME - II

PRICE BID  
SPECIFICATION

PROJECT: Civil, structural & Architectural works, rerouting of sewer lines, connection pipeline of factory & township sewage & permeate pipeline to Lake for 2x4 MLD Sewage Treatment Plant for BHEL Township, HPEP, R.C.Puram

BHARAT HEAVY ELECTRICALS LIMITED

	TENDER NO.: HY/PE&SD/E&C/ STP-HPEP/CIVIL/001 Project :: Civil, structural & Architectural works, rerouting of sewer lines, connection pipeline of factory & township sewage & permeate pipeline to Lake for 2x4 MLD Sewage Treatment Plant for BHEL Township, HPEP, R.C.Puram	REV00
	PRICE SCHEDULE FOR Civil, structural & Architectural works, rerouting of sewer lines, connection pipeline of factory & township sewage & permeate pipeline to Lake for 2x4 MLD Sewage Treatment Plant for BHEL Township, HPEP, R.C.Puram	
	Name of the Bidder ::	Price offer no and Date :
	NOTES ::	
1	This document details the price/payment schedule format for the enquiry. No other format will be entertained and evaluated.	
2	Duly signed & stamped unpriced price schedule format shall be submitted along with Technical offer by bidder as a token of his concurrence that his price schedule is to be submitted in this format & prices shall be offered for all the items appearing in this price format .	
3	Bidder shall fill up prices of all items and submit to BHEL in separate sealed cover. All prices shall be submitted including of all taxes, (except service tax which is payable separately. Please refer, chapter: VIII, Part - I of TCC for details)	
4	Total of price for all the items of "Schedule of Quantities" put together shall be considered for evaluation of the financial bid and for ascertaining the L-1 bidder. Any discount offered by the bidder on overall price or at the time of reverse auction will be uniformly applied on all the individual items for execution & billing purposes.	
5	For payment purpose, final contract value will be as per clause 2.14 of GCC	
6	All the bills will be settled from BHEL, PE&SD, -Hyderabad only.	



**SCHEDULE OF QUANTITIES**

Name of work: Civil, structural & Architectural works, rerouting of sewer lines, connection pipeline of factory & township sewage & permeate pipeline to Lake for 2x4 MLD Sewage Treatment Plant for BHEL Township, HPEP, R.C.Puram

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
<b>100 EARTH WORK</b>						
<b>Earth work In excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification, drawing and as directed by engineer- in-charge for the following.</b>						
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500 m, spreading/levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	16288			
b	Depth exceeding 2 m but not exceeding 4 m	CUM	12635			
c	Depth exceeding 4 m but not exceeding 6 m	CUM	1502			
103	<b>Earth work in excavation in soft rock</b> (rock without any recovery of excavated materials in the form of hard stone/boulder) including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, dewatering (wherever required), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500 m, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	175			
b	Depth exceeding 2 m but not exceeding 4 m	CUM	95			
c	Depth exceeding 4 m but not exceeding 6 m	CUM	20			
104	Earth work in excavation in hard rock requiring blasting (but excluding controlled blasting) including wedging, line drilling, pre shearing etc as required, setting out, levelling, dewatering (wherever required), dressing the sides & bottom, all lifts, necessary licenses/statutory clearances for blasting, supply, storage & handling of blasting materials, stacking/disposal of surplus excavated material within a lead upto 500m, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	25			
b	Depth exceeding 2 m but not exceeding 4 m	CUM	25			
c	Depth exceeding 4 m but not exceeding 6 m	CUM	25			
108	Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected materials <b>directly from excavation</b> and compacted as specified including watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.					

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	21445			
109	Extra over ST No. 101 and 103 to 107 for carriage of excavated earth/selected materials for every 1 km or part thereof beyond an initial lead of 500m.	CUM	8981			
110	Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 200 mm thickness <b>using/with approved borrowed soil(i.e; Cohesive or fine grained soils with more than 50 percent passing the Number 200 sieve and with liquid limit less than 45)</b> (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty (if any), watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.					
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	7507			
<b>200</b>	<b>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) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.</b>					
201	<b>Concrete of grade M7.5</b> (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as <b>filling course</b> at any depth below finished floor level, under and around foundations/floors, mass fill etc. (cement will be supplied free of cost)	CUM	702			
204	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades.					
b	M20 Grade (Cement will be supplied free of cost)	CUM	432			
205	Providing and laying Ready Mix Concrete of approved supplier with Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size <b>in foundations/substructure, grade slab, paving, drains, under floors</b> 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 <b>as per specification &amp; drawing for the following.</b>					
a	M25 Grade	CUM	465			
206	Providing and laying Ready Mix Concrete of approved supplier with Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size <b>in superstructure</b> at any level above 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 <b>as per specification &amp; drawing for the following.</b>					
a	M25 Grade	CUM	200			

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
213	Providing and laying Ready Mix Concrete of approved supplier with Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete <b>in precast works</b> like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.					
a	M 25 grade	CUM	34			
214	Providing and laying Ready Mix Concrete of approved supplier with Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete <b>in water retaining/conveying structures</b> including addition of suitable plastisizer cum waterproofing cement additives conforming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per IS 2545 and specification with 20 mm nominal size graded aggregate for following grades.					
a	M 25 grade	CUM	1757			
200 S	Rebate for doing M-25 concreting in item nos. 205a, 206a, 213a & 214a with in-situ concrete production with concrete mixer using the same design mix of the respective items.(Cement will be supplied free of cost for these quantities of concrete)	CUM	1000			
215	<b>Dismantling concrete</b> work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, <u>specification and instructions of engineer in charge.</u>					
a	Plain cement concrete of all grades	CUM	10			
b	Reinforced cement concrete of all grades	CUM	10			
216	<b>Chipping of concrete</b> in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions, making good the broken surface etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement .	CUDM	10			
217	Extra over and above St No 216 for <b>cutting of reinforcement</b> , all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross sectional area of reinforcement cut.	SQCM	10			
<b>300 FORM WORKS</b>						
<b>Providing, fixing and removing formwork at any elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering complete including pockets etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.</b>						
301	<b>Fairface form work</b> with good quality water proof ply wood of required thickness and smooth surface <b>below finished ground floor level</b> for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	4998			

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
302	<b>Fairface form work</b> with good quality water proof ply wood of required thickness and smooth surface <b>above finished ground</b> floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches, circular overhead tanks etc. for all heights.	SQM	3321			
304	Providing, fixing and removing <b>formwork in block-outs/pockets</b> and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.					
a	Upto 150 mm depth	Each	150			
b	Pockets of depths more than 150mm and upto 300 mm depth	Each	150			
<b>400 REINFORCEMENT</b>						
402	Providing, straightening, cutting, bending, placing in position at any level, binding in position of <b>steel reinforcements of TMT steel of grade Fe-500</b> confirming to <b>IS:1786</b> including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (Reinforcement steel will be provided free of cost)	MT	293			
<b>500 WATER PROOFING WORKS</b>						
<b>Water proofing works including all labour, material, equipment, transportation, handling, curing, sampling, testing etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
501	Providing and laying <b>underbed grading plaster with cement mortar 1:4</b> (1 cement : 4 sand) and average thickness of 25 mm including preparation of surface, batching, mixing, leveling etc. all complete.(cement will be provided free of cost)	SQM	459			
502	Providing and laying in-situ <b>light weight foam concrete insulation</b> as per relevant IS Code in suitable panels over roofs followed by a layer of 15 mm thick cement sand plaster 1:5 (1 cement: 5 coarse sand) after the curing period of laid foam concrete and providing of expansion joint at intervals as per the recommendation of manufacturer. The insulating properties shall be such that the thermal conductivity shall not exceed 0.125 Kcal/sqm-hr deg C. Cost shall include making of fillets, cleaning & preparation of surface, expansion joints at suitable intervals etc all complete for following.(Cement will be provided free of cost)					
a	Average 50 mm thickness	SQM	459			
503	Providing and applying <b>bitumen felt water proofing for normal treatment</b> having bonding materials consisting of blown type conforming to IS: 702 or residual bitumen conforming to IS: 73 or a mixture of the two with one layer of felt consisting of five courses and with a minimum overlap of 75 to 100 mm of felt including preparation of surfaces etc all complete. (For description of layers refer specification)					
a	<b>With hessian base felt</b>	SQM	459			
513	Providing and applying concrete structures two coats of ERPB (Epoxy rasin based anticorrosive and chemical resistant paint) over a coat of CPCI (concrete penetrating bipolar corrosion inhibitor) with 300 to 325 micron DFT for protection of concrete against carbonation and chloride penetration in saline/marine environment all complete of approved make and as per manufacturer's recommendation	SQM	4226			
<b>600 JOINTS AND FILLERS</b>						
<b>Joints &amp; fillers including all labour, material, equipment, transportation, handling etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>						

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
602	Providing and applying <b>polysulphide based sealant</b> conforming to IS:12118 in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves:					
a	12mm X 25mm	RM	1000			
603	Supplying and filling in position hot applied <b>bitumin sealing compound</b> (Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
a	10mm X 40mm	RM	500			
606	Providing and fixing <b>PVC water stops</b> in joints conforming to IS 12200 & IS 15058 all complete for the following:					
d	230 mm wide and 6 mm thick	RM	500			
<b>700 MS EMBEDMENTS</b>						
<b>Embedments including all labour, material, equipment, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.(Supply of raw material, i.e. structural steel will be free of cost by owner)	MT	5			
703	Fixing of embedments, inserts, pipe sleeves, angle pieces, anchor bolts of various diameters, plates of dimensions as required etc. including scaffolding, setting in position, transportation from BHEL site stores to work spot etc. all complete.	MT	1			
705	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.					
a	MS pipes of all diameters	Quintal	5			
b	PVC pipes / conduits of all diameters	Quintal	1			
<b>800 GROUTING</b>						
<b>Grouting including all labour, material, equipment, roughening surface, cleaning, ramming, curing etc. at any level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.</b>						
804	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with <b>ConbextraGP-1 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	7			
805	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing, etc. all complete with <b>Conbextra GP-2 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	1			
<b>900 DOORS, WINDOWS, VENTILATORS, LOUVERS</b>						
<b>Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material, equipments, transportation, handling, preparation of working drawings etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
901	Providing and fixing <b>wooden frame conforming to IS 4021</b> made of best quality seasoned CP teakwood free from large or loose knots, cracks or other defects including sand paper smoothening, hold fasts, beading, primer and finish painting / polishing etc. all complete with proper wood joinery, accurately set to required lines or levels and rigidly secured in place. (Finish painting / polishing paid separately)	CUM	1			
902	Providing and fixing <b>teakwood frame panel door</b> shutter as per IS 1003 with 35 mm x 150 mm vertical rail & 35mm x 125 mm horizontal rail and 12 mm thick interlocked panels of teakwood with proper wood joinery including beading, preparation of working drawings, godrej or equivalent make mortice lock with handels on both sides, approved ISI mark anodised fittings like door stopper, 300mm long tower bolts, 16x300mm long aldrops, 125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fitting shall be anodised aluminium color dyed), screws, primer and finish painting / polishing etc. all complete. (Finish painting / polishing paid separately)	SQM	10			
904	Providing and fixing <b>single or double steel door shutters with 45mm thk flush design shutter</b> 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 centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	SQM	30			
905	Providing and fixing <b>single or double steel door shutters with 18 gauge M.S. sheets shutter</b> presenting a flush surface on the outside and inside stiffened with semitubular edge and central stiffening rail which shall convey the lock including fixtures, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	SQM	32			
906	Providing and fixing <b>anodized extruded aluminium doors (single or double shutter)</b> conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 ( minimum anodized coating of grade AC15 ). fixed with rawl plugs, expansion fasteners, SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. <b>Glazing shall be clear float glass of 6mm thickness</b> including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately)	SQM	8			
907	<b>Providing and fixing fire proof steel doors</b> (single or double shutter) with panic devices shall be 45mm thk 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 including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	SQM	5			
908	Providing and fixing <b>steel windows/ventilator</b> with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision. including all fittings, metal beadings, hold fasts, shop and final painting, glazing etc. all complete. (Glazing shall be paid separately)					
a	<b>openable type</b>	SQM	20			
b	<b>fixed type</b>	SQM	2			

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909	Providing and fixing <b>anodised aluminium work</b> of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metalllic protection etc.including preperation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately).Weight of aluminium section only shall be measure.	Kg	5			
913	Providing and fixing in <b>position rolling shutter of hot rolled double dipped galvanised steel</b> lath section of <b>18 SWG tested mild steel strips</b> at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath).					
b	<b>Mechanically Operated</b>	SQM	15			
915	Providing, fixing and fitting of <b>glazing of first grade class</b> in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.					
b	4 mm thick clear float glass	SQM	20			
d	6 mm thick wired glass	SQM	20			
h	6 mm thick clear toughened safety glass	SQM	20			
<b>1000 BRICKWORK</b>						
<b>Brickwork masonry including all labour, material, equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge.</b>						
1002	Providing <b>brick work</b> in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position <b>above plinth</b> including raking out joints, curing, scaffolding etc complete excluding plastering and painting. (Cement will be supplied free of cost)					
d	Using <b>burnt clay bricks</b> of class designation 5.0 of nominal dimension	CUM	320			
<b>1100 DAMP PROOF COURSE</b>						
<b>Damp proof course including all labour, material, equipment, transportation, handling, shuttering, centering, curing etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>						

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1101	Providing Damp Proof Course 40mm thick 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied one before & one after the DPC. (Cement will be supplied free of cost)	SQM	41			
<b>1200 CEMENT MORTAR PLASTER</b>						
<b>Cement mortar plaster including making grooves wherever required including all labour, material, scaffolding, curing etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.(cement will be supplied free of cost)	SQM	632			
1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification all complete.(Cement will be supplied free of cost)	SQM	656			
1204	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.(Cement will be supplied free of cost)	SQM	125			
1208	Providing drip coarse on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer in charge.	RM	100			
<b>1300 FINISHES TO CONCRETE / PLASTERED SURFACES</b>						
<b>Finishes, painting to concrete, plastered surfaces including all labour, material, equipment, surface preparation, scaffolding etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
1301	Two or more coats of white wash/ colour wash as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	167			
1302	Two or more coats of Exterior masonry paint (water or solvent base) of special resins, adhesives and additives mixed with fine, hard stone aggregate and suitable pigment. The paint shall be applied on a coat of primer over dried, prepared plaster surface as manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent, alkali resistant and extremely durable with color fastness as per specification.	SQM	450			
1303	Providing and applying two or more coats of oil bound destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	766			
<b>1400 FLOORING AND SKIRTING</b>						
<b>Flooring and skirting at any level including base layer, labour, material, equipments, transportation, handling, curing, polishing etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):(Cement will be supplied free of cost)	SQM	70			

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1422	Providing & fixing <b>Acid / Alkali resistant (Chemical resistant) tiles</b> confirming to IS:4457 in <b>flooring/Dado</b> and shall be laid over bitumastic lining of min 12mm thick ( to be laid in layers of 6mm each). The tiles shall be applied with 6mm thick Potassium Silicate bedding mortar as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable.					
a	20mm thick	SQM	648			
1503	Designing, providing and fixing <b>External sheet of Permanent colour coated metal cladding with troughed M.S. sheets of 0.6mm</b> bare metal thickness having minimum yield strength 250 MPa and zinc-aluminium alloy coating not less than 275 gm/sqm total on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer. Inner face of the sheet shall be provided with suitable pre-coating of minimum DFT 7 microns over suitable primer. The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability.	SQM	427			
<b>1600 FALSE CEILING</b>						
<b>False ceiling including all labour, material, equipment, transportation, handling, suspension system etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
1601	Providing and fixing <b>glass fibre reinforced gypsum plaster board (GRG) ceiling</b> (having gypsum core mixed with glass fibre) system consisting of metal supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preparation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer.					
a	12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame and finished flat (seamless).	SQM	35			
<b>1700 RAIN WATER DOWN TAKE PIPES</b>						
<b>Rain water down take pipes including all labour, material, transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
1705	Providing and fixing <b>UPVC down take pipes</b> of 110mm diameter- Class 3 as per IS:4985 all complete.	RM	80			
<b>1800 MISCELLANEOUS WORKS</b>						
<b>Miscellaneous works including all labour, material, equipment etc. at any level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.</b>						
1815	Providing and fixing <b>GI rungs</b> in concrete/brick walls having zinc coating of <b>minimum 900 g/sqm</b> etc. all complete.	Kg	451			
1834	Supply & application of Expansion Joints for all types of piping	RM	120			

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
1835	Digging trial pits, taking undisturbed/disturbed soil samples and carrying out plate load tests, as per IS Code, at depth of 1m, 2m and 3m below ground level, including de- watering, if required and back filling after tests, using 600X600mm plates and furnish the safe bearing capacity of soil to be considered for design	Nos	4			
<b>2100 WATER SUPPLY</b>						
<b>Water supply work including men, material, equipment etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
2101	Providing and fixing in position tested heavy duty type <b>chromium plated (CP) brass long neck bib cocks</b> including sockets, union, nuts etc all complete - <b>15mm</b> nominal bore.	EACH	2			
2102	Providing and fixing in position heavy duty <b>brass stop cock</b> of approved quality including all specials etc all complete - <b>15mm</b> nominal bore.	EACH	2			
2104	Providing and fixing <b>GI pipes class B medium class</b> conforming to IS:1239 pipes shall be concealed and painted with anticorrosive paint, <b>complete for internal works</b> with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc <b>all complete for following sizes:</b>					
a	15 mm nominal bore.	RM	50			
b	20 mm nominal bore.	RM	50			
c	25 mm nominal bore.	RM	50			
2105	Providing and fixing <b>GI pipes class B complete for external work</b> with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:					
a	15 mm nominal bore.	RM	5			
b	20 mm nominal bore.	RM	5			
c	25 mm nominal bore.	RM	5			
d	50 mm nominal bore.	RM	5			
2106	Providing and fixing <b>610mmx453mmx6mm thk mirror</b> from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete.	EACH	2			
2110	Providing and fixing <b>C.P. soap holder</b> mounted with C.P. screws etc all complete.	EACH	2			
2114	Providing & fixing in position <b>P.V.C. water tank</b> of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105.					
a	1000 litres capacity	EACH	2			
b	2000 litres capacity	EACH	2			
<b>2200 SANITARY WORKS</b>						
<b>Sanitary work including all labour, material, equipment etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
2201	Supply and fixing <b>glazed vitreous china Wash Basin</b> conforming to IS:2556 part 4 of oval shape with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug, 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required etc all complete.					
a	White	EACH	3			
2204	Providing and fixing <b>colour glazed vitreous china European type water closet conforming to IS:2556</b> with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC) with valveless fittings, necessary C.P connections etc all complete.					
a	Floor mounted	EACH	1			
2206	Providing and fixing white <b>flat back glazed vitreous china urinals</b> of size 440x265x355 mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	EACH	1			
2207	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.					
b	110mm dia pipes	RM	10			
2208	Providing, laying light duty non pressure <b>NP3 class RCC pipes</b> with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following.					
d	600mm dia	RM	2000			
2210	Providing, laying light duty non pressure <b>NP4 class RCC pipes</b> with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following:					
a	450mm dia(cement will be supplied free of cost)	RM	150			
2212	Providing and fixing <b>circular heavy duty C.I. manhole cover of 600 mm dia</b> with frame etc. all complete.	EACH	65			
2213	Providing and fixing <b>square mouth S.W Gully trap</b> grade 'A' complete with CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:					
c	150x150mm P or S Type.	EACH	1			
2216	Providing and fixing <b>heavy duty UPVC floor traps with C.P jalli</b> all complete.	EACH	6			
2217	Providing and installing approved brand single tap <b>water cooler</b> of 80 L cooling capacity all complete.	EACH	1			
2219	Providing and fixing white vitreous <b>urinal partitions</b> of size 675x325x85mm all complete.	EACH	1			
2221	Providing and installing underground RCC Hume pipes of class P-1 as per SI:458 of following diameters with collars,at all depths including bedding, jointing, providing supports etc. all complete as per drawing and specifications . (excavation and backfilling to be measured seperatly under relevant items)					

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
c	300mm dia(Cement will be supplied free of cost)	RM	1000			
d	450mm dia(Cement will be supplied free of cost)	RM	250			
<b>2300 STRUCTURAL STEEL</b>						
<b>Structural steel works including all labour, material, equipments, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
2301	Supply, fabrication and erection of <b>structural steel with mild steel rolled section / built up section / combination of both</b> conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), connection design & preparation of fabrication drgs, collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20° C for welding over 20 mm and upto 40 mm & 66° C for welding over 40 mm and upto 63 mm & 110° C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete. Including appointment of a separate agency, approved by BHEL, for review and approval of fabrication drgs, in consultation with BHEL.(Structural steel will be supplied free of cost)	MT	15			
2302	Extra over ST NO. 2301 for <b>blast cleaning of steel structures</b> to near white metal surface(Sa 2 1/2 ) and applying epoxy based zinc phosphate primer in coats of minimum 25 micron (DFT) at shop and 25 micron (DFT) after erection, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc all complete.	MT	15			
2304	Providing and applying two coats of <b>synthetic enamel paint</b> with minimum 50 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 110 microns including protection and cleaning scaffolding etc all complete.	MT	15			
2308	Supplying, fabrication, erection and alignment of factory made <b>galvanised welded grating units</b> with mild steel conforming to IS:2062 in flooring, platforms, drain and trench covers, walkways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	7			

ITEM NO.	DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE (IN RS. IN FIGURES & WORDS)	AMOUNT (IN RS. FIGURES & WORDS)	REMARKS
2310	Providing and fixing in position of <b>permanent mild steel bolts (class 4.6 as per IS : 1367 and grade `C' as per IS: 1363)</b> and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete.	Quintal	1			
2311	<b>Providing and fixing in positing of high strength structural bolts</b> (of property class 8.8 and product grade `C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete.	Quintal	1			
2319	Supply, fabrication and fixing of <b>stainless steel pipe hand railing</b> of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete.	MT	1			
	<b>Total Price (in figures)=</b>					
	<b>Total Price (in words)=</b>					