

# TENDER SPECIFICATION

**BHEL: PSSR: SCT: 1422**

**FOR**

Construction of General civil works in Main Plant  
and other allied structures including architectural  
works for units 1&2 of 2 x 600 MW

at

Shree Singaji TPP (Malwa), Mundi Village,  
Sub PO:Sindhkhal, Khandwa Dist, MP

**VOLUME – II RATE SCHEDULE**



**BHARAT HEAVY ELECTRICALS LIMITED**

(A Government of India Undertaking)

Power Sector – Southern Region

690, Anna Salai, Nandanam, Chennai – 600 035.

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**(A Government of India Undertaking)**  
**Power Sector, Southern Region**  
**690, Anna Salai, Nandanam, Chennai – 35**

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Construction of General civil works in Main Plant and other allied structures including architectural works for units 1&2 of 2 x 600 MW sets at Shree Singaji TPP (Malwa), Mundi Village, Sub PO:Sindhkhal, Khandwa Dist, MP

Volume II RATE SCHEDULE

**BOOK SLNO:** \_\_\_\_\_

Issued to  
M/s

Refer NIT for Last date of submission

Please note this tender document is not transferable

For and on behalf of  
BHARAT HEAVY ELECTRICALS LIMITED

ADDL GENERAL MANAGER / CONTRACTS

Place: Chennai -35

## **PREAMBLE TO THE SCHEDULE OF QTS. (SOQ)**

- 1) Details of the items in this Schedule shall be read in conjunction with the corresponding MPPGCL specifications and other documents and shall have precedence over any contrary statement mentioned any where in this document.
- 2) The work shall be carried out as per construction drawings (which will issued progressively during the execution), specifications, the description of the items in this schedule and/or Engineer's instructions., The layout, sizes and details of the building, structures and foundations may vary at a large extent during actual construction.
- 3) Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.
- 4) Unless specifically mentioned otherwise in the contract, the bidder shall quote his rates for the finished items and shall provide for the complete cost towards fuel, tools, tackle, equipment, constructional plant , temporary works, labour, materials, levies , taxes , transport, layout, repairs, rectification, maintenance till handing over, supervision, shops, establishments, services , temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the works according to the contract.
- 5) The rate quoted shall be inclusive of cleaning the site of any vegetations, dressing and leveling etc., required for commencement of site activities. No separate payment will be made towards the same.
- 6) The rate shall also be inclusive of carrying out survey of site to establish levels and coordinates at suitable intervals, form existing grid levels and coordinates furnished by the owner, establish bench marks, setting out the location and levels of the proposed structures, constructions and making references , pillars and other identification marks etc. No separate payment will be made towards the same.
- 7) Engineers decision shall be final and binding on the contractors regarding clarification of items in this schedule with respect to the other section of the contract.
- 8) Unless otherwise specified in the schedule of items Structural and Reinforcement steel will be issued by BHEL as FREE ISSUE for incorporation in the permanent works as specified elsewhere in this tender document.
- 9) Incase of any discrepancy between item description, relevant drawing and/or specification clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the bidder has quoted for the more stringent requirement.
- 10) Refer the relevant clauses in the GCC for payment of additional items and Quantity variation.
- 11) Refer Clause 26.0 in NIT for order of precedence.



**VOLUME II -RATE SCHEDULE FOR TENDER SPECIFICATION BHEL:PSSR:SCT:1422**

**Construction of General Civil works in Main plant and other allied structures including architectural works 2X600 MW SHRI SINGAJI THERMAL POWER PROJECT ,MALWA .**

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
<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	4000				
b	Depth exceeding 2 m but not exceeding 4 m	CUM	15000				
c	Depth exceeding 4 m but not exceeding 6 m	CUM	18000				
d	Depth exceeding 6 m but not exceeding 8 m	CUM	7000				
e	Depth exceeding 8 m but not exceeding 10 m	CUM	2000				
f	Depth exceeding 10 m but not exceeding 15 m	CUM	1000				
102	Extra over ST No. 101 for dewatering of ground water by <b>well point method</b> as per IS 9759.	CUM	5000				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
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	1450				
b	Depth exceeding 2 m but not exceeding 4 m	CUM	5425				
c	Depth exceeding 4 m but not exceeding 6 m	CUM	6510				
d	Depth exceeding 6 m but not exceeding 8 m	CUM	2530				
e	Depth exceeding 8 m but not exceeding 10 m	CUM	725				
f	Depth exceeding 10 m but not exceeding 15 m	CUM	360				
104	<b>Earth work in excavation in hard rock requiring blasting (but excluding controlled blasting)</b> 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	1100				
b	Depth exceeding 2 m but not exceeding 4 m	CUM	4060				
c	Depth exceeding 4 m but not exceeding 6 m	CUM	4870				
d	Depth exceeding 6 m but not exceeding 8 m	CUM	1900				
e	Depth exceeding 8 m but not exceeding 10 m	CUM	540				
f	Depth exceeding 10 m but not exceeding 15 m	CUM	270				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
105	<b>Earth work in excavation in hard rock requiring controlled blasting</b> including wedging, line drilling, pre shearing etc as required, setting out, levelling, dewatering (wherever required), shoring & strutting (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	850				
b	Depth exceeding 2 m but not exceeding 4 m	CUM	3200				
c	Depth exceeding 4 m but not exceeding 6 m	CUM	3830				
d	Depth exceeding 6 m but not exceeding 8 m	CUM	1490				
e	Depth exceeding 8 m but not exceeding 10 m	CUM	425				
f	Depth exceeding 10 m but not exceeding 15 m	CUM	210				
106	<b>Earth work in excavation in hard rock requiring chiselling</b> including wedging, line drilling, pre shearing etc as required, setting out, levelling, dewatering (wherever required), dressing the sides & bottom, all lifts, 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	750				
b	Depth exceeding 2 m but not exceeding 4 m	CUM	65				
c	Depth exceeding 4 m but not exceeding 6 m	CUM	240				
d	Depth exceeding 6 m but not exceeding 8 m	CUM	290				
e	Depth exceeding 8 m but not exceeding 10 m	CUM	110				
f	Depth exceeding 10 m but not exceeding 15 m	CUM	30				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
107	<b>Back filling</b> 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 <b>selected materials from compulsorily excavated soil</b> available within a lead upto 500m and compacted as specified including re-excavation of stacked earth, 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	8500				
b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	8500				
108	<b>Back filling</b> 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 <b>selected materials directly from excavation</b> and compacted as specified including 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	6000				
b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	6000				
109	<b>Extra over ST No. 101 and 103 to 107</b> for carriage of excavated earth/selected materials for every 1 km or part thereof beyond an initial lead of 500m.	CUM	50000				
110	<b>Back filling</b> upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness <b>using/with approved borrowed soil</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.						

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	15000				
b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	15000				
111	<b>Supplying and filling sand</b> upto any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	2000				
A112	<b>Filling</b> in trenches, plinths, area paving and other underground structures <b>with stone</b> (63 mm down graded), in layers not exceeding 230 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge.	CUM	6000				
A113	<b>Filling</b> in transformer pits etc. , with clean 40 mm nominal size <b>stone aggregate</b> including all labour, materials, royalties, equipments etc. complete as per instructions of engineer in charge.	CUM	50				
<b>200 CONCRETE WORKS</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.	CUM	500				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
202	Concrete of <b>grade M10</b> (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as <b>lean concrete, levelling course</b> , mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	3000				
203	Concrete of <b>grade M15</b> (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as <b>lean concrete, levelling course</b> , mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	500				
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.						
a	M15 Grade	CUM	500				
b	M20 Grade	CUM	8500				
205	Providing and laying 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	6000				
206	Providing and laying 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>						

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
a	M25 Grade	CUM	13500				
b	M30 Grade	CUM	1500				
A207	Providing and laying Design Mix cement concrete confirming to IS:456 & IS 10262-2009 for reinforced concrete works of grade <b>M-30 Grade</b> in machine foundations like MDBFP/TDBFP etc at all elevations below/above finished floor level <b>except top decks</b> like TG deck supported over vibration isolation system including addition of suitable plasticizer conforming to IS 9103(latest) to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate in concrete all complete as per specification & drawing.	CUM	1000				
A209	Extra over St. No. 205, 206 & A207 for <b>controlling of temperature</b> of fresh concrete to less than 23 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	1000				
A210	Extra over ST Nos. 205, 206 & A207for <b>conducting UPV test</b> for concrete at all levels including all equipments, making necessary arrangements, staging, submission of report etc. all complete as directed by engineer in charge and as per specification.	CUM	1000				
211	Providing and <b>encasing</b> of structural steel member with <b>concrete</b> using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades. (Payment of welded wire mesh, chicken wire mesh shall be made separately)	CUM	1000				
a	M20 grade	CUM	1000				
212	<b>Screed concrete</b> 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, drains etc complete as per following.	CUM					

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	270				
Aa	1:3:6 (1 part cement, 3 part sand, 6 parts of aggregate by volume)	CUM	600				
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajjas, 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, transporting, 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.						
Aa	M 20 grade	CUM	150				
a	M 25 grade	CUM	150				
214	Providing and laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures 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	2000				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
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, specification and instructions of engineer in charge.						
a	Plain cement concrete of all grades	CUM	100				
b	Reinforced cement concrete of all grades	CUM	200				
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	350				
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	500				
<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>							
A301	<b>Ordinaryface form work below finished ground floor level</b> for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	10000				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
A302	<b>Fairface form work</b> with good quality water proof ply wood of required thickness and smooth surface <b>below &amp; above finished ground</b> at all floor level for foundations, walls, columns, trenches, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches, circular overhead tanks etc. for all heights.	SQM	69000				
A303	<b>Fairface Formwork</b> with good quality water proof ply wood of required thickness and smooth surface <b>for Decks</b> superstructure (above base raft level) including preparation of scheme, designing, submission and approval of staging drawing with sufficient props, braces and ties at every tier of height of approx. 4m for all heights.	SQM	4000				
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	2000				
b	Pockets of depths more than 150mm and upto 300 mm depth	Each	2000				
c	Pockets of depths more than 300mm and upto 600 mm depth	Each	200				
d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	100				
305	<b>Fairface plywood with flimface/laminated formwork</b> above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches, circular overhead tanks etc. for all heights where ever specifically mentioned in the drawing.	SQM	1000				
<b>400 REINFORCEMENT</b>							

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
402	BHEL will supply Reinforcement Steel as a free issue. However transporting from BHEL stores is in agency's scope. The Steel will be issued to the agency in standard lengths. In some instances for 8mm, 10mm & 12mm dia steel will be supplied in coil form. No extra claims against issue of non-standard lengths and de-coiling of 8mm, 10mm & 12mm.  Straightening, cutting, bending, placing at any level, binding in position High yield strength steel reinforcements in concrete including cost of binding wire, labour, transportation of reinforcement steel from BHEL stores with in the plant boundary to work spot, loading, unloading etc. complete all as per specifications & drawings.	MT	2700				
<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>							
A501	Providing and laying <b>underbed grading plaster with cement mortar 1:4</b> (1 cement : 4 sand) and average thickness of 15mm including preparation of surface, batching, mixing, leveling etc. all complete.	SQM	13000				
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.						

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
b	Average 75 mm thickness	SQM	13000				
506	Providing and applying PU based water proofing treatment with <b>one coat of polyurethane</b> or any other equivalent material based primer with an application rate of minimum 6 sq.m per litre and <b>two successive liquid coatings of high solids content urethane pre-polymers</b> or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gm/sqm/coat application rate. Item includes surface preparation, polyscrim cloth /fabric for edges, joints & vulnerable points etc all complete as per specifications and directions of engineer in charge.	SQM	13000				
507	Providing and laying wearing course consisting of <b>25mm thick plain cement concrete</b> of grade M15 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	13000				
A508	Providing and laying <b>cement concrete chequered flooring tiles</b> of 20 mm thickness and size 250x250 mm / 300x300 mm conforming to IS 13801 with 15 mm thick 1:4 cement mortar over the top most layer of roofing treatment in pathway and entire equipment area with fine joints including sealing of joints (silicon/elastomeric sealant) etc all complete. (Water proofing, underbed 15mm CM1:4 & Foam concrete paid elsewhere)	SQM	500				
509	<b>Providing and applying two coats of bitumen grade 85/25</b> as per IS 702 ( @ 1.7kg/sqm)with 1% antistripping compound conforming to IS 6241 in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	3500				
<b>600 JOINTS AND FILLERS</b>							

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
	<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>						
601	Supplying & installation of <b>bitumen impregnated fibre board</b> conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.						
a	12 mm wide joints.	SQM	50				
b	20 mm wide joints.	SQM	30				
c	25 mm wide joints	SQM	250				
d	50 mm wide joints	SQM	1700				
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	60				
b	20mmX25mm	RM	360				
604	Supplying and filling in position hot applied <b>bitumin sealing compound</b> (Grade B) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.						
b	12mm X 25mm	RM	450				
c	20mmX25mm	RM	250				
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>						

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
701	Supply, fabricating and fixing of mild steel embeddings, 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.	MT	300				
702	Same as above with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.	MT	300				
703	Fixing of embeddings, 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	90				
704	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of <b>mild steel foundation bolt</b> assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffener plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete.	MT	150				
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	50				
b	PVC pipes / conduits of all diameters	Quintal	15				
c	UPVC pipes / conduits of all diameters	Quintal	15				
A706	Expansion fasteners (mechanical & galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for brick work/M25 grade of concrete with expansion sleeve -:						
i	Upto 250 kg	Each	200				
ii	Beyond 250 Kg and upto 500 kg	Each	200				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
iii	Beyond 500 Kg and upto 750 kg	Each	200				
A707	Chemically fixed anchor fasteners (galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work of grade M25 or above.						
i	Upto 250 kg	Each	300				
ii	Beyond 250 Kg and upto 500 kg	Each	300				
iii	Beyond 500 Kg and upto 750 kg	Each	200				
A708	Providing and fixing Rebar (reinforcement bar) with Hilti or equivalent Resin bonded epoxy fixing method including anchor fastener, materials, equipment, labour, scaffolding complete as per direction of Engineer. Cost of reinforcement bar is not to be included in this item. Rebar has to be designed for full strength in M30 grade of concrete and the depth of embedment is to be provided accordingly.						
i	12mm Diameter bar	Each	300				
ii	16mm Diameter bar	Each	400				
iii	20mm Diameter bar	Each	200				
<b>800 GROUTING</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.							

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
801	Providing & grouting with <b>cement slurry mix</b> of approved ratio using <b>pressure pump</b> for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at minimum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	200				
802	Providing & grouting of pocket holes, pipe sleeves under base plates, machinery, pipe supporting structures etc. with <b>mix 1:1 (1 cement :1 sand )</b> using non shrink admixture etc. all Complete.	CUM	15				
803	Providing & grouting of pocket holes, pipe sleeves and under base plate of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with <b>mix 1:1:2</b> (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips ) using non shrink admixture. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	15				
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	40				
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	110				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
	<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>						
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 smoothing, 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)	CUDM	800				
902	Providing and fixing <b>teakwood frame panel door shutter</b> 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	40				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
903	Providing, fitting and fixing <b>solid core flush door shutter</b> as per IS 2202 part II, 35mm thick homogeneous particle board bonded with BWP type phenolformaldehyde synthetic resin, particle board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including 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 aldrrops ,125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anodised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately)	SQM	90				
904	Providing and fixing <b>single or double steel door shutters</b> with <b>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	230				
905	Providing and fixing <b>single or double steel door shutters</b> with <b>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	285				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
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	800				
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	185				
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	810				
b	<b>fixed type</b>	SQM	90				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
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-metallic 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, engineer in charge (Glazing and panelling shall be paid seperately).Weight of aluminium section only shall be measure.	Kg	7000				
A909	Extra over ST. No.909 for Proving & fixing automatic Sliding Sensor mechanism of Godrej or equivalent make for doors of Main Control rooms etc including required fastners/fixtures, bearings all complete as per specifications, manufacturer's recommendation and instruction of engineer-in-charge.	Each	<b>3</b>				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
AA909	Providing, fitting and fixing heavy duty minimum six lever mortised <b>lock</b> of godrej or equivalent make with handles or knobs to single and double leaf door (wooden/steel/aluminium) with duplicate set of keys and masterkeyed locks, openable from one side by the key and from the other side by the handle etc. all complete as per drawing, specification and instruction of engineer in charge.	Each	130				
911	Providing and fixing of door closers as per IS 3564 ,of approved make & quality all complete of following type :						
a	Over head hydraulic door closures	Each	105				
b	Floor mounted Hydraulic door closers	Each	16				
912	Providing and fixing <b>pressed steel frames</b> fabricated from <b>16 gauge M.S sheet</b> mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars , paintings etc all complete as per specifications.	Kg	2500				
913	Providing and fixing <b>in position rolling shutter of hot rolled double dipped galvanized 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 galvanized steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath).						
a	<b>Hand Operated</b>	SQM	45				
b	<b>Mechanically Operated</b>	SQM	55				
c	<b>Electrically operated</b>	SQM	155				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
914	Providing and fixing <b>PVC doors(25 thk double skin)</b> of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	200				
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	40				
c	5.5 mm thick clear float glass	SQM	105				
d	6 mm thick wired glass	SQM	805				
e	6mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	SQM	60				
f	4 mm thick ground glass	SQM	30				
h	6 mm thick clear toughened safety glass	SQM	120				
i	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)						
j	Two nos. 6 mm thick tinted toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	100				
k	One outer 6mm thick tinted heat-reflecting type float glass and one inner 6mm thick plain float glass hermetically sealed and separated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	95				
l	6 mm thick laminated glass	SQM	400				
916	Supplying and fixing <b>weather stripping</b> of approved make and quality to doors as per instructions of engineer in charge and specification complete.	SQM	200				
		RM	50				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
917	Providing and fixing <b>12 mm thick BWP particle board</b> , decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works).	SQM	110				
918	Providing and fixing <b>steel louvered window with ISMC 100 frame</b> all round including verticals with 18G pressed steel louvers, painting etc. all complete.	SQM	100				
919	Providing and fixing 1 mm thk. <b>MS sheet sliding shutters</b> with frame and diagonal braces of 50X50X6 angle iron, 3 mm MS gusset plates at junction and corners, 25 mm dia pulley, 50X50X6 angle and T-iron guide at the top and bottom respectively including painting etc. all complete.	SQM	100				
920	Roof skylight structure for atrium with 6mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges for sky light for approved shape like dome, pyramidal etc. Joints are properly sealed with sealant, screws with pvc cap, self tapping screws, epdm rubber gasket.etc all complete as per detailed drawing and specification.	SQM	50				
<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>							
1001	Providing <b>brick work</b> in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions <b>below plinth</b> including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.						
a	Using <b>fly ash lime bricks</b> conforming to IS 12894 with crushing strength of 75 kg/cm2	CUM	100				
b	Using <b>clay ash bricks</b> as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash 25%	CUM	100				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
c	Using <b>burnt clay bricks</b> of class designation 7.5 of nominal dimension	CUM	250				
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.						
a	Using <b>fly ash lime bricks</b> confirming to IS 12894 with crushing strength of 75 kg/cm <sup>2</sup>	CUM	200				
b	Using <b>clay ash bricks</b> as per IS 13757 with crushing strength of 75 kg/cm <sup>2</sup> and minimum percentage of fly ash 25%	CUM	200				
c	Using <b>burnt clay bricks</b> of class designation 7.5 of nominal dimension	CUM	7000				
d	Using <b>burnt clay bricks</b> of class designation 5.0 of nominal dimension	SQM	1000				
1003	Providing <b>brick work</b> in cement <b>mortar 1:4</b> (1 cement 4 coarse sand) in <b>partition walls</b> , chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.						
a	Using <b>fly ash lime bricks</b> confirming to IS 12894 with crushing strength of 75 kg/cm <sup>2</sup>	SQM	500				
b	Using <b>clay ash bricks</b> as per IS 13757 with crushing strength of 75 kg/cm <sup>2</sup> and minimum percentage of fly ash 25%	SQM	200				
c	Using <b>burnt clay bricks</b> of class designation 7.5 of nominal dimension	SQM	1500				
1006	<b>Breaking</b> of existing brick <b>work</b> at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	50				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1007	Providing and <b>encasing</b> of structural steel member with <b>masonry work</b> 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. (Chicken wire mesh to paid separately)	CUM	150				
1009	<b>Making openings</b> in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	70				
1010	Supply and placing in position <b>mild steel wire fabric</b> of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	1800				
1011	<b>Filling existing brick wall/ partition wall opening</b> at all level including making good the broken edges/surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/supporting at any level, removal of debris upto a lead of 1 km including loading, unloading, transportation etc. all complete.	SQM	140				
1012	Providing and filling <b>brick bats in soak pits</b> all complete.	CUM	150				
<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>						
1101	<b>Providing Damp Proof Course 40mm thick 1:1.5:3 concrete</b> (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.	SQM	400				
<b>1200 CEMENT MORTAR PLASTER</b>							

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
	<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 <b>18mm thick plaster</b> in two layers <b>outside</b> the building/boundary wall in cement <b>mortar 1:6</b> on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	24700				
1202	Providing <b>12mm thick plaster inside</b> the building/boundary wall in cement <b>mortar 1:6</b> on walls finished to a smooth finish as per specification all complete.	SQM	24700				
1203	Providing <b>12mm thick plaster</b> in cement <b>mortar 1:6</b> on walls with rough finish all complete.	SQM	12000				
1204	Providing <b>6mm thick plaster on ceiling</b> in cement <b>mortar 1:4</b> finished to a smooth all complete.	SQM	15000				
1205	Providing <b>12mm thick plaster in walls, drains/culverts</b> with a paste of <b>neat cement @ 1kg/sqm</b> and rubbed smooth with trowel etc. all complete.	SQM	750				
1206	Providing and making <b>decorative plaster</b> of all types and design on walls, ceilings, arcs, columns with various thickness upto 18 mm including finishing all complete.	SQM	585				
1207	<b>Forming groove</b> of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battens, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	250				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1208	Providing <b>drip course</b> 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	1200				
1209	Providing and laying <b>encasement to box type steel beams</b> at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over chicken wire mesh including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (chicken wire mesh to be paid separately)	SQM	250				
1210	<b>Ruled pointing</b> in masonry in CM 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	90				
<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 <b>white wash/ colour wash</b> as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	2000				
1303	Providing and applying two or more coats of <b>oil bound destemper</b> 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	1900				
1304	Two or more coats of <b>acrylic distemper</b> of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	5000				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1305	Providing and applying two or more coats of <b>acrylic emulsion paint</b> as per IS 5411 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	6050				
A1306	Providing and applying 2 or more coats of <b>acid/alkali resistant chlorinated rubber paint</b> of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer conforming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	1245				
1307	Two or more coats of <b>fire resistant transparent paint</b> as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications.	SQM	445				
1308	Two or more coats of black <b>anti-corrosive bitumastic</b> painting of approved brand and manufacture to give an even shade complete.	SQM	100				
1309	Two or more coats of <b>synthetic enamel paint</b> of approved make made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to all interior and exterior surfaces complete.	SQM	200				
1310	Providing and applying 3 coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	35000				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1311	Providing and applying <b>resin bonded granular textured finish, for external applications</b> shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	9420				
1312	Providing and applying 2 mm thick <b>plaster of paris punning on walls</b> including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	10000				
1313	Providing and applying ready made <b>Epoxy Paint</b> over areas other than steel structure with suitable pigments of approved shade as per specification and direction of Engineer. The epoxy paint shall be a two pack material and shall be resistant to water, splash, spillage & acidic environment. The epoxy paint coating shall be of 150micron thickness over epoxy primer.	SQM	200				
1315	Providing and applying two or more coats of <b>Acrylic based weather coat paint</b> of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent and extremely durable with color fastness as per specification.	SQM	250				
<b>1400 FLOORING AND SKIRTING</b>							

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
A1401	<p>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.</p> <p>Providing and laying 40 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 28mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 10mm 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):</p>	SQM	12700				
1402	<p>Providing and laying 25 mm thick heavy duty cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates ) flooring with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles in skirting and dado complete as per specification.</p>	SQM	300				
1403	<p>Providing and laying precast polished heavy duty cement concrete tiles (Carborundum topping) of size 300X300X25 thick of approved shade as per IS 1237, including cement mortar bedding of 1:3 (1 cement : 3 sand) jointed with neat cement slurry etc. all complete with pigment to match the shade of the tiles including rubbing, curing, grindig and polishing complete with laying as per IS 1443 etc. all complete for following:</p>						
a	Laid in floors	SQM	1500				
b	Laid in skirting	SQM	100				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1404	Providing and laying <b>interlocking M30 Grade concrete blocks</b> in paving <b>with</b> approved colour and pattern and should be laid on the subbase and bedding as per specifications and recommendations of manufacturer.						
a	<b>60mm</b>	SQM	500				
1405	Providing and laying 50 mm thick floor finish with <b>25mm thk Terrazo Tiles</b> including cement mortar bedding of 1:3 (1 cement : 3 sand) with neat cement slurry etc. all complete.	SQM	960				
1406	Providing and laying <b>polished Kota stone</b> 18mm to 20mm thk in <b>flooring</b> . Under bed shall average 30mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level. The kota stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, polishing etc. all complete.	SQM	6000				
1408	Providing <b>polished Kota stone 18mm to 20mm thk in skirting</b> projecting 6mm from adjacent plaster including cutting brickwall upto the required depth, edging, finishing etc. all complete.	SQM	100				
A1419	Providing and laying <b>granite stone slab</b> of 12mm thickness single piece for wash basin / sink slab /facia of black or approved colour with cutting,making corners,moulding and opening etc. all complete.	SQM	45				
1420	Providing and laying <b>Heavy Duty dust pressed Ceramic Tiles</b> of 7mm thick of reputed manufacturer of approved finish shade and colour including underbed of cement mortar 1:3 with neat cement slurry etc. all complete.	SQM	360				
a	300X300 mm	SQM	360				
b	600X600 mm	SQM	1260				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1421	Providing and laying <b>Heavy Duty dust pressed (grade-5) Ceramic Tiles (Matt Finish) of approved size and 7mm thick</b> of reputed / approved manufacturer (Kajaria,jhonson,Spartek or equivalent) of approved finish, shade and colour. The tiles shall be scratch resistance of minimum 5 on Mohr's scale and shall have a bending strength of 350 Kg./sqm,with Under bed shall average 43mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level including cement mortar all complete.	SQM	440				
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	540				
b	38mm thick	SQM	300				
1424	Providing & fixing chemical resistant <b>(AR)(Acid / Alkali) bricks (75mm thick) conforming to IS:4860 in the floor of neutralization pit.</b> Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by 18mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification.	SQM	250				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1425	Providing and laying <b>polished Marble</b> slabs (Aranga white or equivalent approved shade/color /design) 20 mm thk in <b>staircase landing/skirting and corridors</b> over minimum 20 mm thick underbed of 1 cement : 2 sand : 4 stone aggregates by volume mixed with sufficient water to form a stiff workable mass. The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including moulded marbel nosing, pigments, curing, grinding, making corners, granite polishing etc. complete.	SQM	60				
1426	Providing and laying <b>marble skirting /dado (Aranga white or approved shade/color /design) equivalent of minimum 20mm thickness</b> projecting 6mm from adjacent plaster all complete including underbed cement mortar 1:3, scaffolding etc. all complete.	SQM	25				
1427	Providing and fixing <b>glazed ceramic tiles of approved color and design of size 200x300mm / 300x300mm in dado of approved size</b> , projecting 6mm uniformly from adjacent plaster or wall finish. The mix for underbed plaster shall consist of 1 part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry including pigments, curing etc all complete for following thicknesses:						
a	5mm thick	SQM	300				
b	7mm thick	SQM	200				
1428	Providing and laying <b>3mm thick antistatic PVC flooring / skirting</b> of approved shade, as per IS:3462 and laying as per IS:5318 all complete.	SQM	2000				
1429	Providing and fixing <b>removable type flooring system</b> consisting of <b>fire resistant particle board</b> of size 600X600X35 mm with 0.05 mm thick aluminium foil lining at bottom and with 2 mm thick anti static PVC topping including proprietary floor supporting system complete as per specification.	SQM	115				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1430	Providing and fixing <b>dividing strips</b> in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.						
a	Glass strips 40 mm wide and minimum 6 mm thick.	RM	500				
b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	2500				
A1431	Providing cast in situ <b>Terrazo</b> laying as per IS:2114 with underbed upto height a 2100mm using white cement or cement with coloring pigment in staircase wall dado.	SQM	500				
A1432	Providing marble tile of 6mm thickness in dado including underbed mortar of thickness 1:3. scaffolding etc. all complete.	SQM	200				
<b>1500 ROOFING / SIDE CLADDING</b>							
<b>Roofing / side cladding work including all labour, material, equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>							
A1501	<b>Designing, providing and fixing permanently color coated galvanised MS troughed metal sheet decking plate of approved colour and conforming to class3 of IS 14246 over roof purlins for cast-in-situ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.8mm with minimum trough depth of 38 mm having minimum yield strength of 250 MPa and shall serve as permanent shuttering to the roof slab 100mm thick measured over crest of metal decking &amp; shall have adequate strength to support weight of green concrete and imposed loads of min 150 kg/sqm during construction between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval</b>						

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
	including fixing of plates to purlins, side lapping, end lapping etc. all complete for below mentioned spans. The sheet shall be permanently coated with silicon modified polyester paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising @ 275 gm/sqm including fixing of sheet to purlin with self drilling white zinc plated heat treated carbon steel screws of minimum 5.6 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking.						
a	Span Upto 1800mm	SQM	8500				
b	Span Exceeding 1800mm and upto 2500 mm	SQM	1200				
1502	Providing and fixing <b>shear connectors</b> of mild steel studs having 16mm dia and minimum 75 mm projected length above purlin passing through metal decking as per relevant IS codes and specification.	QUINTA L	40				
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 Polyfluoro 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	1800				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1505	Designing, providing and fixing <b>Inner sheet of Permanent colour coated metal cladding with trenched M.S. sheets of 0.6mm bare metal thickness</b> having minimum yield strength 250 MPa and Zinc-aluminium alloy coating not less than 275 gm/sqm total on both sides of both sheets 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 surface of the sheet shall be permanently colour coated with silicon modified polyester paint of minimum dry film thickness (DFT) 20 microns over suitable primer. Other 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. The sheet shall be fixed directly to side runners and Z spacers as per IS : 277. The sheet shall be fixed at the rate not more than 1500mm center to center to hold the insulation and external sheeting.	SQM	1600				
1507	Providing and fixing <b>insulation of resin bonded mineral wool</b> of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including wrapping in black polythene black supported over weld mesh 75X75X1.6 MM dia to hold in position and application of glue & tying with lacing wire, for glass/rock wool as per manufacturer's recommendation.	SQM	1600				
1508	Providing and installing <b>under deck insulation</b> using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips but excluding cost of insulation.	SQM	1350				
1509	Providing and fixing <b>non metal opaque PVC sheet</b> similar to ONDEX roofing or equivalent including all fixing accessories.	SQM	100				
<b>1600 FALSE CEILING</b>							

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
	<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	2500				
b	12 mm thick GRG board in profile (dome ,curved profiled etc.) with galvanised light gauge steel load bearing supporting GI frame and finished smooth (seamless).	SQM	50				
1603	Providing and fixing <b>permanently colour coated aluminium false ceiling</b> of approved colour and <b>Luxalon 84 C</b> or approved equivalent with corrosion resistant aluminium alloy panels of minimum thickness 0.5mm including 50mm thick mineral wool insulation(density 48 kg/cum) conforming to IS:8183 bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. ( Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301)						
		SQM	1000				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1605	Providing, fixing and laying <b>anodised</b> natural colour matt finished <b>aluminium false ceiling</b> of Jindal/Hindalco make with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm including 50mm thick mineral wool (density 48kg/cum insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer. (Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301)	SQM	900				
<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>							
1701	<b>Providing and fixing HCl down take pipes of 100 mm dia.</b> with water tight lead joint, fixing clamps etc. all complete.	RM	250				
1703	<b>Providing and fixing HCl down take pipes of 150mm dia with water tight lead joint etc. all complete.</b>	RM	700				
1704	<b>Providing and fixing galvanised MS down take pipes of 150 mm dia- Medium quality as per IS:1239(part-1) all complete.</b>	RM	1500				
1707	<b>Providing and fixing GI down take pipes conforming to IS:1239 /IS:3589 of medium duty all complete for following diameters.</b>						
c	200 mm Dia	RM	200				
<b>1800 MISCELLANEOUS WORKS</b>							

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
	<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>						
1801	<b>Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 230 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.</b>	CUM	6000				
1803	<b>Anti termite chemical treatment of soil with Chlorpyrifos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment)</b>	SQM	15000				
1804	<b>Supply and installation of approved 25mm thick vibration damping resilient pads on/around foundation of vibrating equipment and at other locations all complete.</b>	SQM	35				
1805	<b>Providing 50mm thick premix carpet surfacing laid to slope in two layers 30mm and 20mm respectively with 12mm downgraded stone chips mixed with 80/100 grade bitumen @ 52 Kg/Cu.M including compaction etc. all complete.</b>	SQM	200				
1807	<b>Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.</b>	Kg	100				
1808	<b>Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including brass / aluminium screws, rawl plugs etc. all complete.</b>	Kg	100				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
1809	Providing Chemical injection grouting with pressure pump for <b>water retaining concrete structures</b> conforming to IS:6494, including fixing nozzles, cost of approved cement, admixture, curing etc. all complete . Payment shall be made as per the consumption of chemical grout.	Kg	100				
1810	Providing, laying and fixing <b>rails and guide rails in concrete</b> for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete.	MT	10				
1811	Providing and fixing <b>weep holes</b> in Drains consisting of <b>100 mm dia HDPE pipe sleeves</b> with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening covered with 40 mm downgraded aggregates in 300 X 300 mm sq. and 300 mm deep size all complete.	EACH	1750				
1812	Laying of <b>earthing mats/rods</b> including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	30				
1813	Providing <b>Earthing pit</b> as per drawing with charcoal & salt, GI pipes, GI earth electrodes, GI wire, GI strips, brick chamber with covers including associated earthwork etc. all complete.	EACH	20				
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	120				
1816	Providing and fixing <b>PVC pressure release valve</b> of minimum dia 90mm in water retaining structure including 160 mm dia housing pipe of minimum length 3.75 m with perforation as per IS4558, nylon jali, perforated end plug, collar, graded filter, excavation, fixing in concrete slab/wall etc. all complete.	EACH	50				
A1817	Providing and fixing <b>LDPE pipes</b> in concrete/ brick work of following sizes including cutting, fixing and levelling in position etc. all complete.						

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
a	Upto 75 mm dia	RM	75				
b	100 mm dia	RM	300				
c	150 mm dia	RM	280				
d	200 mm dia	RM	280				
1822	Cutting of groove of 10mm X 40mm size with groove cutting machine in concrete paving all complete.	RM	50				
A1823	Providing & fixing of 20 mm square MS bar balustrade of 1000mm length with fixing arrangement in top flat & stair tread as per specification & drawing complete including labour, material, making holes in flooring/tile and making good after proper fixing of balustrade.	Nos	600				
A1824	Providing, fixing aluminium handrail of HINDALCO/JINDAL or equivalent make over MS flat fixed to Square balustrade having fixing arrangements to balustrade complete for for stair handrail as per specification. (balustrade will be paid separately).	RM	400				
<b>2000 FENCING AND GATES</b>							
<b>Fencing and gates including all labour, material, equipment etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>							
2001	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 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing of height of 600 mm conforming to IS 298 at top of chain link fencing shall be provided with 4 strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply of wires with barbs of 16G spaced at 100mm. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts, accessories etc. all complete. (Structural post shall be separately under item 2007)	RM	530				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
2005	Supplying and fixing <b>600mm high G.I. barbed wire fencing on top of boundary wall</b> consisting of min. <b>6 nos.</b> strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply with barbs of 16G spaced at 100mm including GI clips, anchors, accessories etc. all complete. (Structural post shall be separately under ST No. 2007)	RM	530				
2007	Supply and fixing of hot dip galvanised mild steel posts for fencing. Rate of zinc coating shall not be less than 710 g/m2 on steel posts.	MT	3				
2009	Supply, fabrication and installing in position and testing <b>galvanised MS Gates</b> out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, paintings etc. all complete.	MT	3				
<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	100				
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	60				
2103	Providing and fixing in position heavy duty <b>brass full way valve</b> with wheel of approved quality including all specials etc all complete for following sizes:						
a	25mm nominal bore.	EACH	20				
b	50mm nominal bore.	EACH	15				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
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 all complete for following sizes:						
a	15 mm nominal bore.	RM	200				
b	20 mm nominal bore.	RM	150				
c	25 mm nominal bore.	RM	145				
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	95				
b	20 mm nominal bore.	RM	95				
c	25 mm nominal bore.	RM	95				
d	50 mm nominal bore.	RM	95				
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	70				
2107	Providing and fixing <b>610mmx127mmx6mm thk clear glass</b> with C.P Guard rails and mounted on C.P. brackets etc all complete.	EACH	70				
2108	Providing and fixing 25 mm diameter <b>stainless steel towel rails</b> (600mm X 25mm) all complete.	EACH	20				
2110	Providing and fixing <b>C.P. soap holder</b> mounted with C.P. screws etc all complete.	EACH	65				
2111	Providing and fixing stainless steel / C.P. <b>liquid soap dispenser</b> . Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	EACH	65				
2112	Providing and fixing glazed vitreous wall mounted <b>paper holder</b> with suitable cover cum cutter fitted with CP screws etc. sll complete.	EACH	30				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
2113	Providing and fixing chromium plated brass shower rose with 15 or 20 mm inlet all complete.	EACH	15				
2114	Providing & fixing in position P.V.C. water tank 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.						
b	2000 litres capacity	EACH	5				
c	5000 litres capacity	EACH	5				
Ad	10000 litres capacity	EACH	2				
2115	Providing and fixing approved stainless steel sink with integrated drainboard as per IS:13983 of size 915x460x178mm with CI brackets, stainless steel chain with rubber plug 40mm, cp brass waste trap with necessary union complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	5				
<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>							
2201	Supply and fixing glazed vitreous china Wash Basin 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	50				
b	Colored	EACH	50				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
2202	Providing and fixing approved vitreous china laboratory sink of size 600x400x200mm conforming to IS:2556 (part-5) with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste and 40mm CP brass trap with necessary union complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	5				
2203	Providing and fixing stainless steel kitchen sink of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	5				
2204	Providing and fixing colour glazed vitreous china European type water closet conforming to IS:2556 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	15				
b	Wall mounted	EACH	15				
2205	Providing and fixing colour glazed vitreous indian type Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, necessary C.P connections etc all complete.	EACH	80				
2206	Providing and fixing white flat back glazed vitreous china urinals 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	35				
A2207	Supply, laying and jointing Cast iron spun pipe conforming to IS:1536, with lead joint 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.						
a	75mm dia pipes	RM	50				
b	110mm dia pipes	RM	200				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
c	160mm dia pipes	RM	150				
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.						
b	300mm dia	RM	100				
c	450mm dia	RM	100				
b	600mm dia	RM	100				
e	900mm dia	RM	100				
2209	Providing, laying light duty non pressure <b>NP2 class RCC pipes</b> with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following.						
a	150mm dia	RM	100				
b	250mm dia	RM	100				
c	300mm dia	RM	50				
d	500mm dia	RM	50				
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	RM	50				
b	600mm dia	RM	50				
c	900mm dia	RM	20				
2211	Providing and fixing <b>C.I Manhole heavy duty cover of size 600mmx450mm</b> including frame from reputed manufacture etc. all complete.	EACH	10				
2212	Providing and fixing <b>circular heavy duty C.I. manhole cover of 600 mm dia</b> with frame etc. all complete.	EACH	5				
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:						
a	100x100mm P or S Type.	EACH	10				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
b	150x100mm P or S Type.	EACH	15				
c	150x150mm P or S Type.	EACH	10				
2215	Providing and fixing <b>C.I. floor traps with C.P jalli</b> all complete.	EACH	80				
2217	Providing and installing approved brand single tap <b>water cooler of 80 L</b> cooling capacity all complete.	EACH	5				
2219	Providing and fixing white vitreous <b>urinal partitions</b> of size 675x325x85mm all complete.	EACH	80				
<b>A2300 STRUCTURAL STEEL</b>							
	<b>STRUCTURAL STEEL WORKS (BHEL will supply rolled sections like joists, channels, angles, plates, chequered plate, MS/GI pipes, SS plate(6mm thick plate conforming to AISI304) only as a free issue. Balance other materials like Gratings, MS/HT/HSFG bolts, Nuts, Cladding Sheets, MS/SS specials, SS pipes, Washers, Shims, etc. required for incorporation in the permanent works are in the scope of the bidder)</b>						
A2301	Fabrication, erection, alignment, welding, primer painting (primer coat consisting of 2 coats, Minimum 50 micron Dry Film Thickness -DFT per coat) of redoxide zinc-chromate as per IS:2074 & IS:1477 (Parts I & II). One coat to be applied at shop and the other after erection ) of <b>structural steel made from mild steel</b> conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3502 and mild steel rounds, at all elevations involving rolled sections (including mild steel rounds), built up sections fabricated out of plates, rolled sections and combination of plates and rolled sections, in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, gratings, portals, laced purlins, space frames, shear connectors, 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, diaphragm, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails (G.I. & M.S.), toeplates,						

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
	MS Rungs, insert plates, edge angles, embedments, lugs, posts, stays, louvers, lacings, gusset plates, safety chains for walkways adjacent to crane girders etc, collection of steel from BHEL stores, transportation, straightening, making cutting plan, cutting, bending, rolling, grinding, drilling, bolting, erection bolts & nuts (weight erection bolts & nuts not payable, Supply of permanent bolt of grade C mild steel bolts & nuts to be paid separately under ST NO. 2309 (I)), assembly, edge preparation, preheating(minimum preheat and interpass temperature of 20 degrees for welding over 20 mm and upto 40 mm & 66 degrees centigrade for welding over 40 mm and upto 63 mm & 110 degrees centigrade for thickness over 63 mm) & use of low hydrogen/ radiogenic electrodes only as per specification, post heating, testing of welders, inspection of welds, visual inspection, non destructive (as per FQP, Technical specification) and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme.protection against damage	MT	100				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
	in transit, stability of structures, installation of temporary structures (Scaffolding, Access ladders, Working Platforms etc.), setting column bases, surface preparation by means of power tools (ST2/ST3) or as per IS:1477 , touch-up painting, dismantling and removal of all temporary structures (weight of temporary structures not payable) complete with all labour, material, electrodes and other consumables, equipment, testing (mechanical and non- destructive), preparation of fabrication drawings, joint design calculations and all other general and special requirements including appointment of a separate agency, approved by BHEL, for review and approval of fabrication drawings, in consultation with BHEL, prepared by the bidder and all other activities required for completion of the work including return of surplus/ waste steel materials to store etc. as per specification, drawings and instructions of the Engineer. Approval of fabrication drawings does not relieve the bidder from the responsibility of its correctness and accuracy.						
2302	Extra over ST NO. 2301 for <b>blast cleaning of steel structures</b> to near white metal surface(Sa 2 1/2 ) i.e. 2nd quality (requiring at least 95% of the surface completely cleaned) and applying epoxy based zinc phosphate primer in coats of minimum 50 micron (DFT) at shop and 50 micron (DFT) after erection, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc complete as per specification.	MT	5				
2303	Extra over ST NO. 2301 for providing and application of two coats of <b>primer consisting of chemical resistant epoxy resin</b> and hardener (Minimum 1 Kg of primer mix shall be consumed for priming of 4 to 5 m2 area of surface) instead of primer coat of red oxide zinc-chromate, including touch up painting as per specification and instruction of the Engineer.	MT	5				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
2304	Providing & application of <b>synthetic enamel paint of Berger</b> or approved equivalent make and colour in two coats (Intermediate/Under coat and Top/Finish coat) of minimum 50 micron total thickness (DFT) per coat already having primer coats (as per ST NO. 2301) at all elevations to achieve an even shade with all materials, labour, equipment, handling, including protection and cleaning, scaffolding etc. complete as per specification, drawings and instructions of the Engineer. (Total thickness (DFT) excluding primer shall not be less than 100 micron.)	MT	20				
2305	Providing & application of <b>epoxy based colour finish paint</b> in two coats with minimum 50 micron total thickness (DFT) of approved make and shade over steel sections already having primer coats (as per ST NO. 2302) at all elevations to achieve an even shade with all materials, labour, equipment, handling including protection and cleaning, scaffolding etc. complete as per specification, drawings and instruction of the Engineer. (Total thickness (DFT) excluding primer shall not be less than 100 micron.)	MT	5				
2306	Providing & application of <b>anti corrosive synthetic enamel paint of Berger</b> or approved equivalent make and colour in two coats of minimum 50 micron total thickness (DFT) already having primer coats (as per ST NO. 2301) at all elevations to achieve an even shade with all materials, labour, equipment, handling, including protection and cleaning, scaffolding etc. complete as per specification, drawings and instructions of the Engineer. (Total thickness (DFT) excluding primer shall not be less than 100 micron.)	MT	20				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
2307	Supplying, fabrication, transportation, erection and alignment of factory made <b>electroformed hot dip galvanised gratings</b> of steel (having minimum galvanisation of 610 g/sqm as per IS:209) conforming to IS:2062 at all elevations including preparation of design drawings and fabrication drawings in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads, fixing clamps etc. complete with other fittings and fixtures including all taxes, duties, transportation, packing, grinding, drilling, bolting (supply of permanent grade 'C' mild steel bolts and nuts to be paid separately under ST NO. 2309 (i), all welding, edge preparation, cleaning of steel surfaces to near white metal surface (ST2/ST3) by power tools followed by two coats of red lead primer red oxide zinc-chromate primer and two coats of approved colour, enamel finish paint, testing, complete as per specifications, drawings and instructions of the Engineer.	MT	20				
<b>2400 ROAD WORKS</b>							
<b>Providing Road Work including necessary material, labour, machinery, transportation etc as per specification, drawing, relevant IRC &amp; IS codes and as directed by the Engineer-in-charge for the following.</b>							
2401	<b>Preparation of sub grade</b> by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	7000				
2403	Providing, stacking & laying <b>granular morrum</b> for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	3000				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
2404	Providing & laying <b>water bound macadam sub base course</b> in layers of required thickness with crushed stone aggregates 90 to 40 mm down size, stone screening & blinding material including screening, sorting, spreading to template & consolidation with road roller including carriage, spreading & consolidation of blinding material moorum etc all complete.	CUM	3400				
2405	Providing & laying <b>water bound macadam base course</b> in layers of required thickness with stone aggregate 63mm to 40mm size, stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc all complete.	CUM	3400				
2412	Supplying and laying 400mmx150mmx350mm deep <b>precast concrete kerb stone</b> of grade M-20 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	500				
2415	<b>Dismantling of existing road</b> consisting of premix carpet, kerb stone/ brick on edge, bitumen macadam course, WBM, preparing subgrade to receive new WBM including camber consolidation including disposal of debris within a lead of 1 km etc all complete.	SQM	45				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
2416	Providing 20mm compacted thick <b>premix carpet on existing/damaged</b> road surfaces in a single course composed of suitable small size aggregate premixed with a bituminous binder using medium setting grade bitumen on the existing base including tack coat, cleaning of existing surface, mixing, applying, rolling etc all complete.	SQM	45				
	<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>						
A2417	Providing and laying of plain cement concrete of grade <b>M10</b> using 40 mm graded stone aggregate including providing and fixing formwork, compaction etc. all complete	CUM	300				
A2418	Providing and laying <b>cement concrete of grade M25</b> using 20 mm nominal size stone aggregate with approved admixture (if required), provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar)	CUM	2000				
A2419	Providing & laying dry lean cement <b>concrete of grade M15</b> with 20 mm nominal size graded stone aggregate over a prepared sub-grade including compaction, finishing, curing etc all complete.	CUM	300				
A2420	Providing and fixing in position <b>MS dowel bar</b> reinforcement including surface painted with bitumen and greasing, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	50				

SL. NO	DESCRIPTION	UNIT	QTY PER unit	RATE		AMOUNT	
				In Figures	In Words	In Figures	In Words
A2421	Providing, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of <b>TMT steel of grade Fe-500</b> conforming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc all complete as per specification, drawing and as directed by Engineer.	MT	200				
A2422	LDPE liner 125 micron	SQM	3000				
				<b>TOTAL</b>			
	<u>Note to Rate schedule:</u>						
	<b>Refer relevant clauses in the GCC for quantity variation and additional work</b>						