

T E N D E R S P E C I F I C A T I O N

NO: BHE/PW/PUR/WNT2-CVL PHA/1466

(CIVIL AND ARCHITECTURAL WORK OF POWER HOUSE BLOCK)

JOB: All Civil and Architectural work for Power House Block including final micro level grading, backfilling up to required level and handing over of all foundations/buildings/structures to structural/ mechanical/electrical agencies and final handing over to customer for onward operation purposes

AT

**1X800 MW Thermal Power Station, Wanakbori, Distt- Kheda,
Gujarat**

PRICE BID SPECIFICATION - VOLUME- II

TENDER SPECIFICATIONS CONSISTS OF:

- **Notice Inviting Tender**
- **Volume 1 A - Technical Conditions of Contract,**
- **Volume 1 B - Special conditions of Contract,**
- **Volume 1 C - General conditions of Contract**
- **Volume 1 D - Forms & Procedures**
- **Volume 1 E- Technical Specification (Section C&D)**



Bharat Heavy Electricals Limited

(A Government of India Undertaking)

Power Sector - Western Region

345-Kingsway, Nagpur-440001

Date

Seal and Signature

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Gujarat**

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR Refer Notice Inviting Tender
TENDER SUBMISSION .

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME-I AND
VOLUME- II ARE ISSUED TO:

M/s.

.....

PLEASE NOTE:

THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

ADD. GENERAL MANAGER (Purchase)

Place: Nagpur

Date :

Date

Seal and Signature

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Date

Seal and Signature

Volume II Price Bid Specification

T.S.No BHE/PW/PUR/WNT2-CVL PHA/1466

Part A: Instructions to the Bidders

1. **Bidders shall quote One Total Lumpsum Price for the entire scope of work in the format given in PART C in the price bid.** Any other entry elsewhere in the price bid shall be treated as Null and Void.
2. BHEL has fixed the % weightages for the amount of individual items of Schedule of Quantity w.r.t the total quoted price in PART B of Price Bid.
3. Based on the pre-fixed % weightages, amount of individual items shall be derived by BHEL. This amount shall not be rounded off.
4. Based on the quantities of individual item and the amount arrived in Sl No 3 above, item rate of individual items shall be derived by BHEL. This item rate shall be rounded off to two decimal places.
5. The item rates thus derived as in Sl No 4 above, shall be multiplied with respective quantities to arrive at the amount and grand total amount which shall be considered for award of work.
6. For the convenience of bidders, BHEL has issued an excel sheet with all requisite formulae as detailed above. However this excel sheet shall not form part of contract document.

Date

Seal and Signature

Job: All Civil and Architectural work for Power House Block including final micro level grading, backfilling up to required level and handing over of all foundations/buildings/structures to structural/ mechanical/electrical agencies and final handing over to customer for onward operation purposes at 1X800 MW Thermal Power Station, Wanakbori, Distt- Kheda, Gujarat.

ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
100 EARTH WORK						
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.						
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	26320			0.56482372343650
b	Depth exceeding 2 m but not exceeding 4 m	CUM	23030			0.67214023088940
c	Depth exceeding 4 m but not exceeding 6 m	CUM	9870			0.37490174643090
d	Depth exceeding 6 m but not exceeding 8 m	CUM	6580			0.36713542023370
e	Depth exceeding 8 m but not exceeding 10 m	CUM	5950			0.33451030719090
f	Depth exceeding 10 m but not exceeding 15 m	CUM	3966			0.26641660598160
107	Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected materials from compulsorily excavated soil 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 (modified Proctor) as per IS-2720 (Part-VIII)	CUM	22027			0.39233214121330
b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	22027			0.39233214121330
108	Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected materials directly from excavation 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 (modified Proctor) as per IS-2720 (Part-VIII)	CUM	2447			0.04200919898630
b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	2447			0.04200919898630
109	Extra over ST No. 101 and 107 for carriage of excavated earth/selected materials for every 1 km or part thereof beyond an initial lead of 500m.	CUM	26767			0.20678671972610
A111	Supplying and filling sand upto any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted so as to achieve at least 85% 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	2160			0.27626155704440

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PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
200 CONCRETE WORKS						
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, concrete boom placer etc. complete as per drawing, specifications and as per direction of engineer in charge for the following. Cement will be supplied by BHEL free of cost as per TCC.						
201	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors , at any depth below finished floor level etc.	CUM	1000			0.42137956236980
202	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course , mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	1133			0.51219157915970
204	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades.					
b	M20 Grade	CUM	925			0.43782121949450
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 in foundations/substructure, grade slab, paving, drains, under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.					
a	M25 Grade	CUM	17025			9.30207015003070
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 in superstructure 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 as per specification & drawing for the following.					
a	M25 Grade	CUM	6848			4.05460441653910
207	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works of grade M-30 Grade in machine foundations for TG, Gas Turbine, ID/FD/PA fans, BFP, Coal mills at all elevations below/above finished floor level except TG deck and top decks 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	1440			0.94649557975670
208	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 of grades mentioned below for reinforced concrete works using graded aggregate in top decks of all machine foundations supported on vibration isolation system (excluding supply and installation of vibration system) and ton deck of TG foundation at all levels including addition of suitable plastisizers conforming					

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	to IS9103 to achieve a slump more than 125 mm in concrete as per manufacturers recommendation, preparation of scheme for concreting, getting it approved by engineer, labour, materials, equipment, handling, batching, transporting, mixing, pumping, placing, leveling, vibrating, compacting, curing, testing, cleaning and rendering the exposed surface with cement sand mortar to give a smooth and even surface, maintaining and submitting records of concreting, petrographic examination and potential reactivity of aggregate etc. all complete as per specification, drawing and instructions of engineer, including UPV testing as directed by engineer in charge, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/epoxy grout etc, but excluding formwork, staging, reinforcement, embeddments and temperature control of concrete. Payment terms - a) After casting 75% ; b) After receipt of ultrasonic test report - 25%.					
b	M35 grade (with 20mm nominal size graded stone aggregate)	CUM	2290			1.66268229269080
209	Extra over St. No. 205 to 208 for controlling of temperature 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	2290			0.17494676839800
210	Extra over ST Nos. 205 to 207 for conducting UPV test 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	2290			0.52140034064690
211	Providing and encasing of structural steel member with concrete 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)					
a	M20 grade	CUM	340			0.14816045332060
212	Screed concrete 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.					
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	25			0.01512146611440
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, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, 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.					
a	M 25 grade	CUM	68			0.07553188740730
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.Watertightness is to be ensured including structural grouting if required.No extra payment will be made for watertightness test and structural grouting required to make structure waterproof.					
b	M 30 grade	CUM	4263			2.98864462350890

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215	Dismantling concrete 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	7			0.00271892394330
b	Reinforced cement concrete of all grades	CUM	17			0.00932095197160
216	Chipping of concrete 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	25			0.00049893434630
217	Extra over and above St No 216 for cutting of reinforcement , 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	50			0.00113735571420
218	Cutting Reinforced concrete with mechanised tools like Core drilling machine etc. for cutting pockets, holes, cores in slab, beam, column or foundation as per direction of engineer in charge.	CUDM	30			0.00062447266570
219	Providing and applying curing compound of approved make where ever required as per manufacturer's specification.	SQM	150			0.00138414044470
220	Providing & laying Plum cement concrete 1:3:6 with 75% graded metal of maximum size 40 mm and 25% plums of maximum size 150 mm.	CUM	318			0.14669159060490
300 FORM WORKS						
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.						
301	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge.	SQM	33180			2.20728554829070
302	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface 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. including chamfering of edges as per drawing, specification and instruction of engineer in charge.	SQM	27021			2.27884303413860
303	Fairface Formwork with good quality water proof ply wood of minimum 18mm thickness and smooth surface for TG 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.ncluding chamfering of edges as per drawing,specification, and instruction of engineer in charge..	SQM	1942			0.55510340939230
304	Providing, fixing and removing formwork in block-outs/pockets 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	40			0.00317601218320

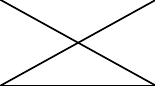

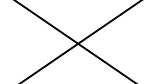

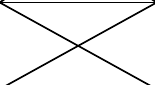

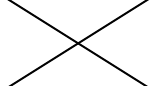

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b	Pockets of depths more than 150mm and upto 300 mm depth	Each	40	 	 	0.00329618561720
c	Pockets of depths more than 300mm and upto 600 mm depth	Each	37	 	 	0.00485135860990
d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	25	 	 	0.00454942285710
e	Pockets of depths more than 1000mm and upto 1500 mm depth	Each	4	 	 	0.00107040194390

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305	Fairface plywood with filmface/laminated formwork 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	300			0.03148114778950
400 REINFORCEMENT						
401	Transportation, straightening, cutting, bending, placing in position at any level, binding of of mild steel reinforcements conforming to grade 1 of IS:432 part 1 in concrete including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (Reinforcement shall be provided by M/S BHEL Free of cost)	MT	46			0.07816165983030
402	Transport from store, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500/500D/ 500EQR confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (Reinforcement shall be provided by M/S BHEL Free of cost)	MT	4285			5.82437500733180
407	Transportation, straightening, cutting, bending, placing in position at any level, binding of at any level, binding in position high yield strength steel reinforcements in brickwork including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.(Reinforcement shall be provided by M/S BHEL Free of cost)	MT	13			0.02208916473460
500 WATER PROOFING WORKS						
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.						
501	Providing and laying underbed grading plaster with cement mortar 1:4 (1 cement : 4 sand) and average thickness of 25 mm including preparation of surface, batching, mixing, leveling etc. all complete. Cement will be supplied by BHEL free of cost as per TCC.	SQM	410			0.00850454516420
A502	Providing and laying rigid insulation (expanded polystyrene blocks) with tounge & groove arrangement for easy application as per relevant IS Code in suitable panels over roofs followed by a layer of 15 mm thick cement sand plaster 1:4 (1 cement: 4 coarse sand) and providing of expansion joint at intervals and filling with sealant in both directions as per the recommendation of manufacturer. The insulating properties shall be such that the thermal conductivity shall not exceed 0.026 Kcal m/m deg C or as per specification. The block shall be strong enough to withstand without deformation the workload and standard loads expected on the roof and water absorbtion capacity of the board should be low (appx. 0.05-0.07%) per relevant IS/ASTM standards. Cost shall include making of fillets, cleaning & preparation of surface, expansion joints at suitable intervals etc all complete for following.					
b	50 mm thickness of rigid insulation (EXPANDED polystyrene blocks)	SQM	7288			1.23553740982660
506	Providing and applying single component PU based bitumen modified water proofing treatment with one coat of polyurethane or any other equivalent material based primer with an application rate of minimum 6 sq.m per litre and two successive liquid coatings of high solids content polyurethane pre-polymers 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	7288			1.10885572603430

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A507	Providing and laying wearing course consisting of 25mm thick plain cement concrete 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.Cement will be supplied by BHEL free of cost as per TCC.	SQM	7288			0.39449614715780
A 508	Providing and laying pressed precast cement concrete chequered flooring tiles of minimum 20 mm thickness and size 250 x 250 mm/ 300 x 300 mm confirming to IS 13801 with 15 mm thick 1:4 cement mortar over the top most/intermediate layer in pathways and entire equipment area with fine joints including sealing of joints (polysulphide sealant) etc all compite. (Water proofing paid elsewhere) Cement for mortar will be supplied by BHEL free of cost as per TCC.	SQM	2342			0.21885456171600
509	Providing and applying two coats of bitumen grade 85/25 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	23700			0.75271488743550
512	Anti termite chemical treatment of soil with Chloropyrifos emulsifiable concentrates (1%) conforming to IS :8944 all complete.	SQM	21200			0.35485498285530

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600 JOINTS AND FILLERS						
Joints & fillers including all labour, material, equipment, transportation, handling etc at any level as per specification, drawings and as directed by engineer - in - charge.						
601	Supplying & installation of bitumen impregnated fibre board confirming 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	126			0.02668751534700
c	25 mm wide joints	SQM	626			0.21480443372560
d	50 mm wide joints	SQM	126			0.05570038664120
A601	Supplying and installation of Dura board HD100 or its equivalent as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc. all complete.					
a	12 mm wide joints.	SQM	126			0.00851729213200
c	25 mm wide joints	SQM	626			0.08815848007030
d	50 mm wide joints	SQM	126			0.03548871721680
602	Providing and applying polysulphide based sealant 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	349			0.01070981351550
b	20mmX25mm	RM	40			0.00192277494330
c	25mmX25mm	RM	120			0.01019757425330
d	50mmX25mm	RM	349			0.05931589024010
603	Supplying and filling in position hot applied bitumin sealing compound (Grade A) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
a	10mm X 40mm	RM	35			0.00009013007540
b	12mm X 25mm	RM	15			0.00002897038140
c	20mmX25mm	RM	15			0.00004828396900
605	Providing and sealing of joints with premium grade silicon sealant (Silpruf of GE silicons or approved equivalent) including cleaning of joints, raking out groove, joint filler tapes, application of primer, curing, scaffolding etc. all complete as per manufacturer's recommendation for following size groove:					
a	25mmX25mm	RM	2160			0.22249252916320
606	Providing and fixing PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following:					
b	230 mm wide and 8 mm thick	RM	1194			0.10582172161070
700 MS EMBEDMENTS						

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ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
Embedments including all labour, material, equipment, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.						
701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	80			1.18571693763280
702	Transport from store, fabricating and fixing of mild steel embedments, inserts, angle, channel, ISMBs, pieces, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete. BHEL will supply plates, angles, channel & ISMB etc. free of cost as per TCC	MT	10			0.04662085451450
703	Assembly, welding, Fixing of embedments, inserts, pipe sleeves, angle pieces, anchor bolts of various diameters, plates of dimensions as required including TG deck foundation bolt (anchor box) , etc. including scaffolding, setting in position, transportation from BHEL site stores to work spot etc. all complete. Fabricated material will be supplied by BHEL free of cost as per TCC.	MT	10			0.03126869832590
704	Transportation from store delivery at site and erection, installation and alignment of mild steel foundation bolt 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	84			0.23156218990070
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	20			0.03728809979490
b	PVC pipes /conduits of all diameter	Quintal	2			0.00755762142360
c	UPVC pipes /conduit of all diameter	Quintal	2			0.00836922129370
d	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide including clamp arrangement as per specification:					
i	Upto 250 kg	Each	15			0.00087876823580
ii	Beyond 250 Kg and upto 500 kg	Each	5			0.00045494228570
iii	Beyond 500 Kg and upto 750 kg	Each	5			0.00073391632880
e	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel including clamp arrangement as per specification:					
i	Upto 250 kg	Each	8			0.00055451455950
ii	Beyond 250 Kg and upto 500 kg	Each	5			0.00052790472770
iii	Beyond 500 Kg and upto 750 kg	Each	5			0.00082941128970
706	Placing, locking and releasing of Vibration Isolation spring modules over the foundation at all elevations including providing all assistance under the supervision of the supplier, transportation from BHEL store, necessary staging, platforms, leveling, alignment etc. all complete.	Each	40			0.01036925058750
800 GROUTING						

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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.						
801	Providing & grouting with cement slurry mix of approved ratio using pressure pump 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. Cement will be supplied by BHEL free of cost as per TCC.	SQM	25			0.00234123600800
802	Providing & grouting of pocket holes, pipe sleeves under base plates, machinery, pipe supporting structures etc. with mix 1:1 (1 cement :1 sand) using non shrink admixture etc. all Complete.Cement will be supplied by BHEL free of cost as per TCC.	CUM	45			0.17783565191230
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 mix 1:1:2 (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).Cement will be supplied by BHEL free of cost as per TCC.	CUM	27			0.07082145790010
804	Providing & grouting(Non shrink precision) 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 ConbextraGP-1 / MasterFlow 718 or equivalent. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor)..	CUM	30			0.34166380252380
805	Providing & grouting (Non shrink precision) 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 Conbextra GP-2 / MasterFlow 928 or equivalent. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	28			0.35410904918310
900 DOORS, WINDOWS, VENTILATORS, LOUVERS						
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.						
901	Providing and fixing wooden frame conforming to IS 4021 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)	CUM	4			0.08965710717040

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e	6mm thick Polycarbonate sheet multi (twin) wall/cell fire retardant and ultra violet resistant with sealed open edges.	SQM	150			0.06737223141470
f	4 mm thick ground glass	SQM	36			0.00434169449270
g	6 mm thick tinted heat reflecting type float glass	SQM	54			0.01499506941340
h	6 mm thick clear float toughened glass	SQM	80			0.02935665315340
i	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 10 mm(min.) thick air gap for thermal insulation (only single elevation area to be measured)	SQM	56			0.03471810507150
m	One outer 6mm thick tinted heat-reflecting type toughened float glass and one inner 6mm thick toughened clear float glass hermetically sealed and separated by 10 mm(min.) thick gap for thermal insulation (only single elevation area to be measured).	SQM	210			0.12284729286730
n	6 mm thick clear float glass	SQM	330			0.05608665839320
916	Supplying and fixing weather stripping of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	400			0.01957110210230
920	Roof skylight structure for atrium/canopy/porch etc. with 6mm thick Polycarbonate sheet multi wall/cell fire retardant and ultra violet resistant with sealed open edges for sky light for approved make, shade & shape like dome, pyramidal etc. Joints are properly sealed with sealant, screws with pvc cap, self tapping screws, epdm rubber gasket with aluminium flats etc. all complete as per detailed drawing and specification.	SQM	250			0.09876754103720
921	Providing and fixing seamless double leaf fully glazed doors on patch fitting with 12mm thick toughened glass, including fittings and fixtures all complete as per specification.(Door closures paid separately)	SQM	10			0.01165467714010
922	Providing and fixing MS grills of approved pattern made out of 25 mm x 6 mm MS flats and 12-20 mm MS square bars for window,ventilator,openings at all heights including painting as per specification.	Kg	578			0.01279432902530
1000 BRICKWORK						
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.(cement will be supplied by BHEL free of cost as per TCC)						
1001	Providing brick work 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 below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					
e	Using fly ash lime bricks confirming to IS 12894-2002 with minimum crushing strength of 50 kg/cm2	CUM	288			0.15552845823310
1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.					
e	Using fly ash lime bricks confirming to IS 12894 with minimum crushing strength of 50 kg/cm2	CUM	5999			4.32745361888280

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1003	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls , 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.					
e	Using fly ash lime bricks confirming to IS 12894 with minimum crushing strength of 50 kg/cm2	SQM	312			0.03154454579970
1004	Providing brick soling including spreading of earth, ramming, watering including 25mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item). Using brick on edge.					
e	Using fly ash lime bricks confirming to IS 12894 with minimum crushing strength of 50 kg/cm2	SQM	17			0.00106889977600
1005	Providing brick soling including spreading of earth, ramming, watering including 25mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item).- Using flat bricks.					
e	Using fly ash lime bricks confirming to IS 12894 with minimum crushing strength of 50 kg/cm2	SQM	547			0.02946330707610
1006	Breaking of existing brick work 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	23			0.00423482597460
1007	Providing and encasing of structural steel member with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification.	CUM	23			0.01394086942350
1008	Providing and laying 75 mm thick bed of dry brick aggregate including of excavation, disposal of surplus earth spreading of earth, ramming, watering etc. complete in all respects as directed by the engineer.	SQM	20			0.00069528915360
1009	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	12			0.00296141676540
1010	Supply and placing in position mild steel wire fabric 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	190			0.01022866912930
1011	Filling existing brick wall/ partition wall opening 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	25			0.00356764882070
1012	Providing and filling brick bats in soak pits all complete.	CUM	59			0.01357273098420
1100 DAMP PROOF COURSE						
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.(Unless specified otherwise, cement will be supplied by BHEL free of cost as per TCC)						
A1101	Providing Damp Proof Course 50mm thick 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied one before & one after the DPC	SQM	250			0.01998055015940

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1200 CEMENT MORTAR PLASTER						
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. Unless specified otherwise, cement will be supplied by BHEL free of cost as per TCC)						
B1201	Providing 20mm thick plaster in two layers(bottom layer 12mm thick with 1:3 cement sand mortar and top layer 8mm thick with 1:1 cement sand mortar with fine sand) outside the building/boundary walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	17322			0.44680593335110
1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification all complete.	SQM	14895			0.30176561299760
A1203	Providing 15mm thick plaster inside building/boundary wall in cement mortar 1:6 on walls with rough finish all complete.	SQM	14895			0.32000451996530
A1204	Providing 10 mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.	SQM	11078			0.36607623942120
1206	Providing and making decorative plaster of all types and design on walls, ceilings, arcs, columns with various thickness upto 18 mm including finishing all complete	SQM	105			0.00429307575480
1207	Forming groove 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 battons, 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	450			0.00309017401610
1208	Providing drip course, moldings, cornices 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	600			0.00257462998440
1209	Providing and laying encasement to box type steel beams 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 enginner in charge.	SQM	2280			0.07695279062220
1210	Ruled pointing in masonry in CM 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	800			0.01052911558990
1300 FINISHES TO CONCRETE / PLASTERED SURFACES						
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.						
1304	Two or more coats of acrylic washable distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	11082			0.17836098149500
1305	Providing and applying two or more coats of acrylic emulsion paint 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	23658			0.60415090889120

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1306	Providing and applying 2 or more coats of acid/alkali resistant paint 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	6130	X	X	0.41437302197900
1307	Two or more coats of fire resistant transparent paint 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	800	X	X	0.06798382835540
1309	Two or more coats of synthetic enamel paint 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	300	X	X	0.00579407628020
A1312	Providing and applying 2 mm thick white cement punning on walls including preparation of surface, staging, etc to achieve a smooth even surface all complete as per specification and as directed by engineer.	SQM	18095	X	X	0.33161708884920
A1313	Providing and applying ready made Epoxy Paint 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 250 micron thickness over epoxy primer.	SQM	1150	X	X	0.14231252789680
B1313	Providing and applying ready made Epoxy oil resistant Paint over areas 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 250 micron thickness over epoxy primer.	SQM	200	X	X	0.02475001915790
1315	Providing and applying two or more coats of Acrylic based weather coat paint 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	16152	X	X	0.44713272926780
1400 FLOORING AND SKIRTING						
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.(Unless specified otherwise, cement will be supplied by BHEL free of cost as per TCC)						
1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	1051	X	X	0.05964264266540

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A 1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with nonmetallic hardener as per specification . Hardener shall of hard granules of mineral origin. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5mm well graded) and top layer of 12mm thick nonmetallic concrete of mix 1:2 (1 cement hardner mix with approved quality nonmetallic 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 suitable aluminium dividing strips):	SQM	7458			0.40722556793630
1402	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.	SQM	105			0.00761068271580
A1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates) flooring with non metallic hardener as per specification in skirting and dado complete as per specification.	SQM	675			0.04747729838910
A1406	Providing and laying mirror polished Kota stone 25mm thk in flooring . Under bed shall average 25mm 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, granite polishing etc. all complete.	SQM	4320			0.87306476346640
A1408	Providing polished Kota stone 18mm thk in skirting projecting 6mm from adjacent plaster including cutting brickwall upto the required depth, edging, finishing etc. all complete.	SQM	85			0.01666762052010
1412	Providing and laying 18-20mm thick Mirror polished Granite stone of approved color and texture in flooring in large slab with brass/ stainless steel strips. Under bed shall average 30mm thk of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite 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, granite polishing etc. all complete.	SQM	1557			1.12368077166980
1414	Providing and laying Mirror polished Granite stone 18-20mm thk in skirting and dado with 6mm thick projection from adjacent plaster including mortar ,cement slurry ,pigments, curing, grinding,moulding, granite polishing etc. all complete.	SQM	138			0.10267393027000
1416	Providing and laying vitriified ceramic tiles of polished variety of size 600x600 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 with neat cement slurry etc. all complete for following					
b	10mm thick tiles In flooring	SQM	2136			0.66055181532070
d	10mm thick tiles In skirting and dado upto specific height	SQM	88			0.03141847700040
A1417	Providing and laying vitriified ceramic tiles of matt finish variety from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 with neat cement slurry etc. all complete for following					
a	7.2 mm thick tiles of size 300x300 In flooring	SQM	1395			0.32334334406120
c	8 mm thick coloured glazed tiles of size 300x450x 8mm thick In skirting and dado upto specific height	SQM	235			0.05406658631660
1418	Providing and laying 10 mm thk non-skid fully vitriified tiles of make 'MARBONITE' or 'FERRASTONE of BOSS Profile limited' or equivalent in flooring and skirting over 30 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, complete as per specification laid in pattern of following sizes					
b	600X600 mm	SQM	250			0.06767536890190

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1419	Providing and laying granite stone slab of 20mm 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	25			0.01884389402620
1422	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles conforming to IS:4457 in flooring/Dado 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 epoxy 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	1891			0.99583304058410
1428	Providing and laying 2mm thick antistatic PVC flooring / skirting of approved shade,as per IS:3462 and laying as per IS:5318 all complete.	SQM	150			0.01641654946080
A1429	Providing and fixing removable type flooring system consisting of fire resistant steel hollow panel of size 600X600X35 mm with 0.05 mm thick aluminium foil lining at bottom and with epoxy paint on exposed surfaces and factory laminated anti static HPL/PVC at top with 6mm beading on all sides for edge protection including floor supporting system complete as per specification.Minimum height of the free space between sub-floor and raised floor surface for control rooms shall be 1.0 m.	SQM	350			0.45733502462030
1430	Providing and fixing dividing strips 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	50			0.00038627175200
b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	800			0.01510751741230
1500 ROOFING / SIDE CLADDING						
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.						
A1501	Transport and fixing of 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 44 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 & 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 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 polyster 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 including design of installation pattern with its erection drawing specifying Bill of Material.					
a	Span Upto 1800mm	SQM	5170			0.28335565236560
1502	Providing and fixing self drilling shear connectors 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.	kg	1100			0.01673865718290

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ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
A1504	Transport and fixing of External sheet of Permanent colour coated metal cladding with high strength tensile steel sheet 0.6 mm total coated thickness(TCT) having minimum yield strength 550 MPa and zinc-aluminium alloy (Zn:43%,Al:55%,Si:1.5%) organic coating not less than 150 gm/sqm total on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) or SMP 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. including design of installation pattern with its erection drawing specifying Bill of Material.	SQM	10032			0.51538540276260
1505	Transport and fixing of Inner sheet of Permanent colour coated metal cladding with troughed high tensile steel sheets 0.5mm total coated thickness(TCT) having minimum yield strength 550 MPa and zinc-aluminium alloy (Zn:43%,Al:55%,Si:1.5%) organic coating not less than 150 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. including design of installation pattern with its erection drawing specifying Bill of Material.	SQM	10032			0.46536818948980
A1506	Transportation and fixing of under deck insulation of resin bonded mineral wool of 50 mm nominal thickness as per HVAC requirement conforming to IS 8183(maximum value shall be 1.0W/sq.m/deg.C) having a density of 32 kg/cum glass wool for thermal and acoustic insulation including application of glue and tying with lacing wire, for glass wool as per manufacturer's recommendations.	SQM	14652			0.30499244995960
B1506	Providing and fixing polysterene blocks of 50 mm nominal thickness high density of 30 kg/cum as per HVAC requirement for underdeck insulation as per manufacturer's recommendations.	SQM	50			0.00643786253360
1508	Providing and Installing under deck insulation 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	2270			0.21287650849210
1509	Providing and fixing non metal opaque PVC sheet similar to ONDEX roofing or equivalent including all fixing accessories.	SQM	200			0.05201792927190
1600 FALSE CEILING						
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.						

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ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
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1810	Transportation from BHEL store Laying and fixing rails in concrete for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete. (Supply of Rail is in BHEL Scope.)	MT	187			0.66292069671220
1812	Laying of earthing mats/rods 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	25			0.06548915662360
1813	Providing Earthing pit 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	30			0.06543443479210
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	500			0.01094436630720
1816	Providing and fixing injection molded PVC (as per IS4985) pressure release valve of minimum dia 100mm in water retaining structure including 160 mm dia PVC housing pipe of minimum length 3.75 m as per IS 4558 and joined as per IS 14182 with perforated end cap, solid floating ball, silt protector, PVC tail piece, Neoprene rubber, staggered perforations, SS screws, nylon jali, perforated end plug, PVC anchor collar, graded filter, excavation, fixing in concrete slab/wall etc. all complete.	EACH	75			0.09709906166390
1817	Providing and fixing HDPE pipes in concrete/ brick work of following sizes including cutting, fixing and levelling in position etc. all complete.					
c	150 mm dia	RM	75			0.00869111442040
d	200 mm dia	RM	150			0.02803689133400
A1819	Design, supply, fabrication, erection of stoplog/Sluice gates with embedments required, lifting beams, special tools & plants, spare parts for three years, machining, casting, all materials such as structural steel, cast steel, stainless steel, brass used for seals, rubber seals, gears, ball and roller bearing, branch bushings, greasing, bolts, nuts, lugs, threaded fastners etc., cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc 1000 gms./sqm., following by an application of etching primer and dipping in black bitumen as per B.S. 3416, erection along with a second stage concreting to true plumb and levels, submission of drawings / fabrication drawings for engineers approval etc all complete. The leakage through rubber seal shall not be more than 5 lit/min/metre length of seal under maximum head.(only weight of structural steel including embedments shall be considered for payment purpose) (SS component shall be measured separately for payment)	MT	42			1.28794075246890
1820	SS component mentioned under ST No. A1819	MT	5			0.31277282142690
1821	Supplying, fabricating, erecting in position and testing / examining bolted and / or welded structural steel work for stationary screens made out of rolled sections and / or plates including cutting, straightening if required, edge preparation, bolting / welding of joints, cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc as 750 gms./sqm. followed by application of an etching primer and dipping in black bitumen as per BS 3416 etc all complete.	MT	42			1.17544039226570
1826	Supply and laying approved quality rounded pebbles / gravels of 40mm size in transformer yards.	CUM	300			0.11523773935250
1828	Dismantling old existing reinforced/non-reinforced brickwork/blockwork/stone masonry work in mud/lime/ cement mortar at any level including clearing/cleaning, stacking the serviceable materials at plant site and disposal of unserviceable materials within a lead upto 1km all complete.	CUM	35			0.00597111749990
1829	Dismantling old existing plain/re-inforced concrete work at any level including clearing/cleaning, stacking the serviceable materials at plant site and disposal of unserviceable materials within a lead upto 1km all complete.	CUM	35			0.01774811402820

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ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
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1830	Dismantling old existing structural steel work at any level including plates, bolts, cutting rivets, welding, dismembering and stacking the dismantled materials within a lead upto 1km etc all complete.	MT	5			0.01050873760910
1832	Providing & filling Bentonite Powder (Sodium base) mixed with water in electronic earthing pit as per drawing & direction below ground level including all materials, transportation, labour, incidental etc all complete as per specification.	CUM	5			0.01036817761040
1833	Supply & fixing FRP (fibre reinforced plastic) sheets 2 mm thick including GI hooks/ J or L bolts, nuts, washers, bitumen washers etc. complete including overlap 100mm .	SQM	50			0.00932417090290
A1837	Providing and fixing sliding layer of bitumen/craft/LDP paper over the screed layer for water retaining structures to destroy the bond between the screed and the base slab concrete of the water retaining structure etc all complete.	Sqm	1250			0.02011832041760
A1838	Providing and applying fire -proof putty in cable penetration on walls ,labour ,T&P,material all Complete as per specification.	SQM	200			0.00364812210240
A1839	Providing and fixing double layer Gypsum board over Gyp steel covering steel coloumns .50 mm rock wool insulation shall be provided at back including painting ,labour, T&P ,material all complete as per specification.	SQM	200			0.04858440258730
1840	Providing and laying foam concrete blocks in the toilets/sunken slab complete as directed by engineer in charge	CUM	5			0.00362623336970
1841	Providing and laying cinder filling in toilets/sunken slab complete as directed by engineer in charge	CUM	5			0.00115023143930
A1842	Providing and fixing sliding layer of bitumen/craft/LDP paper over the screed layer for water retaining structures to destroy the bond between the screed and the base slab concrete of the water retaining structure etc all complete.	Sqm	283			0.00455478774250
2000 FENCING AND GATES						
Fencing and gates including all labour, material, equipment etc at any level as per specification, drawings and as directed by engineer - in - charge.						
A2001	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 11 gauge. GI barbed wire fencing of height of 600 mm confirming 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	400			0.14798500010700
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	7			0.14354115819550

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PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
2009	Supply, fabrication and installing in position and testing galvanised MS Gates 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, Gun metal shoe ,castor wheels, paintings etc. all complete.	MT	8			0.16592689379750
2100 WATER SUPPLY						
Water supply work including men, material, equipment etc. at any level as per specification, drawings and as directed by engineer - in - charge.						
2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks including sockets, union, nuts etc all complete - 15mm nominal bore.	EACH	125			0.02033291583540
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - 15mm nominal bore.	EACH	175			0.02452289136780
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality including all specials etc all complete for following sizes:					
a	25mm nominal bore.	EACH	86			0.02161104614380
b	50mm nominal bore.	EACH	86			0.04818654268270
A2104	Providing and fixing MS pipe of heavy duty class conforming to IS:1239 pipes shall be concealed and painted with anticorrosive paint, complete for internal works 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	172			0.00959670708350
b	20 mm nominal bore.	RM	198			0.01300190717290
c	25 mm nominal bore.	RM	172			0.01413668774220
2105	Providing and fixing GI pipes class B/Medium complete for external work 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	211			0.01335749178020
b	20 mm nominal bore.	RM	231			0.01625946561500
c	25 mm nominal bore.	RM	231			0.02032433201870
d	50 mm nominal bore.	RM	105			0.01466866978290
2106	Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete.	EACH	50			0.01007525486510
A2108	Providing and fixing 20 mm diameter stainless steel towel rails (600mm X 20mm) all complete.	EACH	40			0.00794861427480
2109	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod with C.P. Brackets etc all complete.	EACH	40			0.00532196636110
2110	Providing and fixing C.P. soap holder mounted with C.P. screws etc all complete.	EACH	76			0.00658893770770
2111	Providing and fixing stainless steel / C.P. liquid soap dispenser . Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	EACH	76			0.01006280833090
2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. sll complete.	EACH	76			0.00919841798800
A2113	Providing and fixing chromium plated wall mixture with provision of shower all complete.	EACH	8			0.00153306966460
B2113	Providing and fixing chromium plated wall mounted sink mixture all complete.	EACH	8			0.00153306966460
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.					

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a	500 litres capacity	EACH	3			0.00257772015840
a	1000 litres capacity	EACH	15			0.02576754479090
b	2000 litres capacity	EACH	6			0.02033849531630
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	12			0.01211090699830
2200 SANITARY WORKS						
Sanitary work including all labour, material, equipment etc. at any level as per specification, drawings and as directed by engineer - in - charge.						
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	24			0.02393556087690
b	Colored	EACH	6			0.00686330224130
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	10			0.01229502986670
2203	Providing and fixing stainless steel kitchen sink of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	11			0.00972074323490
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	40			0.04961789411940
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	17			0.01913585967590
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	34			0.06605800615710
A2206	Providing and fixing white flat back glazed vitreous china urinals of size 590x400x380 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	34			0.14323968010790
A2207	Supply, laying and jointing HDPE pipes including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.					
c	160mm dia pipes	RM	200			0.02719353134210
d	200mm dia pipes	RM	1000			0.20560386978330

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2208	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following.					
a	200mm dia	RM	35			0.00589061632080
b	300mm dia	RM	35			0.00911275149730
c	450mm dia	RM	105			0.05302208131850
b	600mm dia	RM	105			0.06259191247190
e	900mm dia	RM	70			0.07965545853350
2209	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following.					
a	150mm dia	RM	30			0.00382130918830
b	250mm dia	RM	30			0.00458924318280
c	300mm dia	RM	45			0.00945118134680
d	500mm dia	RM	45			0.01408084143070
2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx450mm including frame from reputed manufacture etc. all complete.	EACH	15			0.01774918700530
2212	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	15			0.03387281372080
2213	Providing and fixing square mouth S.W Gully trap 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	5			0.00208908639210
b	150x100mm P or S Type.	EACH	22			0.01000400918640
c	150x150mm P or S Type.	EACH	35			0.01702707342440
2215	Providing and fixing C.I. floor traps with C.P jalli all complete.	EACH	25			0.00391636637460
2216	Providing and fixing heavy duty UPVC floor traps with C.P jalli all complete.	EACH	25			0.00248930684630
A2217	Providing and installing approved brand single tap water cooler of 50 L cooling capacity all complete with two year free maintenance and guarantee.	EACH	15			0.04971210150780
A2218	Providing and installing approved brand single tap water cooler 150 L cooling capacity all complete with two year free maintenance and guarantee.	EACH	2			0.01988484060310
2219	Providing and fixing white vitreous urinal partitions of size 675x325x85mm all complete.	EACH	68			0.02639781153300
2220	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	5			0.04116262006310
A2221	Providing and fixing heavy duty cast iron pipes for above and below ground sanitary works with water tight lead joint, fixing clamps, excavation, filling, disposal etc. all complete for the following.					
c	150mm dia pipes	RM	200			0.07716851223680
d	200mm dia pipes	RM	200			0.10288991901290
e	250mm dia pipes	RM	200			0.12861433012490
2300 STRUCTURAL STEEL						

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Structural steel works including all labour, material, equipments, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.						
2301	Fabrication and erection of structural steel with mild steel rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including SHOT Blast cleaning to near white metal surface (Sa 2 1/2) , connection design & preparation of fabrication drgs. collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm & 66o C for welding over 40 mm and upto 63 mm & 110o C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete. Including appointment of a separate agency approved by BHEL. for review and approval of fabrication drgs. in	MT	50			0.25751450134640
A2302	Extra over ST NO. 2301 for 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 all complete.	MT	50			0.01931358760090
A2305	Providing and applying two coats of epoxy resin based paint over primer coat with intermediate coat pigmented with titanium dioxide of 100 micron dry film thickness (DFT) and top coat of approved colour and shade with glossy finish of 75 micron DFT with finish coat of polyurethane of 25 micron dry film thickness (DFT) to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 300 microns including protection and cleaning, scaffolding etc. all complete.	MT	50			0.03522583783000
2306	Laying, fixing, clamping welding etc. of crane rails over the crane girder as per manufacturer drawing at all elevations as per IS 3443 including all fixtures, clamps, -etc. all complete as per drawing and specification.	MT	25			0.11856396832820
2307	Transport, erection, fixing,alignment of factory made electroforged mild steel galvanised gratings with minimum galvanisation of 610 gms/m2 conforming to IS: 2062 in flooring, platforms, drains and tranches, walkway, passages, staircase, with edge binding strips and skids nosing in treads etc, including surface preparation with blast cleaning to SA -2 1/2 finish, fixner clamps all taxes duties,packing, transportation, grinding, drilling, welding, binding strips etc, all complete as per specification.	MT	17			0.08155158072600
2308	Supplying, fabrication, erection and alignment of factory made galvanised welded grating units with mild steel conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	4			0.07135211803300

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ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
A2309	Extra over above ST NO. 2301 for finishing the grating units with hot dipped galvanisation @ 1000gm/sqm over blast cleaned steel surfaces instead of painting with two coats of red oxide zinc-chromate primer all complete.	MT	30			0.12190736493730
2310	Providing and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade `C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete.	Quintal	3			0.00601747011020
2311	Providing and fixing in positing of high strength structural bolts (of property class 8.8 and product grade `C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete.	Quintal	4			0.01916594595350
2312	Dismantling of steel structure , lowering of material and carriage of the dismantled material up to field fabrication shop / projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions (weight of such adjacent members and temporarily dismantled members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	28			0.04837581584120
2313	Addition to, alterations in and/or modification of " Erection Marks " including cutting of parts, gauging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled and adjacent members not payable) etc all complete for the following:					
a	In erected position	MT	28			0.06562671228640
b	In fabrication yard	MT	28			0.06144467678450
2314	Re-erection of dismantled fabricated structural steel members including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required position, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismantled members, re-alignment of adjacent connected members(weight of such temporarily dismantled members and adjacent members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	11			0.01964685428480
2319	Supply, fabrication and fixing of stainless steel pipe hand railing of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete.	MT	2			0.07317703746590
A2320	Supply, fabrication and fixing of Galvanised (610 gms/sqm as per IS 4736) MS pipe medium class conforming to IS: 277 hand railing (1000 mm high) of 40 mm dia (Medium Grade) including transportation, loading/unloading, painting etc. all complete..	MT	11			0.20274052312370
B2320	Supply, fabrication and fixing of aluminium hanrailing with 25 mm square MS bar balustrades with 30x6 MS falts including transporrtation, loading/unloading, painting etc. all complete.	KG	500			0.02424928221010
2321	Conducting radiography test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	60			0.02980730353080

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ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
2322	Conducting ultasonic test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	120	 	 	0.03916795565470
2323	Conducting ultasonic test on steel plates as per ASTM-A435 or equivalent wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	SQM	60	 	 	0.02872574262510
2324	Conducting magnetic particle test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	60	 	 	0.01745948319120
2325	Conducting dye penetration test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges etc. all complete (over and above the work already specified in the specifications.)	RM	25	 	 	0.00753229916430
2400 ROAD WORKS						
Providing Road Work including necessary material, labour, machinery, transportation etc as per specification, drawing, relevant IRC & IS codes and as directed by the Engineer-in-charge for the following.						
2401	Preparation of sub grade 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	4358	 	 	0.06877657065310
2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm loose thickness using borrowed soil (borrowed soil to be arranged by the bidder) and compacted so as to achieve at least 95 % maximum dry density (modified proctor), as per IS-2720 (Part-VIII) including royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	1448	 	 	0.08666489596250
2403	Providing, stacking & laying granular morrum for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	653	 	 	0.09046918988020
2404	Providing & laying water bound macadam sub base course 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. as per specification.	CUM	1129	 	 	0.32143201477900
2412	Supplying and laying 400mmx150mmx350mm deep precast concrete kerb stone 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	2198	 	 	0.12663538590390
A2414	Supply and laying 200mm dia R.C.C NP-2 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete.	RM	544	 	 	0.09241551667060
2415	Dismantling of existing road consisting of premix carpet, kerb stone/ brick on edge, bitumen macadem 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	144	 	 	0.05593214969240

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ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
2418	Providing and laying cement concrete of grade M30 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	1556	 	 	1.03509693326640
2419	Providing & laying dry lean cement concrete of grade M15 with 20 mm nominal size graded stone aggregate over a prepared sub-grade including compaction, finishing, curing etc all complete.	CUM	623	 	 	0.28640762839740
REINFORCEMENT						
2420	Transport from store, straightening, cutting, bending, placing in position at any level, binding in position fixing in position MS dowel bar 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	15	 	 	0.02548749777070
2421	Transport from store, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcementsof TMT steel of grade Fe-500/500D/500EQR confirming 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	113	 	 	0.15291532983070
2422	Transport from store, straightening, cutting, bending, placing in position placing in position at any level, binding in position of steel reinforcement of mild steel reinforcements including cost of binding wire, labour, scaffolding transportation to & from stores etc all complete as per specifications, drawings and as directed by Engineer.	MT	1	 	 	0.00127437488850
MISCELLANEOUS						
2423	Providing & installation of bitumen impregnated fibre board of specified thickness confirming to IS 1838 as joint filler including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete as per specification, drawing and as directed by engineer.	RM	210	 	 	0.02785019332060
2424	Providing and filling in position hot applied bitumen sealing compund (Grade A) of specified thick confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints, sealant primer etc all complete as per specification, drawing and as directed by Engineer.	RM	210	 	 	0.00067597556600
2425	Providing and laying debonding strip/tape of specified thickness before applying sealant including cleaning etc all complete as per specification, drawing and as directed by Engineer.	RM	210	 	 	0.00135195113200
A2426	Providing & laying 80 mm thick precast interlocking concrete pavers of approved colour and pattern as per specification and recommendation of manufacturer.	SQM	3789	 	 	0.53168742264900
2427	Providing and laying 50mm thick sand layer below concrete pavers including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	3789	 	 	0.02423044073240
2500 PILING WORKS						
2501	Mobilisation of one set of hydraulic rotary piling rigs and accessories capable of pile boring/drilling in all types of strata/installing various size of bored cast in situ RCC piles to project site and demobilisation of the same after completion of piling works etc all complete .Mobilisation of hydraulic rig should be strictly as per engineer incharge consent.	EACH	4	 	 	0.44378761589530

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ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY	Unit Rate (In Rs)	Amount (In Rs)	% weightage w.r.t. the total price
PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price						
2503	Installation of Bored cast-in-situ RCC vertical pile as per IS 2911 (Part 1 Sec 2) with diameter and length as specified (length to be measured from pile cut-off level to the bottom of pile) using cement concrete grade M25 conforming to IS:456 with 20 mm nominal size stone aggregates with a minimum cement content of 400Kg per cum of concrete including providing all materials (but excluding reinforcement steel for which measurement/payment shall be made separately), boring/drilling in all types of soil/ash etc , providing bentonite slurry and/or casing for stabilization of pile bore, flushing of pile bore, cleaning, providing plasticizer wherever required, breaking pile head to cut off level and exposing pile reinforcement for embedment in pile cap etc including empty boring from ground level to pile cutoff level etc all complete as per specification, drawing and as directed by the engineer-in-charge for the following. (Cement will be supplied by BHEL free of Cost as per TCC)					
c	Pile with 600 mm diameter and 23 m length below cut off level	Each	400			5.73271768202360
d	Pile with 760 mm diameter and 23 m length below cut off level	Each	750			16.40170835367530
B2504	Extra over ST. No. 2503 for pile length more than the specified length of 23m below cut off level for the following.					
a	For 600 mm diameter pile	Rm	400	0.03 TIME RATE OF 2503 C		
b	For 760 mm diameter pile	Rm	750	0.03 TIME RATE OF 2503 D		
B2505	Rebate on ST.No.2503 for pile length less than the specified length of 23m below cut off level for the following.					
a	For 600 mm diameter pile	Rm	400	0.02 TIME RATE OF 2503 C		
b	For 760 mm diameter pile	Rm	750	0.02 TIME RATE OF 2503 D		
2508	Conducting routine load test on single job pile as specified in accordance with IS 2911 (Part-4) including preparation of pile head for					
a	For Vertical compression test by maintained load method					
iii	600 mm diameter pile	Each	4			0.09785207698490
iv	760 mm diameter pile	Each	8			0.34790209131890
b	For lateral load test					0.00000000000000
iii	600 mm diameter pile	Each	4			0.03378933610330
iv	760 mm diameter pile	Each	8			0.06315800660020
A2509	Carrying out low strain pile integrity test on 450mm/600mm/760mm diameter pile including all arrangements for test, equipments/accessories, materials, labour, submission of test report etc but excluding the cost of installation of job pile all complete as per specification and as directed by the engineer-in-charge.	Each	1150			0.30453235739841
GRAND TOTAL Weightage						100.00

Volume II Price Bid

T.S.No BHE/PW/PUR/WNT2-CVL PHA/1466

Part C: Format to quote total Lumpsum Price

Job: All Civil and Architectural work for Power House Block including final micro level grading, backfilling up to required level and handing over of all foundations/buildings/structures to structural/mechanical/electrical agencies and final handing over to customer for onward operation purposes at 1X800 MW Thermal Power Station, Wanakbori, Distt- Kheda, Gujarat.		
Sl No 1	Lumpsum Total Price for entire Scope of Work as detailed in T.S.No: BHE/PW/PUR/WNT2-CVL PHA/1466	In figures:
		In Words
Note: Bidders to quote Total Lumpsum Price in this format above which shall be taken into account for evaluation and awarding and hence, shall be complete in all respect for the full scope defined in specification and in accordance with all terms & conditions of tender.		

Date

Seal and Signature
Seal and

Signature